Public Awareness Programs for Pipeline Operators

API RECOMMENDED PRACTICE 1162
FIRST EDITION, DECEMBER 2003

Approved American National Standard

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Public Awareness Programs for Pipeline Operators

Pipeline Segment

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FOREWORD

This document is a Recommended Practice (RP) for pipeline operators to use in development and management of Public Awareness Programs. Pipeline Operators have conducted Public Awareness Programs with the affected public, government officials, emergency responders and excavators along their routes for many years. The goal of this RP is to establish guidelines for operators on development, implementation, and evaluation of Public Awareness Programs in an effort to raise the effectiveness of Public Awareness Programs throughout the industry.

Representatives from natural gas and liquid petroleum transmission companies, local distribution companies, and gathering systems, together with the respective trade associations, have developed this Recommended Practice. The working group was formed in early 2002. Additionally, representatives from federal and state pipeline regulators have provided input at each step of development and feedback from all interested parties has been solicited through a wide variety of sources and surveys.

Suggested revisions are invited and should be submitted to API, Standards Department, 1220 L Street, NW, Washington, DC 20005

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Public Awareness Programs for Pipeline Operators

1 Introduction, Scope and Glossary of Terms

1.1 INTRODUCTION

This Recommended Practice (RP) provides guidance to be used by operators of petroleum liquids and natural gas pipelines to develop and actively manage Public Awareness Programs. This RP will also help to raise the quality of pipeline operators' Public Awareness Programs, establish consistency among such programs throughout the pipeline industry, and provide mechanisms for continuous improvement of the programs. This RP has been developed specifically for pipelines operating in the United States, but may also have use in international settings.

Public awareness and understanding of pipeline operations is vital to the continued safe operation of pipelines. Pipeline operators' Public Awareness Programs are an important factor in establishing communications and providing information necessary to help the public understand that pipelines are the major transportation system for petroleum products and natural gas in the United States, how pipelines function, and the public's responsibilities to help prevent damage to pipelines.

Public Awareness Programs should address the needs of different audiences within the community and be flexible enough to change as the pipeline system changes or as the public's needs for information change. When effectively and consistently managed, a Public Awareness Program can provide significant value to the pipeline operator in several areas: enhanced public safety, improved pipeline safety and environmental performance, building trust and better relationships with the public along the pipeline route, less resistance to pipeline maintenance and right-of-way activities, preservation of rights-of-way, enhanced emergency response coordination, and improved pipeline operator reputation.

Public awareness messages need to provide a broad overview of how pipelines operate, the hazards that may result from activity in close proximity to pipelines and those hazards possible due to pipeline operations, and the measures undertaken to prevent impact to public safety, property or the environment. These messages should be coupled with information regarding how pipeline operators prepare for emergencies in a way that minimizes the consequences of a pipeline incident.

This RP identifies for the pipeline operator four specific stakeholder audiences and associated public outreach messages and communication methods to choose from in developing and managing a successful Public Awareness Program. It also provides information to assist operators in establishing specific plans for public awareness that can be evaluated and updated.

This RP is comprised of a main body (Sections 1 – 8), and Appendices. The main body of this document contains the general, baseline program recommendations and the supplemental program components. Summary tables and diagrams are also provided in the main body. These summaries can be used as quick reference guides to assist operators when customizing their Public Awareness Programs to reflect the unique characteristics of their pipeline and facilities. The Appendices provide operators with additional, optional information and resources for further reference. The Appendices repeat many areas of the main body in order to provide the operator with comprehensive information.

1.2 SCOPE

This RP is intended as a resource that can assist pipeline operators in their public awareness efforts. Operators are urged to develop, implement and actively manage Public Awareness Programs within their companies. In implementing these programs, operators should select the most appropriate mix of audiences, message types, and delivery methods and frequencies, depending on their needs and the needs of the communities along a given pipeline segment. The guidance set forth in this RP establishes a baseline for Public Awareness Programs and describes considerations for program expansion that can further enhance specific public awareness outreach.

This RP provides guidance for the following pipeline operators:

- Intrastate and interstate hazardous liquid pipelines
- Intrastate and interstate natural gas transmission pipelines
- Local distribution systems, and
- Gathering systems.

This guidance is intended for use by pipeline operators in developing and implementing Public Awareness Programs associated with the normal operation of existing pipelines. The guidance is not intended to focus on public awareness activities appropriate for new pipeline construction or for communications that occur immediately after a pipeline-related emergency. Communication regarding construction of new pipelines is highly specific to the type of pipeline system, scope of the construction, and the community and state in which the project is located. Likewise, public communications in response to emergency situations are also highly specific to the emergency and location. This RP is also not intended to provide guidance to operators for communications about operator-specific performance measures that are

addressed through other means of communication or regulatory reporting.

The primary audience for this RP is the pipeline operator for use in developing a Public Awareness Program for the following stakeholder audiences:

- The affected public—i.e., residents, and places of congregation (businesses, schools, etc.) along the pipeline and the associated right-of-way (ROW)
- Local and state emergency response and planning agencies—i.e., State and County Emergency Management Agencies (EMA) and Local Emergency Planning Committees (LEPCs)
- Local public officials and governing councils
- Excavators.

DESCRIPTION OF PIPELINE INFRASTRUCTURE

To clarify the scope of the pipeline industry covered by this RP, a brief description of the affected infrastructure components is provided below. Mainline pipe, pump and compressor stations, and other facilities that are associated with the pipeline should be considered to be included. Unless otherwise noted, the use of the term "pipeline" in this RP will refer to all three of the following types of systems. The RP recognizes some differences between the three pipeline types and provides the operator flexibility based on the needs of the stakeholders along a particular pipeline.

1.2.1 Transmission Pipelines

The transmission pipeline systems for liquid petroleum and natural gas, move large amounts of liquids and natural gas from the producing and/or refining locations to local "outlets", such as bulk storage terminals (for liquids) and natural gas distribution systems. Transmission pipeline systems can be classified as either "intrastate pipelines", located within one state's borders, or "interstate pipelines" crossing more than one state's borders. Natural gas transmission pipelines deliver gas to direct-served customers and local distribution systems' stations, referred to as "city gates", where the pressure is lowered for final distribution to end users. Liquids transmission pipelines usually transport crude oil, refined products, or natural gas liquids. Transmission pipelines are generally the middle of the transportation link between gathering and distribution systems.

1.2.2 Local Distribution Systems

The local distribution systems for liquid petroleum and natural gas differ because of the nature and use of the products. Liquid petroleum products are distributed from bulk terminals by other modes of transportation, such as by rail cars and tank trucks. Local natural gas distribution companies (LDCs) receive natural gas at "city gates" and distribute it through distribution systems, These consist of "mains", which are usually located along or under city streets and smaller service lines that connect to the mains to further distribute natural gas service to the local end users - homes and businesses.

1.2.3 Gathering Systems

Gathering pipelines link production areas for both crude oil and natural gas to central collection points. Some gathering systems include processing facilities; others do not. Some gathering systems are regulated by the Office of Pipeline Safety, U.S Department of Transportation, while most are not. Gathering systems connect to transmission pipelines for long distance transportation of crude oil and natural gas to refinery centers and distribution centers, respectively.

1.3 GLOSSARY OF TERMS

1.3.1 Appendices: The Appendices' role is to provide a pipeline operator with additional information to develop and actively manage its Public Awareness Programs. The Appendices' mirror the main body of the RP while providing additional information such as: resources and contacts, examples of stakeholder audiences, public awareness messages, enhanced delivery methods and media, and program evaluation information.

1.3.2 Baseline Public Awareness Program: Refers to general program recommendations, set forth in Recommended Practice 1162, The baseline recommendations do not take into consideration the unique attributes and characteristics of individual pipeline operators' pipeline and facilities. Supplemental or enhanced program components are described in the RP to provide guidelines to the operator for enhancing its Public Awareness Programs. This is described more fully in Sections 2 and 6.

1.3.3 CFR: *Code of Federal Regulations*

1.3.4 Dig Safely: Dig Safely is the nationally recognized campaign to enhance safety, environmental protection, and service reliability by reducing underground facility damage. This damage prevention education and awareness program is used by pipeline companies, One-Call Centers, and others throughout the country. Dig Safely was developed through the joint efforts of the Office of Pipeline Safety and various damage prevention stakeholder organizations. Dig Safely is now within the purview of the Common Ground Alliance (CGA). For more information see www.commongroundalliance.com.

1.3.5 Enhanced Public Awareness Program: The concept developed in RP 1162 for assessing particular situations in which it is appropriate to enhance or supplement the Baseline Public Awareness Program. This is described more fully in Section 6.

1.3.6 High Consequence Areas (HCAs): A high consequence area is a location that is specially defined in pipeline safety regulations as an area where pipeline releases could have greater consequences to health and safety or the environment. Pipeline safety regulations require a pipeline operator to take specific steps to ensure the integrity of a pipeline for which a release could affect an HCA and, thereby, the protection of the HCA.

1.3.7 HVL (Highly Volatile Liquid): A highly volatile liquid, as defined in pipeline safety regulations, is a hazardous liquid that will form a vapor cloud when released to the atmosphere and has a vapor pressure exceeding 276kPa (40 psia) at 37.8 degrees C (100 degrees F).

1.3.8 Integrity Management Program (IMP): In accordance with pipeline safety regulations, an operator's integrity management program must include, at a minimum, the following elements:

- a process for determining which pipeline segments could affect a High Consequence Area (HCA)
- a Baseline Assessment Plan
- a process for continual integrity assessment and evaluation
- an analytical process that integrates all available information about pipeline integrity and the consequences of a failure
- repair criteria to address issues identified by the integrity assessment method and data analysis (the regulations provide minimum repair criteria for certain, higher risk, features identified through internal inspection)
- a process to identify and evaluate preventive and mitigative measures to protect HCAs
- methods to measure the integrity management program's effectiveness and
- a process for review of integrity assessment results and data analysis by a qualified individual.

1.3.9 IMP Overview: An overview of an operator's IMP program should include a description of the basic requirements and components of the program and does not need to include a summary of the specific locations or schedule of activities undertaken. The overview may only be a few pages and its availability could be mailed upon request or made available on the operator's website.

1.3.10 LDCs: Local Distribution Companies for natural gas

1.3.11 "may" versus "should": Clarification is necessary for RP 1162's use and definition of the words "may" versus "should":

- The use of the word "may" provides the operator with the option to incorporate the identified component into its Public Awareness Program.
- The use of the word "'should" provides the operator with the Public Awareness Program components that are recommended to be incorporated into the operator's Public Awareness Program.

1.3.12 NPMS: National Pipeline Mapping System (See Section 4.6.2)

1.3.13 One-Call Center: The role of the One-Call Center is to receive notifications of proposed excavations, identify possible conflicts with nearby facilities, process the information, and notify affected facility owners/operators.

1.3.14 Operator: All companies that operate pipelines that are within the scope of this RP.

1.3.15 OPS: Office of Pipeline Safety, part of the Research and Special Programs Administration (RSPA) of the U.S. Department of Transportation. OPS develops and enforces safety and integrity regulations for pipelines and pipeline operations.

1.3.16 Pipeline Right-of-Way (ROW): a defined strip of land on which an operator has the rights to construct, operate, and/or maintain a pipeline. A ROW may be owned outright by the operator or an easement may be acquired for specific use of the ROW.

1.3.17 Supplemental Public Awareness Program: Refer to the definition above, "Enhanced Public Awareness Program".

1.3.18 Third-Party Damage: outside force damage to underground pipelines and other underground facilities that can occur during excavation activities. Advanced planning, effective use of One-Call Systems, accurate locating and marking of underground facilities, and the use of safe digging practices can all be very effective in reducing third-party damage.

2 Public Awareness Program Development

The overall goal of a pipeline operator's Public Awareness Program is to enhance public environmental and safety property protection through increased public awareness and knowledge.

PUBLIC AWARENESS PROGRAM OBJECTIVES

2.1 OBJECTIVES

- **Public Awareness of Pipelines**

Public Awareness Programs should raise the awareness of the affected public and key stakeholders of the presence of

pipelines in their communities and increase their understanding of the role of pipelines in transporting energy. A more informed public along pipeline routes should supplement an operator's pipeline safety measures and should contribute to reducing the likelihood and potential impact of pipeline emergencies and releases. Public Awareness Programs will also help the public understand that while pipeline accidents are possible, pipelines are a relatively safe mode of transportation, that pipeline operators undertake a variety of measures to prevent pipeline accidents, and that pipeline operators anticipate and plan for management of accidents if they occur. Finally, a more informed public will also understand that they have a significant role in helping to prevent accidents that are caused by third-party damage and ROW encroachment.

- **Prevention and Response**

Public Awareness Programs should help the public understand the steps that the public can take to prevent and respond to pipeline emergencies. "Prevention" refers to the objective of reducing the occurrences of pipeline emergencies caused by third-party damage (versus other causes under the control of the operator) through awareness of safe excavation practices and the use of the One-Call System. "Response" refers to the objective of communicating to the public the appropriate steps to take into account in the event of a pipeline release or emergency.

These objectives, together with others that may be identified by individual pipeline operators, provide the foundation on which a pipeline Public Awareness Program is built. Two important objectives of this RP include:

- Assist each pipeline operator to develop a framework for managing its Public Awareness Program so that the quality of Public Awareness Programs can be continually improved throughout the pipeline industry and
- Provide the operator with considerations to determine how to enhance its program to provide the appropriate level of public awareness outreach for a given area and certain circumstances.

2.2 OVERVIEW FOR MEETING PUBLIC AWARENESS OBJECTIVES

In general, Public Awareness Programs should communicate relevant information to the following stakeholder audiences (as defined in Section 3):

2.2.1 The Affected Public

- Awareness that they live or work near a pipeline
- Hazards associated with unintended releases
- An overview of what operators do to prevent accidents and mitigate the consequences of accidents when they occur
- How to recognize and respond to a pipeline emergency

- What protective actions to take in the unlikely event of a pipeline release
- How to notify the pipeline operator regarding questions, concerns, or emergencies
- How to assist in preventing pipeline emergencies by following safe excavation/digging practices and reporting unauthorized digging or suspicious activity
- How community decisions about land use may affect community safety along the pipeline ROW
- How individuals can create undesirable encroachments upon a pipeline ROW
- How to contact the pipeline operator with questions or comments about public safety, additional overview information on Integrity Management Programs to protect High Consequence Areas located in their area, land use practices, emergency preparedness or other matters.

2.2.2 Local Public Officials

- Information regarding transmission pipelines that cross their area of jurisdiction
- Land use practices associated with the pipeline ROW that may affect community safety
- Hazards associated with unintended releases
- An overview of what operators do to prevent accidents and mitigate the consequences of accidents when they occur
- How to contact the pipeline operators with questions or comments about public safety, additional overview information on Integrity Management Programs to protect High Consequence Areas under their jurisdiction, land use practices, emergency preparedness or other matters.

2.2.3 Emergency Officials

- Location of transmission pipelines that cross their area of jurisdiction, and how to get detailed information regarding those pipelines
- Name of the pipeline operator and the emergency contact information for each pipeline
- Information about the potential hazards of the subject pipeline
- Location of emergency response plans with respect to the subject pipelines
- How to notify the pipeline operator regarding questions, concerns, or emergency
- How to safely respond to a pipeline emergency
- An overview of what operators do to prevent accidents and mitigate the consequences of accidents when they occur
- How to contact the pipeline operator with questions or comments about public safety, additional overview information on Integrity Management Programs to protect High Consequence Areas under their jurisdiction,

land use practices, emergency preparedness or other matters.

2.2.4 Excavators

- Awareness that digging and excavating along the ROW may affect public safety, pipeline safety and/or pipeline operations
- Information about one-call requirements and damage prevention requirements in that jurisdiction
- Information about safe excavation practices in association with underground utilities
- How to notify the operator regarding a pipeline emergency or damage to a pipeline
- Hazards associated with unintended releases
- Name of the pipeline operator and who to contact for emergency or non-emergency information.

This RP focuses on those four segments of the public, as listed above, that are most directly affected by or could have the most affect on pipeline safety. The general public is a larger audience for general pipeline awareness information. General knowledge about energy pipelines is useful to the general public and may be obtained through a variety of sources, including the Office of Pipeline Safety, US Department of Transportation, pipeline industry trade associations and pipeline operators.

2.3 REGULATORY COMPLIANCE

This RP is intended to provide a framework for Public Awareness Programs designed to help pipeline operators in their compliance with federal regulatory requirements found in 49 *CFR* Parts 192 and 195.

The three principal compliance elements include:

2.3.1 Public Education
(49 *CFR* Parts 192.616 and 195.440):

These regulations require pipeline operators to establish continuing education programs to enable the public, appropriate government organizations, and persons engaged in excavation-related activities to recognize a pipeline emergency and to report it to the operator and/or the fire, police, or other appropriate public officials. The programs are to be provided in both English and in other languages commonly used by a significant concentration of non-English speaking population along the pipeline.

2.3.2 Emergency Responder Liaison Activities
(49 *CFR* Parts 192.615 and 195.402):

These regulations require that operators establish and maintain liaison with fire, police, and other appropriate public officials and coordinate with them on emergency exercises or drills and actual responses during an emergency.

2.3.3 Damage Prevention
(49 *CFR* Parts 192.614 and 195.442):

These regulations require pipeline operators to carry out written programs to prevent damage to pipelines by excavation activities.

2.4 OTHER RESOURCES

In addition to operator personnel, various other resources are available to assist pipeline operators in developing their Public Awareness Programs and related informational materials. These resources can often shorten development time and reduce the implementation cost of an operator's Public Awareness Program. Some of these other resources are described below.

2.4.1 Trade Associations

The major pipeline industry trade associations take an active role in sponsoring various efforts that can help operators meet public awareness objectives. These trade associations include the:
- American Petroleum Institute (API)
- Association of Oil Pipe Lines (AOPL)
- American Gas Association (AGA)
- Interstate Natural Gas Association of America (INGAA) and
- American Public Gas Association (APGA).

The websites of these associations provide a wide range of information to assist operators in developing and managing Public Awareness Programs, and developing information to use in implementing those programs. The trade associations also undertake specific efforts in public outreach, such as:
- Printing of pipeline safety brochures that can be customized by the operator
- Development and distribution of pipeline safety decals and materials
- Development of videos and brochures to aid in the education of public officials regarding pipeline emergency response
- Development of website information specifically for pipeline public awareness
- Distribution of periodic newsletters that provide additional guidance and information to operators on issues related to Public Awareness Programs
- Development and sponsorship of television and radio public service announcements (PSA)
- Participation in appropriate trade shows to inform excavators, regulators, legislators, and others.

For additional information on these efforts, contact the trade associations directly. Contact information and website addresses are provided in Appendix A.

2.4.2   One-Call Centers

The primary purpose of a One-Call System is to prevent damage to underground facilities, including pipelines, which could result from excavation activities. All states and the District of Columbia have established One-Call Systems (some states may have two or more One-Call Systems). State One-Call Centers may develop public awareness information materials and may be able to gather extensive information about excavation contractors. If available to the pipeline operator, this information will be useful to fulfill the requirements of 49 *CFR* Part 192.614 and 195.442 (Damage Prevention Programs). Many One-Call Systems perform their own public awareness outreach through public service announcements and other advertising. Some One-Call Systems may also sponsor statewide excavation hazard awareness programs. One-Call System contacts can be found at the "Dig Safely" website (see Appendix A).

2.4.3   Federal and State Agencies

Although pipeline operators are the primary sponsors of Public Awareness Programs on pipeline safety, some state agencies with regulatory authority for pipeline safety can provide training and materials. In addition, some state pipeline safety regulatory agencies sponsor or conduct pipeline public awareness efforts. The federal agency responsible for pipeline safety, the Office of Pipeline Safety of the U.S. Department of Transportation, is also a source of relevant information.

2.4.4   Common Ground Alliance

The Common Ground Alliance (CGA) is a nationally recognized nonprofit organization dedicated to shared responsibility in damage prevention and promotion of the damage prevention Best Practices identified in the landmark *Common Ground Study of One-Call Systems and Damage Prevention Best Practices*. This report is available online from CGA's website (see Appendix A). Building on the spirit of shared responsibility resulting from the Common Ground Study, the purpose of the CGA is to ensure public safety, environmental protection, and the integrity of services by promoting effective damage prevention practices. The "Dig Safely" campaign is now a component of the Common Ground Alliance.

The Common Ground Alliance is supported by its sponsors, member organizations, the Office of Pipeline Safety, and individual members. CGA sponsorship and membership is open to all stakeholder organizations that want to support the CGA's damage prevention efforts.

2.4.5   Outside Consultants

Many outside consultants are available to support an operators' Public Awareness Program. Direct-mail vendors are capable of producing pipeline safety materials and providing distribution services. These vendors can assist operators in identifying residents and special interest groups, such as excavators along the pipeline route, and can support the operator in production and distribution of the material. Public relations firms are also available to assist operators in developing material specifically geared to the intended audience. Their expertise can help heighten the readability of the public awareness materials and improve the operator's overall success in communicating the intended message.

2.4.6   Other Pipeline Companies

Pipeline companies have developed a variety of creative ways to meet their public awareness objectives. Cooperative information exchanges or shared public awareness activities between operators can be beneficial and economical.

2.4.7   Operator Employee Participation

As members of communities and community service organizations, informed employees of a pipeline operator can play an important role in promoting pipeline awareness. An operator should include in its Public Awareness Program provisions for familiarizing its employees with its public awareness objectives. Information and material used by the operator should be made available to employees who wish to promote pipeline awareness in their communities. Many Public Awareness Programs include components for key employee training in public awareness and specific communication training for specific key employees.

Operator employees can be a key part of public awareness efforts. Grass-roots employee contacts and communications can be particularly important in effectively reaching out to a community. Employees who are interested in and capable of performing a greater public communication role should be given the necessary training, communications materials and, as appropriate, be provided with opportunities for direct involvement with the community.

2.5   MANAGEMENT SUPPORT

For a Public Awareness Program to achieve its objectives, ongoing support within the operator's organization is crucial. Management should demonstrate its support through company policy, management participation, and allocation of resources and funding. Funding and resource requirements for an operator's Public Awareness Program development and implementation will vary according to the program's objectives, design, and scope. Full organizational support can make a marked difference in the way the Public Awareness Program is received and can affect the overall effectiveness and success of the program.

2.6 BASELINE AND SUPPLEMENTAL PUBLIC AWARENESS PROGRAMS

For the development of a Public Awareness Program, this RP recognizes that there are differences in pipeline conditions, release consequences, affected populations, increased development and excavation activities and other factors associated with pipeline systems. Accordingly, a "one-size-fits-all" Public Awareness Program across all pipeline systems would not be the most effective approach. For example, some geographic areas have a low population, low turn over in residents, and little development or excavation activity; whereas other areas have very high population, high turn over, and extensive development and excavation activity.

This RP provides the operator with the elements of a recommended baseline Public Awareness Program. It also provides the operator with considerations to determine when and how to enhance the program to provide the appropriate level of public awareness outreach. Details for assessing the need for program enhancement are presented in Section 6. The appropriateness of enhanced or supplemental messages, delivery frequency and methods, and/or geographic coverage area is also one aspect of program evaluation. Recommendations on the evaluation of Public Awareness Programs are presented in Section 8.

2.7 PROGRAM DEVELOPMENT GUIDE

It is recommended that pipeline operators develop a written Public Awareness Program. The following guide may be helpful to pipeline operators in the development and implementation of their Public Awareness Programs.

Overall Program Administration

Step 1. Define Program Objectives
- Define program objectives in accordance with Section 2 of this RP.

Step 2. Obtain Management Commitment and Support
- Develop a company Policy and "statement of support" for the Public Awareness Program. This should include a commitment of participation, resources, and funding for the development, implementation, and management of the program.
- Reference Section 2.5.

Step 3. Identify Program Administration
- Name program administrator(s)
- Identify roles and responsibilities
- Document program administration
- Reference Section 7.

Step 4. Identify Pipeline Assets to be Included within the Program
- The overall program may be a single Public Awareness Program for all pipeline assets, or may be divided into individual, asset-specific programs for one or more specific pipeline systems, one or more pipeline segments, one or more facilities, or one or more geographic areas. Smaller companies and LDCs may have just one overall program.
- Name an administrator for each asset specific program.
- Reference Section 7 for documentation.

Program Development (applied to each identified asset- specific program)

Step 5. Identify the Four Stakeholder Audiences
- Establish methods to be used in audience identification.
- Establish a means of contact or address list for each audience type:
  - Affected public
  - Emergency officials
  - Local public officials
  - Excavators.
- Document methods used and output.
- Reference Section 3 for detail on stakeholder audiences.

Step 6. Determine Message Type and Content for Each Audience
- Establish which message types are to be used with which audience(s).
- Determine content for each message type.
- Document message type and content selected.
- Reference Section 4 for details on message development.

Step 7. Establish Baseline Delivery Frequency for Each Message
- Suggested delivery frequencies are described in Section 2.8.
- Document delivery frequencies selected.

Step 8. Establish Delivery Methods to Use for Each Message
- Select appropriate methods.
- Utilize alternate methods as appropriate.
- Document delivery methods selected.
- Establish process for management of input/feedback/comments received.
- Reference Sections 2.8 and 5 for additional detail.

Step 9. Assess Considerations for Supplemental Program Enhancements
- Review the criteria in this RP for enhanced programs (e.g. supplemental activities).
- Assess pipeline assets contained in the program and apply supplemental program elements.
- Solicit input from appropriate pipeline personnel (e.g. pipeline operations and maintenance personnel, other support personnel, etc.).
- Apply identified supplemental program elements to the program.
- Document supplemental program elements (describes when, what, and where program enhancements are used).
- Reference Sections 2.8 and 6.

Step 10. Implement Program and Track Progress
- Develop resource and monetary budgets for program implementation.
- Identify, assign and task participating company employees needed to implement the program.
- Identify external resources or consultants needed.
- Conduct program activities (e.g. mass mailings, emergency official meetings).
- Periodically update the program with newly identified activities.
- Collect feedback from internal and external sources.
- Document the above. Reference Section 7 for documentation and record keeping recommendations.

Step 11. Perform Program Evaluation
- Establish an evaluation process.
- Determine input data sources (e.g. company surveys, industry surveys, reply cards, feedback from participating employees, and feedback from recipient audiences, etc.).
- Assess results and applicability of operator and/or industry-sponsored evaluations.
- Document evaluation results. Reference Section 8 for program evaluation recommendations.

Step 12. Implement Continuous Improvement
- Determine program changes or modifications based on results of the evaluation to improve effectiveness. Program changes may be areas such as: audience, message type or content, delivery frequency, delivery method, supplemental activities or other program enhancements.
- Document program changes.
- Determine future funding and internal and external resource requirements resulting from program changes made.
- Implement changes.

Return to Step 5; Initiate new cycle for updating the Public Awareness Program.

The figurative description of the program development process
is shown below, highlighting the continuous nature of the
development, implementation and evaluation process.

Establish Public Awareness
Program Administration with
Management Support
(Steps 1 — 4)

Identify the
Stakeholder
Audiences
(Step 5)

Determine the
Messages
(Step 6)

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

Establish the
Frequencies
(Step 7)

Implement the Program
and Track Progress
(Step 10)

Establish the
Delivery Methods
(Step 8)

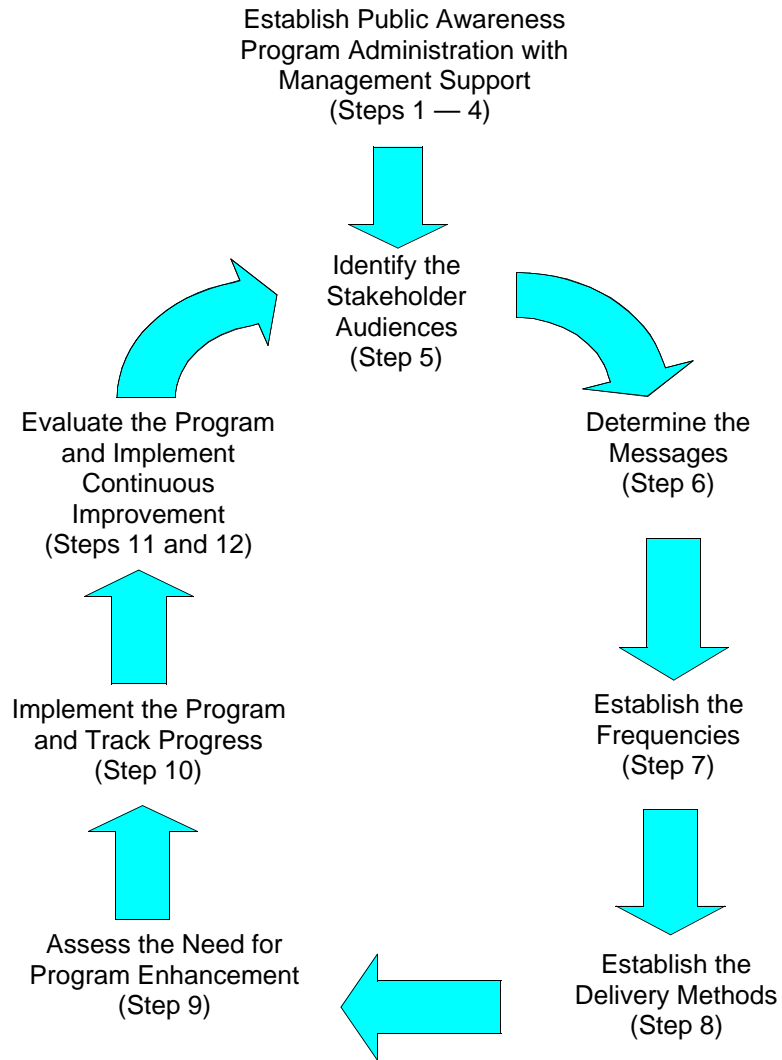Assess the Need for
Program Enhancement
(Step 9)

Figure 2-1—Public Awareness Program Process Guide

2.8 SUMMARY OF PROGRAM RECOMMENDATIONS

This RP has defined three categories of pipeline operators to which the RP applies. The three categories are:

1. Hazardous Liquid and Natural Gas Transmission Pipeline Operators (Table 2-1)
2. Local Natural Gas Distribution (LDC) Companies (Table 2-2)
3. Gathering Pipeline Operators (Table 2-3).

This RP recognizes that the communications and public awareness needs and activities may vary by the category of pipeline. Operators may customize their programs to best suit the needs of the stakeholder audiences and make them relevant to the type of potential hazards posed by their pipeline systems.

The tables 2-1 through 2-3 summarize the baseline recommendations for conducting public awareness for operators of Hazardous Liquid, Natural Gas Transmission, Local Natural Gas Distribution (LDC), and Gathering Pipelines. Guidance is also provided to assist the operators in determining if supplemental efforts affecting the frequency or method of message delivery and/or message content are called for, by evaluating the effectiveness of the program and the specifics of the pipeline segment or environment. Considerations for when and how an operator should implement program enhancements are described in Section 6. Further information of stakeholder audiences (Section 3); message types (Section 4); and message delivery methods (Section 5) may be found in their respective sections and related appendices.

Table 2-1 - Summary Public Awareness Communications for Hazardous Liquids and Natural Gas Transmission Pipeline Operators

Stakeholder Audience	Message Type	Delivery Frequency	Delivery Method and/or Media
2-1.1 Affected Public			
Residents located along transmission pipeline ROW **and** **Places of Congregation**	**Baseline Messages:** • Pipeline purpose and reliability • Awareness of hazards and prevention measures undertaken • Damage prevention awareness • One-call requirements • Leak recognition and response • Pipeline location information • How to get additional information • Availability of list of pipeline operators through NPMS	**Baseline Frequency = 2 years**	**Baseline Activity:** • Targeted distribution of print materials • Pipeline markers
	Supplemental Message: • Information and/or overview of operator's Integrity Management Program • ROW encroachment prevention • Any planned major maintenance/construction activity	**Supplemental Frequency:** Additional frequency and supplemental efforts as determined by specifics of the pipeline segment or environment	**Supplemental Activity:** • Print materials • Personal contact • Telephone calls • Group meetings • Open houses
Residents near storage or other major operational facilities	**Supplemental Message:** • Information and/or overview of operator's Integrity Management Program • Special incident response notification and/or evacuation measures *if* appropriate to product or facility • Facility purpose	**Supplemental Frequency:** Additional frequency and supplemental efforts as determined by specifics of the pipeline segment or environment	**Supplemental Activity:** • Print materials • Personal contact • Telephone calls • Group meetings • Open houses

Table 2-1 - Summary Public Awareness Communications for Hazardous Liquids and Natural Gas Transmission
Pipeline Operators (Continued)

Stakeholder Audience	Message Type	Delivery Frequency	Delivery Method and/or Media
2-1.2 Emergency Officials			
Emergency Officials	**Baseline Messages:** • Pipeline purpose and reliability • Awareness of hazards and prevention measures undertaken • Emergency Preparedness Communications • Potential hazards • Pipeline location information and availability of NPMS • How to get additional information	**Baseline Frequency =** Annual	**Baseline Activity:** • Personal contact (generally preferred) OR • Targeted distribution of print materials OR • Group meetings OR • Telephone calls with targeted distribution of print materials
	Supplemental Message: • Provide information and /or overview of Integrity measures undertaken • Maintenance construction activity	**Supplemental Frequency:** Additional frequency and supplemental efforts as determined by specifics of the pipeline segment or environment	**Supplemental Activity:** • Emergency tabletop, deployment exercises • Facility tour • Open house
2-1.3 Local Public Officials			
Public Officials	**Baseline Messages:** • Pipeline purpose and reliability • Awareness of hazards and prevention measures undertaken • Emergency preparedness communications • One-call requirements • Pipeline location information and availability of NPMS • How to get additional information	**Baseline Frequency** = 3 years	**Baseline Activity:** • Targeted distribution of print materials
	Supplemental Message: • If applicable, provide information about designation of HCA (or other factors unique to segment) and summary of integrity measures undertaken • ROW encroachment prevention • Maintenance construction activity	**Supplemental Frequency:** • If in HCA, then annual contact to appropriate public safety officials • Otherwise, as appropriate to level of activity or upon request	**Supplemental Activity:** • Personal contact • Telephone calls • Videos and CDs

Table 2-1 - Summary Public Awareness Communications for Hazardous Liquids and Natural Gas Transmission Pipeline Operators (Continued)

Stakeholder Audience	Message Type	Delivery Frequency	Delivery Method and/or Media
2-1.4 Excavators			
Excavators / Contractors	**Baseline Messages:** • Pipeline purpose and reliability • Awareness of hazards and prevention measures undertaken • Damage prevention awareness • One-call requirements • Leak recognition and response • How to get additional information	**Baseline Frequency =** Annual	**Baseline Activity:** • Targeted distribution of print materials • One-Call Center outreach • Pipeline markers
	Supplemental Messages: Pipeline purpose, prevention measures and reliability	**Supplemental Frequency:** Additional frequency and supplemental efforts as determined by specifics of the pipeline segment or environment	**Supplemental Activity:** • Personal contact • Group meetings
Land Developers	**Supplemental Messages:** • Pipeline purpose and reliability • Awareness of hazards and prevention measures undertaken • Damage Prevention Awareness • One-call Requirements • Leak Recognition and Response • ROW Encroachment Prevention • Availability of list of pipeline operators through NPMS	**Supplemental Frequency:** Frequency as determined by specifics of the pipeline segment or environment	**Supplemental Activity:** • Targeted distribution of print materials • Pipeline markers • Personal contact • Group meetings • Telephone calls
One-Call Centers	**Baseline Messages:** • Pipeline location information • Other requirements of the applicable One-Call Center	**Baseline Frequency:** • Requirements of the applicable One-Call Center	**Baseline Activity:** • Membership in appropriate One-Call Center • Requirements of the applicable One-Call Center • Maps (as required)
	Supplemental Messages: • One-Call System performance • Accurate line location information • One-Call System improvements	**Supplemental Frequency:** As changes in pipeline routes or contact information occur or as required by state requirements	**Supplemental Activity:** • Targeted distribution of print materials • Personal contact • Telephone calls

Table 2-2—Summary Public Awareness Communications for Local Natural Gas
Distribution (LDC) Companies

Stakeholder Audience	Message Type	Suggested Frequency	Suggested Delivery Method and/or Media
2-2.1 Affected Public			
Residents along the Local Distribution System (LDC)	**Baseline Messages:** • Pipeline purpose and reliability • Awareness of hazards and prevention measures undertaken • Damage prevention awareness • Leak recognition and response • How to get additional information	**Baseline Frequency** = Annual	**Baseline Activity:** • Public service announcements, OR • Paid advertising, OR • Bill stuffers (for combination electric & gas companies)
		Supplemental Frequency: • Additional frequency and supplemental efforts as determined by specifics of the pipeline segment or environment	**Supplemental Activity:** • Targeted distribution of print materials • Newspaper and magazines • Community events or • Community neighborhood newsletters
LDC Customers	**Baseline Messages:** • Pipeline purpose and reliability • Awareness of hazards and prevention measures undertaken • Damage Prevention Awareness • Leak Recognition and Response • How to get additional information	**Baseline Frequency** = Twice annually	**Baseline Activity:** • Bill stuffers
		Supplemental Frequency: • Additional frequency and supplemental efforts as determined by specifics of the pipeline segment or environment	**Supplemental Activity:** • Targeted distribution of print materials
2-2.2 Emergency Officials			
Emergency Officials	**Baseline Messages:** • Pipeline purpose and reliability • Awareness of hazards and prevention measures undertaken • Emergency preparedness communications • How to get additional information	**Baseline Frequency** = Annual	**Baseline Activity:** • Print materials, OR • Group meetings
		Supplemental Frequency: • Additional frequency and supplemental efforts as determined by specifics of the pipeline segment or environment	**Supplemental Activity:** • Telephone calls • Personal contact • Videos and CDs
2-2.3 Local Public Officials			
Public Officials	**Baseline Messages:** • Pipeline purpose and reliability • Awareness of hazards and prevention measures undertaken • Emergency preparedness communications • How to get additional information	**Baseline Frequency** = 3 years	**Baseline Activity:** • Targeted distribution of print materials
		Supplemental Frequency: • Additional frequency and supplemental efforts as determined by specifics of the pipeline segment or environment	**Supplemental Activity:** • Group meetings • Telephone calls • Personal contact

Table 2-2—Summary Public Awareness Communications for Local Natural Gas
Distribution (LDC) Companies (Continued)

Stakeholder Audience	Message Type	Suggested Frequency	Suggested Delivery Method and/or Media
2-2.4 Excavators			
Excavators / Contractors	**Baseline Messages:** • Pipeline purpose and reliability • Awareness of hazards and prevention measures undertaken • Leak recognition and response • One-call requirements • How to get additional information	**Baseline Frequency** = Annual	**Baseline Activity:** • One-Call Center outreach OR • Group meetings
		Supplemental Frequency: • Additional frequency and supplemental efforts as determined by specifics of the pipeline segment or environment	**Supplemental Activity:** • Personal contact • Videos and CDs • Open houses
One-Call Centers	**Baseline Messages:** • Pipeline location information • Other requirements of the applicable One-Call Center	**Baseline Frequency:** • Requirements of the applicable One-Call Center	**Baseline Activity:** • Membership in appropriate One-Call Center • Requirements of the applicable One-Call Center • Maps (as required)
	Supplemental Messages: • One-Call System performance • Accurate line location information • One-Call System improvements	**Supplemental Frequency:** • As changes in pipeline routes or contact information occur or as required by state requirements	**Supplement Activity:** • Targeted distribution of print materials • Personal contact • Telephone calls • Maps (as required)

Table 2-3—Summary Public Awareness Communications for Gathering Pipeline Operators

Stakeholder Audience	Message Type	Delivery Frequency	Delivery Method and/or Media
2-3.1 Affected Public			
Residents, **and** **Places of Congregation within area of potential impact**	**Baseline Messages:** • Gathering pipeline purpose • Awareness of hazards • Prevention measures undertaken • Damage prevention awareness • One-call requirements • Leak Recognition and Response • How to get additional information	**Baseline Frequency** = 2 years	**Baseline Activity:** • Targeted distribution of print materials OR • Personal contact
	Supplemental Messages: • Planned maintenance construction activity • Special emergency procedures if sour gas or other segment specific reason.	**Supplemental Frequency:** • Annually for sour gas gathering lines • Additional frequency as determined by specifics of the pipeline segment or environment.	**Supplemental Activity:** • Pipeline markers • Print materials • Personal contact • Telephone calls • Group meetings • Mass media • Other activities described in Section 5

Table 2-3—Summary Public Awareness Communications for Gathering Pipeline Operators (Continued)

Stakeholder Audience	Message Type	Delivery Frequency	Delivery Method and/or Media
2-3.2 Emergency Officials			
Emergency Officials	**Baseline Messages:** • Gathering pipeline location and purpose • Awareness of hazards • Prevention measures undertaken • Emergency preparedness communications, company contact and response information • Specific description of products transported and any potential special hazards • How to get additional information	**Baseline Frequency** = Annual	**Baseline Activity:** • Personal contact (generally preferred) OR • Targeted distribution of print materials OR • Group meetings OR • Telephone calls with targeted distribution of print materials
	Supplemental Messages: • Planned maintenance construction activity • Special emergency procedures if sour gas or other segment specific reason		**Supplemental Activity:** • Emergency tabletop deployment exercises • Facility tour • Open house
2-3.3 Local Public Officials			
Public Officials	**Baseline Messages:** • General location and purpose of gathering pipeline • Awareness of hazards • Prevention measures undertaken • Copies of materials provided to affected public and emergency officials • Company contacts • How to get additional information	**Baseline Frequency** = 3 years	**Baseline Activity:** • Targeted distribution of print materials
	Supplemental Message: • ROW encroachment prevention • Maintenance construction activity • Special emergency procedures if sour gas or other segment specific reasons.	**Supplemental Frequency:** • If in HCA, then more frequent or annual contact with appropriate public safety officials • Otherwise as appropriate to level of activity or upon request	**Supplemental Activity:** • Personal contact • Telephone calls • Videos and CDs

Table 2-3—Summary Public Awareness Communications for Gathering Pipeline Operators (Continued)

Stakeholder Audience	Message Type	Delivery Frequency	Delivery Method and/or Media
2-3.4 Excavators			
Excavators / Contractors	**Baseline Messages:** • General location and purpose of gathering pipeline • Awareness of hazards • Prevention measures undertaken • Damage prevention awareness • One-call requirements • Leak recognition and response • How to get additional information	**Baseline Frequency** = Annual	**Baseline Activity:** • Targeted distribution of print materials • One-Call Center outreach • Pipeline markers **Supplemental Activity:** • Personal contact • Group meetings • One-Call Center outreach • mass media
Land Developers	**Supplemental Messages:** • General location and purpose of gathering pipeline • Awareness of hazards • Prevention measures undertaken • Damage prevention awareness	**Supplemental Frequency:** Frequency as determined by specifics of the pipeline segment or environment	**Supplemental Activity:** • Targeted distribution of print materials • Personal contact • Group meetings • Telephone calls
One-Call Centers	**Baseline Messages:** • Pipeline location information • Other requirements of the applicable One-Call Center	**Baseline Frequency:** • Requirements of the applicable One-Call Center	**Baseline Activity:** • Membership in appropriate One-Call Center • Requirements of the applicable One-Call Center • Maps (as required)
	Supplemental Messages: • One-Call System performance • Accurate line location information • One-Call System improvements	**Supplemental Frequency:** As changes in pipeline routes or contact information occur or as required by state requirements	**Supplement Activity:** • Targeted distribution of print materials • Personal contact • Telephone calls • Maps (as required)

3 Stakeholder Audiences

One of the initial tasks in developing a Public Awareness Program is to identify the audience(s) that should receive the program's messages. This section defines the intended audiences for the operator's Public Awareness Program and provides examples (not all inclusive) of each audience. Further explanation and examples are included in Appendix B. This information should help the operator clarify whom it is trying to reach with its program. The following audiences are considered "stakeholders" of the pipeline operator's Public Awareness Program. The four intended "Stakeholder Audiences" include:

- Affected public
- Emergency officials
- Local public officials
- Excavators.

The operator should consider tailoring its communication coverage area to fit its particular pipeline location and release consequences. The operator would be expected to consider areas of consequence as defined in federal regulations. Where specific circumstances suggest a wider coverage area for a certain pipeline location, the operator should expand its communication coverage area as appropriate.

The "Stakeholder Audience" definitions listed in the table below are used in the remaining sections of this RP, as applicable.

3.1 THE AFFECTED PUBLIC

Stakeholder Audience	Audience Definition	Examples
Residents located adjacent to the transmission pipeline ROW	People who live adjacent to a natural gas and/or hazardous liquid transmission pipeline ROW.	• Occupants or residents • Tenants • Farmers • Homeowners associations or groups • Neighborhood organizations
Residents located along distribution systems	People who live on or immediately adjacent to the land wherein gas distribution pipelines are buried.	• LDC customers • Non-customers living immediately adjacent to the land wherein distribution pipelines are buried
Gas transmission pipeline customers	Businesses or facilities that the pipeline operator provides gas directly to for end use purposes. This does not include LDC customers.	• Power plants • Businesses • Industrial facilities
LDC customers	People that are served by gas distribution facilities.	• LDC customers
Residents near liquid or natural gas storage and other operational facilities along transmission lines	People who live adjacent to or near a tank farm, storage field, pump/compressor station and other facilities.	• Occupants or residents tenants • Farmers • Homeowner associations or groups • Neighborhood organizations
Places of congregation	Identified places where people assemble or work on a regular basis—on or along a transmission pipeline ROW, unrelated to habitation.	• Businesses • Schools • Places of worship • Hospitals and other medical facilities • Prisons • Parks & recreational areas • Day-care facilities • Playgrounds
Residents located along rights-of-way for gathering pipelines	• People who live or work on land along which the gathering pipeline is located, and within the right-of-way. • For higher consequence gathering lines (e.g. H_2S), people who live or work a distance on either side of right-of-way that is based on the potential impact in the event of an emergency.	• Occupants or residents • Tenants • Farmers • Businesses • Schools

3.2 EMERGENCY OFFICIALS

Stakeholder Audience	Audience Definition	Examples
Emergency officials	Local, state, or regional officials, agencies and organizations with emergency response and/or public safety jurisdiction along the pipeline route.	• Fire departments • Police/sheriff departments • Local Emergency Planning Commissions (LEPCs) • County and State Emergency Management Agencies (EMA) • Other emergency response organizations • Other public safety organizations

3.3 LOCAL PUBLIC OFFICIALS

Stakeholder Audience	Audience Definition	Examples
Public officials	Local, city, county or state officials and/or their staffs having land use and street/road jurisdiction along the pipeline route.	• Planning boards • Zoning board • Licensing departments • Permitting departments • Building code enforcement departments • City and county managers • Public and government officials • Public utility boards • Includes local "Governing Councils" as defined by many communities • Public officials who manage franchise or license agreements

3.4 EXCAVATORS

Stakeholder Audience	Audience Definition	Examples
Excavators	Companies and local/state government agencies who are involved in any form of excavation activities.	• Construction companies • Excavation equipment rental companies • Public works officials • Public street, road and highway departments (maintenance and construction) • Timber companies • Fence building companies • Drain tiling companies • Landscapers • Well drillers
Land developers	Companies and private entities involved in land development and planning.	• Home builders • Land developers • Real estate sales
One-Call Centers	Excavation One-Call Centers relevant to the area.	• Each state, region, or other organization established to notify underground facility owner/operators of proposed excavations. Excavation One-Call Centers relevant to the area.

4   Message Content

An operator should select the optimum combination of message, delivery method, and frequency that meets the needs of the intended audience. Information materials may also include supplemental information about the pipeline operator, pipeline operations, the safety record of pipelines and other information that an operator deems appropriate for the audience. The operator is reminded that communications materials should be provided in the language(s) spoken by a significant portion of the intended audience.

The basic message conveyed to the intended audience should provide information that will allow the operator to meet the program objectives. The communications should include enough information so that in the event of a pipeline emergency, the intended audience will know how to identify a potential hazard, protect themselves, notify emergency response personnel, and notify the pipeline operator. Several components of these messages are discussed in this section.

4.1   PIPELINE PURPOSE AND RELIABILITY

Operators should consider providing a general explanation of the purpose of the pipeline and/ or facilities and the reliability of pipelines to meet the energy needs of the region, even though this is not a primary objective of pipeline public awareness. Operators should provide assurances that security is considered.

4.2   HAZARD AWARENESS AND PREVENTION MEASURES

Operators should provide a very broad overview of potential hazards, their potential consequences and the measures undertaken by the operator to prevent or mitigate the risks from pipelines (including, at the operator's discretion, an overview of the industry's safety record). Additionally, operators should provide an overview of their preventative measures to help assure safety and prevent incidents. The scope of the hazard awareness and prevention message should be more detailed for the emergency responder audience than for other audiences, and should include how to obtain more specific information upon request from the operator.

4.3   LEAK RECOGNITION AND RESPONSE

The pipeline operator should provide information in the following key subject areas to the affected public and excavator stakeholder groups.

4.3.1   Potential Hazards of Products Transported

Information about specific release characteristics and potential hazards posed by hazardous liquids or gases should be included.

4.3.2   How to Recognize a Pipeline Leak

Information should address how to recognize a pipeline leak through the senses of sight, unusual sound, and smell and describe any associated dangers as appropriate to the product type.

4.3.3   Response to a Pipeline Leak

Information should address an outline of the appropriate actions to take if a pipeline leak or release is suspected.

4.3.4   Liaison with Emergency Officials

Information should describe the ongoing relationship between the operator and local emergency response officials to help prevent incidents and assure preparedness for emergencies.

4.4   EMERGENCY PREPAREDNESS COMMUNICATIONS

Communicating periodically with local emergency officials is an important aspect of all Public Awareness Programs. Operators should provide a summary of emergency preparedness information to local public officials and should indicate that detailed information has been provided to emergency response agencies in their jurisdictions. The following information should be provided to the emergency officials stakeholder audience.

4.4.1   Priority to Protect Life

The operator's key messages to emergency officials should emphasize that public safety and environmental protection are the top priorities in any pipeline emergency response.

4.4.2   Emergency Contacts

Contact information for the operator's local offices and 24-hour emergency telephone line should be shared with local and state emergency officials. Operators should also use the contacts with emergency officials to confirm that both emergency officials and the operators have the current, correct contact information and calling priorities.

4.4.3   Emergency Preparedness Response Plans

Operators are required by federal regulations to have emergency response plans. These plans should be developed for use internally and externally, with appropriate officials, and in accordance with applicable federal and state emergency regulations. 49 *CFR* 192 and 195 and some state regulations outline the specific requirements for emergency response plans and who to contact for additional information. The operator should include information about how emergency officials

can access the operator's emergency response plans covering their jurisdiction.

4.4.4 Emergency Preparedness—Drills and Exercises

A supplemental means of two-way communication about emergency preparedness is to establish a liaison with emergency response officials through operator or joint emergency response drills, exercises or deployment practices. Information on "unified command system" roles, operating procedures and preparedness for various emergency scenarios can be communicated effectively and thoroughly through a hands-on drill or exercise.

4.5 DAMAGE PREVENTION

Because even relatively minor excavation activities can cause damage to a pipeline or its protective coating or to other buried utility lines, it is important that operators raise the awareness of the need to report any suspected signs of damage. Operators should keep their damage prevention message content consistent with the key "Dig Safely" messages developed by the Common Ground Alliance (CGA). CGA contact information is located in Appendix A.

The use of an excavation One-Call Notification system should be explained to the audience. Information on the prevalence of digging-related damage, also known as "third-party" damage, should be provided as appropriate. The audience should be requested to call the state or local One-Call System in their area before they begin any excavation activity. If the state or locality has established penalties for failure to use established damage prevention procedures, that fact may also be communicated, depending on the audience and situation. Additional information is located in Appendix C.

Additionally, third-party contractors are subject to the Occupational Safety and Health Administration's (OSHA) requirements. OSHA cites in its "General Duty Clause" possible regulatory enforcement action that could be taken against excavation contractors who place their employees at risk by not utilizing proper damage prevention practices. The lack of adequate damage prevention could subject the excavator to OSHA regulatory enforcement. OSHA contact information is located in Appendix A.

4.6 PIPELINE LOCATION INFORMATION

4.6.1 Transmission Pipeline Markers

The audience should know how to identify a transmission pipeline ROW by recognition of pipeline markers—especially at road crossings, fence lines and street intersections. The operator's awareness communications should include information about what pipeline markers look like, and the fact that telephone numbers are on the markers for their use if an emergency is suspected or discovered. Communications should also be clear that pipeline markers do not indicate the exact location or depth of the pipeline and may not be present in certain areas. As such, use of the One-Call Notification system should be encouraged. Additional detail is located in Appendix C.

4.6.2 Transmission Pipeline Mapping

Pipeline maps developed by transmission pipeline operators can be an important component of an operator's Public Awareness Program. The level of detail provided on the map should, at a minimum, include the line size, product transported and the approximate location of the pipeline, as well as any other information deemed reasonable and necessary by the operator. National energy infrastructure security issues should be considered in determining information and distribution related to pipeline maps. The public can also receive information about which pipelines operate in their community by accessing the National Pipeline Mapping System (NPMS). The NPMS will provide the inquirer a list of pipeline operators and operator contact information. Operators should include information on the availability of the NPMS within their public awareness materials. NPMS information is provided in Appendix A. Additional mapping information is provided in Appendix C.

4.7 HIGH CONSEQUENCE AREAS (HCAs) AND INTEGRITY MANAGEMENT PROGRAM OVERVIEW FOR TRANSMISSION OPERATORS

4.7.1 Message Content for Affected Public within HCAs

Public awareness materials should include a general explanation that, in accordance with federal regulations, some segments along transmission pipelines have been designated as High Consequence Areas (HCAs) and that supplemental hazard assessment and prevention programs (called Integrity Management Programs) have been developed. Information provided to the affected public should indicate where an overview of the operator's Integrity Management Programs can be obtained or viewed upon request.

4.7.2 Message Content for Emergency Officials within HCAs

For emergency official stakeholder audiences whose jurisdiction includes an HCA as defined by 49 *CFR* Parts 192 or 195, the operator should include an overview of the operator's Integrity Management Programs. Inclusion of this information during emergency official liaison interface will provide an opportunity for feedback from the emergency official on the operator's Integrity Management Programs.

4.7.3 Message Content for Public Officials within HCA's

For public official stakeholder audiences whose jurisdiction includes an HCA as defined by 49 *CFR* Parts 192 or 195, the operator should indicate where an overview of the operator's Integrity Management Programs can be obtained or viewed upon request.

4.8 CONTENT ON OPERATOR WEBSITES

Pipeline operators who maintain websites can include the following information (further examples of this information are provided in Appendix C):

- Company information
- General information on pipeline operations
- General or system pipeline map(s)
- Affected public information
- Emergency and security information
- Damage prevention awareness and One-Call Notification.

4.9 RIGHT-OF-WAY ENCROACHMENT PREVENTION

Pipeline operators should communicate that encroachments upon the pipeline ROW inhibit the operator's ability to respond to pipeline emergencies, eliminate third-party damage, provide ROW surveillance, perform routine maintenance, and perform required federal/state inspections. Stakeholder specific information is listed in Appendix D.

4.10 PIPELINE MAINTENANCE CONSTRUCTION ACTIVITIES

Pipeline maintenance-related construction activities should be communicated to the audience affected by the specific activity in a timely manner appropriate to the nature and extent of the activity.

4.11 SECURITY

Where applicable and in accordance with the national Homeland Security efforts, pipeline operators should communicate an overview pertaining to security of their pipelines and related facilities.

4.12 FACILITY PURPOSE

Where appropriate, communication with the affected public and emergency and public officials in proximity to major facilities (such as storage facilities, compressor or pump stations) should include information to promote understanding of the nature of the facility. Operators should communicate general information regarding the facility and product(s) stored or transported through the facility. Communication

with emergency officials should also include emergency contact information for the specific facility.

5 Message Delivery Methods and/or Media

This section describes several delivery methods and tools available to pipeline operators to foster effective communications with the intended stakeholder audiences previously described. The operator is reminded that not all methods are effective in all situations. The content of the communication efforts should be tailored to:

- Needs of the audience
- Type of pipeline and/or facilities
- Intent of the communication, and
- Appropriate method/media for the content.

A more detailed discussion of the summary information below is provided in Appendix D.

5.1 TARGETED DISTRIBUTION OF PRINT MATERIALS

The use of print materials is an effective means of communicating with intended audiences. Because of the wide variety of print materials, operators should carefully select the type, language and formatting based on the audience and message to be delivered. Generally, an operator will use more than one form of print materials in its Public Awareness Program. While not all inclusive, several types are discussed below.

5.1.1 Brochures, Flyers, Pamphlets, and Leaflets

Brochures, flyers, pamphlets and leaflets are probably the most common message delivery methods currently used by the pipeline industry. These print materials can convey important information about the company, the industry, pipeline safety, or a proposed project or maintenance activity and should provide contact information where the recipient can obtain further information. These print materials also afford an effective opportunity to communicate content in a graphical or pictorial way.

5.1.2 Letters

Research has indicated that letters mailed to residents along the pipeline ROW are an effective tool to communicate specific information, such as how to recognize and what to do in the event of a leak, how to identify and report suspicious activity, and notification of planned operator activities.

5.1.3 Pipeline Maps

Pipeline maps can be an important component of an operator's Public Awareness Program and should be considered where they can enhance the appropriate stakeholder(s) aware-

ness of the operator's pipeline and facilities. Additional information regarding pipeline mapping is available in Appendix C.

5.1.4 Response Cards

Often referred to as either bounce back cards or business reply cards, these preprinted, preaddressed, postage paid response cards are often mailed to the affected public as an integral part of, or as an attachment to, other items. The inclusion of a response card can be used in a variety of ways (refer to Appendix D).

5.1.5 Bill Stuffers

Bill stuffers are printed brochures frequently used by local distribution companies (LDCs) in conjunction with customer invoices. Due to the nature of customers for transmission and gathering pipelines, bill stuffers are not considered an appropriate option. LDCs using bill stuffers can easily reach their customers with appropriate messages and can increase their effectiveness by using bill stuffers repeatedly. For those LDCs that are combined with other energy utilities such as electric or water systems, bill stuffers regarding pipeline safety and underground damage prevention can be delivered to virtually all surroundings residents, even those that may not be natural gas customers.

5.2 PERSONAL CONTACT

Personal contact describes face-to-face contacts between the operator and the intended stakeholder audience. This method is usually a highly effective form of communication and allows for two-way discussion. Personal contacts may be made on an individual basis or in a group setting. Some examples of personal contact communications are described further in Appendix D and include:
* Door-to-door contact along pipeline ROW
* Telephone calls
* Group meetings
* Open houses
* Community events
* Charitable contribution presentations by pipeline companies.

5.3 ELECTRONIC COMMUNICATION METHODS

5.3.1 Videos and CDs

There are a variety of approaches operators may use to supplement their public awareness efforts with videos and CDs. While considered a supplement to the baseline components of an effective Public Awareness Program, videos and CDs may be quite useful with some stakeholders or audiences in some situations. These media can show activities such as construction, natural gas or petroleum consumers, pipeline routes, preventive maintenance activities, simulated or actual

spills and emergency response exercises or actual responses in ways that printed materials cannot.

5.3.2 E-mail

Electronic mail ("e-mail") can be a means of sending public awareness information to a variety of stakeholder audiences. The content and approach is similar to letters or brochures, but the information is sent electronically rather than delivered by postal mail or personal contact.

5.4 MASS MEDIA COMMUNICATIONS

5.4.1 Public Service Announcements

Public Service Announcements (PSAs) can be an effective means for reaching a large sector of the public. Radio and television stations occasionally make some airtime available for PSAs. They are no longer required by law to donate free airtime and as a result, there is great competition from various public interest causes for the small amount of time made available. If the operator is an advertiser with the radio or television station, this might be leveraged to gain advantage in acquiring PSA time.

5.4.2 Newspapers and Magazines

Newspaper and magazine articles don't have to be limited to the reactive coverage following an emergency or controversy. Pipeline companies can submit or encourage reporters to write constructive and informative articles about pipeline issues, such as local projects, excavation safety, or the presence of pipelines as part of the energy infrastructure.

5.4.3 Paid Advertising

The use of paid advertising media such as television ads, radio spots, newspapers ads, and billboards can be an effective means of communication with an entire community.

5.4.4 Community and Neighborhood Newsletters

Posting of pipeline safety or other information to community and neighborhood newsletters can be done in conjunction with other outreach to those communities and/or neighborhoods. This method can be particularly effective in reaching audiences near the pipeline, namely neighborhoods and subdivisions through which the pipeline traverses.

5.5 SPECIALTY ADVERTISING MATERIALS

Specialty advertising can be a unique and effective method to introduce a company or maintain an existing presence in a community. These materials also provide ways of delivering pipeline safety messages, project information, important phone numbers and other contact information. The main benefit of this type of advertising is that it tends to have a longer

retention life than printed materials because it is otherwise useful to the recipient. Because of the limited amount of information that can be printed on these items, they should be used as a companion to additional printed materials or other delivery methods. Examples are included in Appendix D.

5.6 INFORMATIONAL OR EDUCATIONAL ITEMS

Companies can develop informational and educational materials to heighten pipeline awareness. The cost-effectiveness of producing such materials can be increased through partnering with an industry association or group of other operators.

5.7 PIPELINE MARKER SIGNS

The primary purposes of aboveground transmission pipeline marker signs are to:
- Mark the approximate location of a pipeline
- Provide public awareness that a buried pipeline or facility exists nearby
- Provide a warning message to excavators about the presence of a pipeline or pipelines
- Provide pipeline operator contact information in the event of a pipeline emergency and
- Facilitate aerial or ground surveillance of the pipeline ROW by providing aboveground reference points.

Refer to Section 4 and Appendix C for additional information on marker sign types and information content.

Below-ground markers, such as warning tape or mesh, can also be effective warnings to excavators of the presence of buried pipe. When burying pipe following repairs, relocations, inspections, etc., operators should consider whether it is appropriate to add below-ground markers in the location.

5.8 ONE-CALL CENTER OUTREACH

Most state One-Call Centers provide community outreach or conduct public awareness activities about one-call requirements and damage prevention awareness, as discussed in Section 4. Pipeline operators should encourage One-Call Centers to provide those public awareness communications and can account for such communication as a part of their own Public Awareness Programs. Many One-Call Centers host awareness meetings with excavators to further promote the damage prevention and one-call messages. It is the operator's responsibility to request documentation for these outreach activities.

To enhance Dig Safely and one-call public awareness outreach by One-Call Centers, operators are required by 49 *CFR* Parts 192 and 195 to become one-call members in localities where they operate pipelines. Since all One-Call Center members share the center's public awareness outreach costs, the costs to an individual operator are usually comparatively low.

5.9 OPERATOR WEBSITES

Pipeline operators with websites can enhance their communications to the public through the use of a company website on the Internet. Additional information located in Appendix C.8 describes features for a company's pipeline operations that should fit into any corporate structure and overall website design. A company's website will supplement the other various direct outreach delivery tools discussed in this RP.

6 Recommendations for Supplemental Enhancements of Baseline Public Awareness Program

The pipeline operator has a number of stakeholder audiences for delivering messages regarding the safe operation of pipelines. The message content, the delivery medium, delivery frequency, and audience's retention of the delivered message should be carefully considered during the development and implementation of the operator's Public Awareness Program to achieve maximum effectiveness. Many of the communications should be available on demand or evergreen (e.g., websites, pipeline markers) and others are periodic in nature (e.g., mass mailings, public meetings, and advertisements). The combination of the specific messages, delivery methods, and delivery frequencies should be designed into the operator's program for each audience. These elements should allow each audience to develop and maintain an awareness of the pipeline's safe operation appropriate to the audience's responsibilities for pipeline awareness, response to pipeline emergencies, and its possible exposure to pipeline emergencies.

Section 2 includes summary tables of the overall Public Awareness Program recommendations. The summary tables include a baseline Public Awareness Program for the three pipeline categories. The tables also provide a recommended delivery frequency for each of the message types intended for the respective audiences. These frequencies are the suggested baselines and the pipeline operator should consider to what extent an enhanced, supplemental program is warranted.

The term "program enhancement" refers to the operator's decision to supplement its Public Awareness Program beyond the recommended baseline. Throughout this RP the terms "enhancement" and "supplemental" are used interchangeably and mean those communications measures added to the Public Awareness Program beyond the baseline program elements. To support this decision, the operator should consider external factors along the pipeline system and determine if some additional level of public awareness communications is warranted, beyond the recommended baseline program. Those supplemental aspects would then be incorporated into the Public Awareness Program for that pipeline segment or system. Supplemental enhancement considerations are discussed in detail on the following pages.

In addition, the operator should include in its Public Awareness Program Evaluation a periodic review and evaluation of its program (see Section 8), determine if supplemental public awareness efforts/activities are warranted and include those enhancements and related documentation into its program.

6.1 CONSIDERATIONS FOR SUPPLEMENTAL ENHANCEMENTS FOR THE BASELINE PROGRAM

This RP recognizes that there are differences in pipeline conditions, consequences, population, property development, excavation activities and other issues along pipeline systems. Accordingly, a "one-size-fits-all" Public Awareness Program across all pipeline systems would not be the most effective approach. This RP recommends that an operator enhance its baseline program with supplemental program components when conditions along the pipeline suggest a more intensive effort is needed.

Baseline program recommendations are established for each of the three pipeline categories. The following sections are provided for guidance when the operator's consideration of relevant factors along the pipeline route indicates that supplemental program enhancement is warranted. Three primary forms of enhancement are provided for consideration in the development and administration of each Public Awareness Program:

6.1.1 Increased Frequency (Shorter Interval)

Increased frequency refers primarily to providing communications to specific stakeholder audiences on a more frequent basis (shorter interval) than the baseline recommended components to reach the intended audience.

6.1.2 Enhanced Message Content and Delivery/ Media Efforts

Enhanced message content and delivery/media efforts refer to providing additional or supplemental communications activities beyond those identified in the baseline, using an enhanced or custom-tailored message content and/or different, or additional, delivery methods/media to reach the intended audience.

6.1.3 Coverage Areas

Coverage areas refer to broadening or widening the stakeholder audience coverage area beyond those contained in the baseline for delivery of certain communications messages. This can also be considered relative to widening the buffer distance for reaching the stakeholder audience along the pipeline route.

6.2 CONSIDERATIONS OF RELEVANT FACTORS

When the operator develops its Public Awareness Program and performs subsequent periodic program evaluations, it is recommended that a step for assessing relevant factors along the pipeline route be included to consider what components of the Public Awareness Program should be enhanced.

The operator should consider each of the following factors applied along the entire route of the pipeline system:

- 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
- Results from previous Public Awareness Program evaluations
- Other relevant needs.

The presence of federally designated High Consequence Areas (HCAs) should prompt an operator to consider public awareness activity above the baseline level described in the RP. For natural gas transmission pipelines, 49 *CFR* Part 192.761 defines HCAs related to the population or places of congregation. For hazardous liquid transmission pipelines, 49 *CFR* Part 195.450 describes HCAs related to high population, Unusually Sensitive Areas (USAs) and navigable waterways.

Another factor to consider is the hazard associated with the pipeline as perceived by either the operator or the audience. For example, if a pipeline segment has experienced third-party damage, the operator could increase the frequency of messages to those third-parties and other relevant audiences. If the public's confidence in pipeline safety is undermined by a high profile emergency, even though an individual operator is experiencing no upward trend in incidents, that operator could consider expanding its public awareness communications to its public audiences to further increase awareness of its nearby pipeline system.

Further detail of considerations for program enhancement is discussed in the following sections.

6.3 HAZARDOUS LIQUID AND NATURAL GAS TRANSMISSION PIPELINE OPERATORS

Since Hazardous Liquids and Natural Gas Transmission pipelines are similar in many aspects with respect to public awareness, the two categories of pipelines have been combined.

Considerations for program enhancement for transmission pipelines could include, for example:

6.3.1 The Affected Public

Consideration should be given to *supplemental program enhancement* where:

- The occurrences indicate an elevated potential for third-party damage. Examples include:
    - A mailing to farmers along the right-of-way just prior to the deep plowing season where deep till plow methods are used
    - An additional or interim mass mailing to or face-to-face communications with residents of new housing developments in areas along the pipeline route that may not have previously been reached
    - Increasing the frequency of baseline communication efforts

- The pipeline runs through heavily developed urban areas that are more likely to have a frequently changing population than a more stable, less dense suburban or rural areas. Frequently changing population in an identified audience area should be considered when determining supplemental efforts to:
    - Residents in areas such as multi-family developments or densely populated urban areas
    - Increase the frequency of communications to residents

- Right-of-way encroachments have occurred frequently. Examples of supplemental efforts include:
    - Enhanced mailings to, face-to-face communications with, or increasing the frequency of communications to residents/developers/contractors in areas of right-of-way encroachment

- The potential for concern about consequences of a pipeline emergency is heightened. Consideration should be given to widening the coverage area for:
    - HVL pipelines in high population areas, extend the coverage area beyond the $1/8$th mile minimum distance each side of the pipeline
    - Large diameter, high pressure, high volume pipelines where a pipeline emergency would likely affect the public outside of the specified minimum coverage area—extend the coverage area to a wider distance as deemed prudent.

6.3.2 Public Officials

Consideration should be given to *supplemental program enhancement* where:

- Heightened public sensitivity to pipeline emergencies exists in the area, independent of cause or which operator was involved
- Significant right-of-way encroachments (such as new construction developments) are occurring.

6.3.3 Emergency Officials

Consideration should be given to *supplemental program enhancement* where:

- Emergency officials have heightened sensitivity to pipeline emergencies
- After post-emergency review, or where there's potential for enhanced "liaison activities" between the operator and emergency officials that could have improved the emergency response to a pipeline emergency
- Requested by emergency officials to provide additional communications.

6.3.4 Excavators/Contractors and One-Call Centers

Consideration should be given to *supplemental program enhancement* where:

- There are instances that indicate an elevated potential for third-party damage
- Developers and contractors are performing a high number of excavations along a pipeline route in developing areas
- There are instances of problems identified with excavators' use or lack of use of the One-Call System. In those cases the operator should also request that the one-call Center perform additional public awareness outreach activities

6.4 LOCAL NATURAL GAS DISTRIBUTION COMPANIES (LDCs)

Many of the aspects of Public Awareness Programs for LDCs are similar to liquid and transmission pipeline operators. However, there are some differences because LDCs serve a different audience. Unlike transmission pipeline operators, LDCs have many more individual customers and have existing communication paths with those customers through monthly billing statements and other customer relationships. Table 2-2, for LDCs, in Section 2, provides baseline and supplemental communication recommendations for each of the different audiences.

Among LDCs there may be some variability in the frequency of communications with specific audiences. Public officials and emergency response personnel in a small rural city will likely be more accessible to the LDC pipeline operators than those in a major metropolitan area. Therefore, LDC operators should tailor their programs based on specific local considerations.

6.5 GATHERING PIPELINE OPERATORS

Gathering pipelines are usually small in diameter and operate at low pressures. In general, the audiences involved in public awareness communications for gathering pipelines tend to be in rural areas. The operator should tailor the spe-

cific communication program to fit the needs of the audiences and the circumstances in the particular area. Table 2-3 for gathering pipeline operators provides baseline and supplemental recommended communication frequencies for different audiences.

7   Program Documentation and Recordkeeping

Each operator should establish policies and procedures necessary to properly document its Public Awareness Program and retain those key records for purposes of program evaluation.

7.1   PROGRAM DOCUMENTATION

Each operator of a hazardous liquid pipeline system, natural gas transmission pipeline system, gathering pipeline system or a natural gas distribution pipeline system should establish (and periodically update) a written Public Awareness Program designed to cover all required components of the program described in this RP.

The written program should include:

a. A statement of management commitment to achieving effective public/community awareness.

b. A description of the roles and responsibilities of personnel administering the program.

c. Identification of key personnel and their titles (including senior management responsible for the implementation, delivery and ongoing development of the program).

d. Identification of the media and methods of communication to be used in the program, as well as the basis for selecting the chosen method and media.

e. Documentation of the frequency and the basis for selecting that frequency for communicating with each of the targeted audiences.

f. Identification of program enhancements, beyond the baseline program, and the basis for implementing such enhancements.

g. The program evaluation process, including the evaluation objectives, methodology to be used to perform the evaluation and analysis of the results, and criteria for program improvement based on the results of the evaluation.

In addition, some operators are required to have an Operations and Maintenance Procedure (O&MP) manual under 49 *CFR* Part 192 or 195. While the overall written program will likely be too extensive and schedule-specific to be suitable for an O&MP manual, the operator should include in the manual an overall statement of management commitment, roles and responsibilities (by group or title), a requirement for a written

program and evaluation process, and a summary of the operator's Public Awareness Program.

7.2   PROGRAM RECORDKEEPING

The operator should maintain records of key program elements to demonstrate the level of implementation of its Public Awareness Program. Record keeping should include:

a. Lists, records or other documentation of stakeholder audiences with whom the operator has communicated.

b. Copies of all materials provided to each stakeholder audiences.

c. All program evaluations, including current results, follow-up actions and expected results.

7.3   RECORD RETENTION

The record retention period for each category in Section 7.2 should be a minimum of five (5) years, or as defined in the operator's Public Awareness Program, whichever is longer.

8   Program Evaluation

This section provides guidance to operators on how to periodically evaluate their Public Awareness Programs. The overall written plan for the Public Awareness Program should include a section describing the operator's evaluation program that includes the baseline elements described in the following paragraphs. Also included are suggestions for operators to consider in periodically supplementing their evaluation efforts in a particular segment, with a selected stakeholder audience or to provide greater depth of evaluation. This section includes only a brief description of each element. Appendix E provides additional explanations and examples for operator personnel who are new to developing Public Awareness Program evaluations.

8.1   PURPOSE AND SCOPE OF EVALUATION

The primary purposes of the evaluation of the Public Awareness Program are to:

* Assess whether the current program is effective in achieving the objectives for operator Public Awareness Programs as defined in Section 2.1 of this RP, and

* Provide the operator information on implementing improvements in its Public Awareness Program effectiveness based on findings from the evaluation(s).

A secondary purpose for Public Awareness Program evaluation is to demonstrate to company management and regulators, for pipelines subject to federal or state pipeline safety jurisdiction, the status and validity of the operator's Public Awareness Programs.

8.2 ELEMENTS OF EVALUATION PLAN

A program evaluation plan should include the measures, means and frequency for tracking performance. The selected set of measures should reflect:

- Whether the program is being implemented as planned—**the process**
- Whether the program is effective—**program effectiveness**.

Based on the results of the evaluation addressing these two questions, the operator may need to make changes in the program implementation process, stakeholder identification effort, messages, means and/or frequency of delivery. The sections below suggest specific measures and methods recommended to complete a baseline evaluation of the Public Awareness Program.

8.3 MEASURING PROGRAM IMPLEMENTATION

The operator should complete an annual audit or review of whether the program has been developed and implemented according to the guidelines in this RP. The purpose of the audit is to answer the following two questions:

- Has the Public Awareness Program been developed and written to address the objectives, elements and baseline schedule as described Section 2 and the remainder of this RP?
- Has the Public Awareness Program been implemented and documented according to the written program?

Appendix E includes a sample set of questions that will aid an operator in auditing the program implementation process.

The operator should use one of the following three alternative methodologies when completing an annual audit of program implementation.

- Internal self-assessments using, for example, an internal working group, or
- Third-party audits where the evaluation is undertaken by a third-party engaged to conduct an assessment and provide recommendations for improving the program design or implementation, or
- Regulatory inspections, undertaken by inspectors working for federal or state regulators who inspect operator pipeline programs subject to pipeline safety regulations.

8.4 MEASURING PROGRAM EFFECTIVENESS

Operators should assess progress on the following measures to assess whether the actions undertaken in implementation of this RP are achieving the intended goals and objectives:

- Whether the information is reaching the intended stakeholder audiences

- If the recipient audiences are understanding the messages delivered
- Whether the recipients are motivated to respond appropriately in alignment with the information provided
- If the implementation of the Public Awareness Program is impacting bottom-line results (such as reduction in the number of incidents caused by third-party damage).

The following four measures describe how the operator should evaluate for effectiveness:

8.4.1 Measure 1—Outreach: Percentage of Each Intended Audience Reached with Desired Messages

This is a basic measurement indicating whether the operator's public awareness messages are getting to the intended stakeholders. A baseline evaluation program should establish a methodology to track the number of individuals or entities reached within an intended audience (e.g., households, excavating companies, local government, and local first responder agencies). Additionally, this measure should estimate the percentage of the stakeholders actually reached within the target geographic region along the pipeline. This measurement will help to evaluate the effectiveness of the delivery methods used.

- **Supplemental measures:** Other indicators that an operator may want to consider tracking as a supplement to measuring program outreach effectiveness include:
  - Track the number of inquiries by phone to operator-personnel or to the public awareness portions of an operator's website (however operators are cautioned that unless such information is specifically sought by the operator, this measure would not define if the caller or website viewer is a member of the target stakeholder audience nor whether this measure includes counts of repetitive website reviewers)
  - Track input received via feedback postcards (often called reply or bounce-back cards) from representatives of the stakeholder audience at events or meetings, sent by mail, or as a result of the operator's canvassing of the rights-of-way
  - Track the number of officials or emergency responders who attend emergency response exercises (this is an indicator of interest and the opportunity to gain knowledge).

8.4.2 Measure 2—Understandability of the Content of the Message

This measure would assess the percentage of the intended stakeholder audience that understood and retained the key information in the message received. This measurement will help to evaluate the effectiveness of the delivery media and

the message style and content. This measurement will also help to assess the effectiveness of the delivery methods used.

- **Pre-test materials:** Operators should pre-test public awareness materials for their appeal and the messages for their clarity, understandability and retain-ability before they are widely used. A pre-test can be performed using a small representative audience, for example, a small sample group of operator employees not involved in developing the Public Awareness Program, a small section of the intended stakeholder audience or others (often referred to as focus groups described more fully in Appendix E).

- **Survey target stakeholder audiences:** An effective method for assessing understandability is to survey the target stakeholder audience in the course of face-to-face contacts, telephone or written surveys. Sample surveys are included in Appendix E. Factors to consider when designing surveys include:
  - Sample size appropriate to draw general conclusions
  - Questions to gauge understandability of messages and knowledge or survey respondent
  - Retention of messages
  - Comparison of the most effective means of delivery.

Program effectiveness surveys are meant to validate the operator's methodologies and the content of the materials used. Upon initial survey, improvements should be incorporated into the program based on the results. Once validated in this initial manner, a program effectiveness survey is only required about every four years. However, when the operator introduces major design changes in its Public Awareness Program a survey to validate the new approaches may be warranted.

An operator may choose to develop and implement its own program effectiveness survey in-house; have a survey designed with the help of third-party survey professionals; or participate in and use the results of an industry group or trade-association survey. If the latter approach is used, the industry or trade-association survey should allow the operator to assess the results relevant to the operator's own pipeline corridors and Public Awareness Programs.

8.4.3 Measure 3—Desired Behaviors by the Intended Stakeholder Audience

This measure is aimed at determining whether appropriate prevention behaviors have been learned and is taking place when needed and whether appropriate response or mitigation behaviors would occur and have taken place. This is a measure of learned and, if applicable, actual reported behavior.

- **Baseline evaluation:** The survey conducted as the means of assessing Measure 2 (above) should be designed to include questions that ask respondents to report on actual behaviors following incidents.

- **Supplemental evaluation:** As a supplement to these measures, operators may also want to assess whether the Public Awareness Program successfully drove other behaviors. Operators may consider the following examples as a supplemental means of assessing this measure:
  - Whether excavators are following through on all safe excavation practices, in addition to calling the One-Call Center
  - The number of notifications received by the operator from the excavation One-Call Center (e.g. is there a noticeable increase following distribution of public awareness materials?)
  - An assessment of first responder behaviors, including the response to pipeline-related calls, and a post-incident assessment to determine whether their actions would be and were consistent with the key messages included in the public awareness communications. 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 stakeholders' responses is also anecdotal but 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 communication.

8.4.4 Measure 4—Achieving Bottom-Line Results

One measure of the "bottom-line results" is the damage prevention effectiveness of an operator's Public Awareness Program and the change in the number and consequences of third-party incidents. As a baseline, the operator should track the number of incidents and consequences caused by third-party excavators. This should include reported near misses; reported pipeline damage occurrences that did not result in a release; and third-party excavation damage events that resulted in pipeline failures. The tracking of leaks caused by third-party excavation damage should be compared to statistics of pipelines in the same sector (e.g. gathering, transmission, local distribution). While third-party excavation damage is a major cause of pipeline incidents, data regarding such incidents should be evaluated over a relatively long period of time to determine any meaningful trends relative to the operator's Public Awareness Program. This is due to the low frequency of such incidents on a specific pipeline system. The operator should also look for other types of bottom-line measures. One other measure that operators may consider is the affected public's perception of the safety of pipelines.

8.5 SUMMARY OF BASELINE EVALUATION PROGRAM

Table 8-1—Summary of Baseline Evaluation Program

The results of the evaluation need to be considered and revisions/updates made in the public awareness
program plan, implementation, materials, frequency and/or messages accordingly

Evaluation Approaches	Evaluation Techniques	Recommended Frequency
Self Assessment of Implementation	Internal review, *or* third-party assessment *or* regulatory inspection	Annually
Pre-Test Effectiveness of Materials	Focus groups (in-house or external participants)	Upon design or major redesign of public awareness materials or messages

Evaluation of effectiveness of program implementation:
• Outreach
• Level of knowledge
• Changes in behavior
• Bottom-line results
	1. Survey: Can assess outreach efforts, audience knowledge and changes in behavior
	  • Operator-designed and conducted survey, or
	  • Use of pre-designed survey by third-party or industry association, or
	  • Trade association conducted survey segmented by operator, state or other relevant separation to allow application of results to each operator.
	2. Assess notifications and incidents to determine anecdotal changes in behavior.
	3. Documented records and industry comparisons of incidents to evaluate bottom-line results.
		No more than four years apart.
		
		Operator should consider more frequent as a supplement or upon major redesign of program.

Implement changes to the Public Awareness Program as assessment methods above suggest.	Responsible person as designated in written Public Awareness Program	As required by findings of evaluations.

APPENDIX A—RESOURCE CONTACT INFORMATION

A.1 Trade Associations

American Petroleum Institute
www.api.org
1220 L Street, NW
Washington, DC 20005

Association of Oil Pipe Lines
www.aopl.org
1101 Vermont Avenue, NW, Suite 604
Washington, DC 20005

American Gas Association
www.aga.org
400 N. Capitol Street, NW
Washington, DC 20001

American Public Gas Association
www.apga.org
11094-D Lee Highway, Suite 102
Fairfax, VA 22030-5014

Interstate Natural Gas Association of America
www.ingaa.org
10 G Street NE, Suite 700
Washington, DC 20002

A.2 Government Agencies

Office of Pipeline Safety
www.ops.dot.gov
Research and Special Programs Administration,
U.S. Department of Transportation
400 Seventh Street, SW, Rm. 7128
Washington, DC 20590-0001

The National Pipeline Mapping System (OPS/DOT)
www.npms.rspa.dot.gov
Research and Special Programs Administration,
U.S. Department of Transportation
400 Seventh Street, SW, Room 7128
Washington, DC 20590-0001

Transportation Safety Institute
www.tsi.dot.gov
Research and Special Programs Administration,
U.S. Department of Transportation
6500 South MacArthur Blvd.
Oklahoma City, OK 73169

Occupational Safety and Health Administration
www.osha.gov
"Hazards Associated with Striking Underground Gas Lines"
www.osha.gov/dts/shib/shib_05_21_03_sugl.pdf

A.3 Private Organizations

Common Ground Alliance
www.commongroundalliance.com

Dig Safely
www.digsafely.com

A.4 Publications

The AGA's Gas Pipeline Technology Committee's GPTC Guide—ASC GPTC Z-380.1

APPENDIX B—EXAMPLES OF STAKEHOLDER AUDIENCES

When a Public Awareness Program is being developed, one of the initial tasks is to identify the audience(s) that should receive the program's messages. Section 3 identified the intended audiences for the operator's Public Awareness Program and included a "Stakeholder Audience Definition Table". This appendix will provide further examples. The four intended "Stakeholder Audiences" include:

- Affected public
- Emergency officials
- Local public officials
- Excavators.

B.1 Stakeholder Audience Identification

Identification of the individual stakeholder audiences (i.e., members of the four target audiences) may be done by any means available to the operator. Several methods are available. Operators may identify their stakeholder audiences on their own or may elect to hire outside consultants who specialize in audience identification. Where lists are developed, they should be kept current or redeveloped prior to effecting a particular communication.

B.1.1 AFFECTED PUBLIC

Some examples of how an operator may determine specific affected public stakeholder addresses along the pipeline, such as within a specified distance either side of the pipeline centerline, include the use of nine-digit zip code address databases and geo-spatial address databases. These databases generally provide only the addresses and not the names of the persons occupying the addresses. Broad communications to this audience are typically addressed to "Resident." It is important to note that when contacting apartment dwellers, individual apartment addresses should be used, not just the address of the apartment building or complex.

Some operators maintain "line lists" which provide current information on names and addresses of people who own property on which the pipeline is located. It should be noted, however, that not all property owners live on the subject property and that the program should address those people living on the property. Additionally, where the operator has a customer base, the operator can use its customer databases for identifying audience members.

For the sub-groups "Residents located along transmission pipeline ROW" and "Places of Congregation," it is recommended that transmission pipeline operators provide communications within a minimum coverage area distance of 660 feet on each side of the pipeline, or as much as 1000 feet in some cases. The transmission pipeline operator should tailor its communications coverage area (buffer) to fit its particular pipeline, location, and potential impact consequences. At a minimum, operators should consider areas of consequence as defined in federal regulations. Where specific circumstances suggest a wider coverage area for a certain pipeline location, the operator should expand the coverage area accordingly.

A sub-set of the affected public that the operator may desire to send specific public awareness materials to is farmers. Farmers engage in deep plowing and clearing activities that could impact pipelines. One method of determining names and addresses of farmers along a pipeline route is the use of third-party vendors who purchase periodicals databases related to the farming and agricultural community. Due to the size of farming operations in some areas and the proximity of farming residents, it is recommended that the operator increase its affected public awareness mailing coverage as appropriate.

B.1.2 EMERGENCY OFFICIALS

There are several methods used by operators to identify the names and addresses of emergency officials. Depending upon the size of the county or parish, this may include all emergency officials in the affected jurisdiction.

The means used by many operators is through the use of SIC (Standard Industrial Classification) code. Where SIC codes are utilized to identify emergency officials, the operator should include the list of code categories applicable to the emergency officials stakeholder group.

The pipeline operator should consider all appropriate emergency officials who have jurisdiction along the pipeline route and should communicate with any emergency officials that the operator deems appropriate for a given coverage area. This will generally include all emergency officials whose jurisdictions are traversed by the pipeline.

B.1.3 LOCAL PUBLIC OFFICIALS

Operators use several methods to identify names and addresses for specific public officials. These primarily include the use of local company resources, local phone books, and the Internet. Where SIC codes are used to identify public officials, the operator should include the categories applicable the public officials stakeholder group.

B.1.4 EXCAVATORS

While "excavators" is a broad category, its use here is intended to identify companies that perform or direct excavation work. Operators should identify, on a current basis, persons who normally engage in excavation activities in the areas in which the pipeline is located. There are several methods used by pipeline operators to identify specific excavator stakeholder names and addresses.

Where SIC codes are used to identify excavators, the operator should include the categories applicable to the Excavator stakeholder group. The SIC/NAICS list should be considered the minimum for excavator audience identification where those codes are used. The operator may add to or expand the list as other excavator information becomes available.

Another source for identifying excavators is the One-Call Center that covers the area designated by the Public Awareness Program. Several One-Call Centers provide "excavator lists" to their members. This may also be accomplished by the use of a third-party vendor who specializes in this service.

APPENDIX C—DETAILED GUIDELINES FOR PUBLIC AWARENESS MESSAGES

Section 4 of this RP recommends that an operator should select the optimum combination of message, delivery method, and frequency that meets the needs of the intended audience. This appendix expands that recommendation by providing further explanation or examples of the content of messages to be communicated.

Information materials may include supplemental information about the pipeline operator, pipeline operations, the safety record of pipelines and other information that an operator deems appropriate for the audience. The operator is reminded that communications materials should be provided in the language(s) spoken by a significant portion of the intended audience.

The basic message is conveyed to the intended audience should provide information that will allow the operator to meet the program objectives set forth in Section 2. The communications should include enough information so that in the event of a pipeline emergency, the intended audience members will know how to identify a potential hazard, protect themselves, notify emergency response personnel, and notify the pipeline operator.

C.1   Pipeline Purpose and Reliability

While not a primary objective, pipeline operators should consider providing general information about pipeline transportation, such as:
- The role of pipelines in U.S. energy supply
- Pipelines as part of the energy infrastructure
- Efficiency and reliability of pipelines
- Positive messages about the energy transportation pipeline safety record
- The individual operator's pipeline safety actions and environmental record.

For local distribution companies:
- Typical distribution network (stations, mains, services, meters)
- How to detect a natural gas leak (e.g., how natural gas smells)
- Who uses natural gas and why.

Many of these messages are available in print and videos from the pipeline industry trade associations listed in Section 2 and Appendix A.

The operator should describe the purpose and function of the pipeline and/or associated facilities and the nature, uses, and purposes of the products transported. Where practical, it might be helpful to communicate the benefit(s) of the pipeline to the community. Examples of "benefits" include:
- "This pipeline provides gasoline to motorists at X gas stations in the area of Y."

- "This natural gas pipeline network provides gas to X thousands of homes and businesses in Y city or Z state."

Pipelines are a safe and reliable means of transporting energy. Where appropriate, operators should describe how pipelines are a reliable means of transporting energy products and point out that they are extensively regulated by Federal and State regulations with regard to design, construction, operation and maintenance. Operators may also describe applicable operational activities that promote pipeline integrity, safety and reliability, which could include initial and periodic testing practices, internal inspections and their frequency, patrolling types and frequencies, and other such information. Operators may also reference the National Transportation Safety Board finding that pipelines provide the highest level of public safety as compared to other transportation modes.

C.2   Hazard Awareness and Prevention Measures

C.2.1   OVERVIEW OF POTENTIAL HAZARDS

General information about the nature of hazards posed by pipelines should be included in the message, while also assuring the stakeholder audience that accidents are relatively rare. The causes of pipeline failures, such as third-party excavation damage, corrosion, material defects, worker error, and events of nature can also be communicated.

C.2.2   OVERVIEW OF POTENTIAL CONSEQUENCES

Information should identify the product release characteristics and potential hazards that could result from an accidental release of hazardous liquids or gases from the pipeline.

C.2.3   SUMMARY OF PREVENTION MEASURES UNDERTAKEN

The potential hazard message should be coupled with a general overview of the preventative measures undertake by the operator in the planning, design, operation, maintenance, inspection and testing of the pipeline. This message should also reinforce how the stakeholder audience can play an important role in preventing third-party damage and right-of-way encroachments.

C.2.4   OPTIONAL SUMMARY OF PIPELINE INDUSTRY SAFETY RECORD

Depending on the stakeholder audience and the delivery methods used, the operator may want to consider including a general overview of the industry's safety record.

Communication materials should also convey the qualification that the information provided on hazards, consequences and preventative measures is very general and that more specific information could be obtained from the operator or other sources (noting phone or website(s) for contacts). Information communicated to emergency responders needs to be more specific, provide an opportunity for two-way feedback and include additional details on the products transported, facilities located within the jurisdiction and the local emergency planning liaison. Operators may want to consider referring to publications or websites produced by the trade associations listed in Appendix A for specific example language developed to provide overviews of hazards, consequences and preventative measures tailored to each stakeholder audience.

C.3   Leak Recognition and Response

The pipeline operator should provide the following information to the affected public and excavator stakeholder groups. To accomplish this, operators may want to consider using generic or standard printed materials developed by trade associations as aides for their member companies. However, operators will need to ensure the materials used are specific to the type of pipeline and product(s) transported in their systems.

C.3.1   POTENTIAL HAZARDS

Specific information about the release characteristics and potential hazards posed by the accidental release of hazardous liquids or gases from the pipeline should be included in the operator's communications.

C.3.2   RECOGNIZING A PIPELINE LEAK

Operators should include in their communications information on how to recognize a pipeline leak through the senses of sight, unusual sound, and smell (as appropriate to the product type) and describe any associated dangers.
- By Sight—What to Look for...
- By Sound—What to Listen for...
- By Smell—What to Smell for...

C.3.3   RESPONDING TO A PIPELINE LEAK

Operators should include in their communications an outline of the appropriate actions to take once a pipeline leak or release is suspected. This information should include:
- What to do if a leak is suspected
- What not to do if a leak is suspected.

It is especially important to include specific information on detection response if the pipeline contains product that, when released, could be immediately hazardous to health (e.g. high concentration of hydrogen sulfide).

C.3.4   LIAISON WITH EMERGENCY OFFICIALS

This information should indicate that both the operator and the local emergency response officials have an ongoing relationship designed to prepare and respond to an emergency.

C.4   Emergency Preparedness Communications

Communicating periodically with local emergency officials is an important aspect of all Public Awareness Programs. The following information should be provided to the emergency officials stakeholder audience. Local public officials should be provided a summary of the information that is available in more detail from the emergency response agencies in their jurisdictions.

C.4.1   PRIORITY TO PROTECT LIFE

Operator emergency response plans and key messages relayed to emergency officials should emphasize that public safety and environmental protection are the top priorities in any pipeline emergency response.

C.4.2   EMERGENCY CONTACTS

Contact information on the operator's local offices and 24-hour emergency telephone numbers should be communicated to local and state emergency officials. Operators should also use the public awareness contact opportunity to confirm the contact information for the local and state emergency officials and calling priorities.

C.4.3   EMERGENCY PREPAREDNESS— RESPONSE PLANS

Operators are required by federal regulation to have emergency response plans. These plans should be developed for use internally and externally, with appropriate officials, and in accordance with applicable federal and state regulations. 49 *CFR* 192 and 194 and some state regulations outline the specific requirements for emergency response plans. In developing Emergency Response Plans, the operator should work with the local emergency responders to enhance communications and response to emergencies.

C.4.4   EMERGENCY PREPAREDNESS—DRILLS AND EXERCISES

A very effective means of two-way communication about emergency preparedness is the liaison with emergency officials through operator or joint emergency response drills, exercises or deployment practices. Information on "unified command system" roles, operating procedures and preparedness for various emergency scenarios can be communicated effectively and thoroughly through a hands-on drill or exercise.

C.5 Damage Prevention

Because even relatively minor excavation activities (for example: installing mail boxes, privacy fences and flag poles, performing landscaping, constructing storage buildings, etc.) can cause damage to a pipeline or its protective coating or to other buried utility lines, it is important that operators raise the awareness of the need to report any suspected signs of damage. Operators should keep their damage prevention message content consistent with the damage prevention best practices developed by the Common Ground Alliance (CGA).

The use of an excavation One-Call Notification system should be explained to the audience. The audience should be reminded to call the state or local One-Call System before beginning any excavation activity and that in most states it is required by law. Information on the prevalence of "third-party" damage should be provided as appropriate. If the state or locality has established penalties for failure to use established damage prevention procedures, that information may also be communicated, depending on the audience and situation.

As a baseline practice, excavation and one-call Information should include:

- Request that everyone contact the local One-Call System before digging
- Explain what happens when the One-Call Center is notified
- Provide the local or toll-free One-Call Center telephone numbers
- Explain that the one-call locate service is typically free (Note: Some exceptions by state)
- Remind, if applicable, that to call is required by law.

One-Call Center telephone numbers for all 50 states can be found at the Dig Safely website or by calling the Dig Safely national referral number at 1-888-258-0808.

The "Dig Safely" message should be included in public awareness materials distributed to the affected public and excavators by the operator in its communications:

- Call the One-Call Center before digging
- Wait for the site to be marked
- Respect the marks
- Dig with care.

For information see the "Dig Safely" website listed in Appendix A. Operators may also consider use of the widely recognized "No Dig" symbol in their materials.

C.6 Pipeline Location Information

C.6.1 TRANSMISSION PIPELINE MARKERS

The audience should know how to identify transmission pipeline rights-of-way by recognition of pipeline markers—especially at road crossings, fence lines and street intersections. Communications should include what pipeline markers

look like, and the fact that telephone numbers are on the markers for their use if an emergency is suspected or discovered. Communications should also be clear that pipeline markers do not indicate the exact location or depth of the pipeline and may not be present in some areas.

Public awareness materials should include illustrations and descriptions of pipeline markers used by the operator and the information that the markers contain. Displaying the penalties for removing, defacing, or otherwise damaging a pipeline marker may also be beneficial.

In addition to meeting applicable federal and state regulations, transmission pipeline markers may:

- Indicate a pipeline right-of-way (not necessarily the exact pipeline location)
- Identify the product(s) transported
- Provide the name of the pipeline operator
- Provide the operator's telephone number, available 24-hours a day and 7-days a week
- Be brightly colored and highly visible
- Have weather resistant paint and lettering
- Include "Warning Petroleum Pipeline" or "Warning Gas Pipeline" and show the universal "No Dig" symbol
- Provide a one-call number.

Additional guidance for liquid pipeline marker design, installation, and maintenance is provided in API Recommended Practice 1109.

C.6.2 TRANSMISSION PIPELINE MAPPING

Transmission pipeline maps can be an important component of an operator's Public Awareness Program. The level of detail in the map provided will be relevant to the stakeholder's need, taking security of the energy infrastructure into consideration.

Members of the general public can also receive information about operators who have pipelines that might be located in their community by accessing the National Pipeline Mapping System (NPMS) on the Internet. The NPMS will provide the inquirer a list of pipeline operators and contact information for operators having pipelines in a specific area. Inquiries are made by zip code or by county and state. Operators should include information on the availability of the NPMS within their public awareness materials.

Following is a summary of the types of maps that are referred to in this RP in describing how operators can incorporate pipeline maps in their efforts to improve public awareness.

- *System Maps*—Typically system maps provide general depiction of a pipeline transmission system shown on a state, regional or national scale. This type of map generally is not at a scale that poses security concerns and is often used by operators in a number of publications available to the industry and general public. A system map generally depicts a portion of the pipeline system

shown in relationship to a region of the country. Generally these types of maps do not include any detail on the location of facilities.

- *General Maps*—General maps are another form of system map, which may be presented, in a more graphical format or smaller scale.

- *Local Maps*—Local maps are generally shown on a neighborhood, town, city or county level and usually do not show the entire pipeline system. Local maps are especially appropriate in communication with local emergency officials, One-Call Centers and elected public officials. Local maps should be distributed in accordance with regulatory or operator's company security guidelines. Local maps could include pipeline alignment maps, GIS-system produced maps, or other types of mapping that show more detail about the physical location of the pipeline system.

- *Community Pipeline Infrastructure*—Maps of communities that depict all of the natural gas and liquid transmission pipeline systems in the area. Available from the state or OPS to public and emergency officials.

- *National Pipeline Mapping System (NPMS)*—The U.S. Department of Transportation's Office of Pipeline Safety has developed the National Pipeline Mapping System, through which pipeline location maps are made available electronically to state and local emergency officials, in accordance with federal security measures.

Operators of transmission pipelines should make available appropriate system or general maps to the affected public and provide them guidance in how they can determine the location of the pipelines near where they live and work. Such maps should include company and emergency contact information and a summary of the type of products transported.

As part of the damage prevention program, all operators should also communicate the process for contacting the excavation One-Call System so that the specific location of the pipeline (and other nearby utilities) can be marked prior to excavation activity.

Operators of transmission pipelines should make available local maps to public and emergency officials in their effort to assure effective emergency preparedness and land use planning. In addition, operators must follow regulatory guidelines on providing such maps as required under 49 *CFR* Part 192 and 195. Maps should include company and emergency contacts, information on the type of products transported, and sufficient detail on landmarks, roads or location information relevant to the official's needs.

Operators should provide paper or digitized maps, or alternative information to the state or regional excavation One-Call Center, consistent with the One-Call System's requirements.

C.7 High Consequence Areas and Integrity Management Program (IMP) Overview for Transmission Pipelines

C.7.1 MESSAGE CONTENT FOR AFFECTED PUBLIC WITHIN HCAs

Information materials should include a message about where more information about High Consequence Area (HCA) designations and overviews of Integrity Management Program (IMP) Plans for transmission pipelines can be obtained. Guidelines for developing overviews of IMPs will be developed by the industry. The information should make system maps of HCAs available to the general or affected public. An overview of an operators IMP should include a description of the basic requirements and components of the program and does not need to include a summary of the specific locations or schedule of activities undertaken. The summary may only be a few pages long and its availability could be mailed upon request or made available on the operator's website.

C.7.2 MESSAGE CONTENT FOR EMERGENCY OFFICIALS WITHIN HCAs

When conducting liaison activities with emergency officials required by the public awareness plan, operators should include information on how the emergency official may gain access to the National Pipeline Mapping System for their jurisdiction through the Office of Pipeline Safety. In addition, the operator may supplement their messages and materials by including overviews of IMPs and specifically solicit feedback from the emergency official about local conditions or activities that may be useful and/or prompt changes to the operator's IMP for that area. For example, mitigation measures that may be included in a HCA segment's risk analysis and action plan is supplemental emergency response planning, staging area identification or equipment deployment. A two-way discussion with emergency officials of the components of the HCA risk mitigation plan would be helpful.

C.7.3 MESSAGE CONTENT FOR PUBLIC OFFICIALS WITHIN HCAs

Information materials should include a message about where more information about High Consequence Area (HCA) designations and overviews of IMPs for transmission pipelines can be obtained. Guidelines for developing overviews of IMPs will be developed by the industry.

An overview of an operator's IMP plan should include a description of the basic requirements and does not need to include a summary of the specific locations or schedule of activities undertaken. The overview may only be several pages long and its availability could be mailed upon request or made available on the operator's website.

C.8 Content on Company Websites

The information listed below will guide pipeline operators who maintain websites on the recommended informational components to be included on the website.

C.8.1 COMPANY INFORMATION

In addition to describing the purpose of the pipeline and markets served, the website should include a general description of the pipeline operator and system. This could include:

• Operator and owner name(s)
• Region and energy market served
• General office and emergency contacts telephone numbers and e-mail addresses
• Products being transported by pipeline
• System or general map and location of key offices (headquarters, region or districts).

C.8.2 INFORMATION ON PIPELINE OPERATIONS

A broad overview of the operator's pipeline safety and integrity management approach should be included describing the various steps the company takes to ensure the safe operation of its pipelines. While not specifically recommended, additional information to consider for the website includes:

• General pipeline system facts
• An overview of routine operating, maintenance and inspection practices of the system
• An overview of major specific inspection programs and pipeline control and monitoring programs.

C.8.3 TRANSMISSION PIPELINE MAPS

A general or system map (see previous section describing types of maps) should be on the website. Details on how to obtain additional information should be provided, including reference to the National Pipeline Mapping System ((NPMS).

C.8.4 PUBLIC AWARENESS PROGRAM INFORMATION

The operator should include a summary of its Public Awareness Program developed under the guidance of this RP and should consider including printed material used in these efforts on the website. The public should also be provided information on company contacts to request additional information.

C.8.5 EMERGENCY INFORMATION

The website should contain emergency awareness information from two aspects. First, it should contain a summary of the operator's emergency preparedness. Second, it should contain information about how the public, and residents along the pipeline rights-of-way, and/or public officials should help protect, recognize, report and respond to a suspected pipeline emergency. Emergency contact information should be prominent and accessible from anywhere on the pipeline portion of the website.

C.8.6 DAMAGE PREVENTION AWARENESS

Pipeline operators are encouraged to either provide or link the viewer to additional guidance on preventing excavation damage, such as "Dig Safely" program information, contact information for the One-Call System in each of the states in which the operator has pipelines, and the "Common Ground Alliance" website noted in Appendix A.

C.9 Right-of-way Encroachment Prevention

Pipeline operators should communicate that encroachments upon the pipeline right-of-way inhibit the operator's ability to reduce the chance of third-party damage, provide right-of-way surveillance and perform routine maintenance and required federal/state inspections. The communication can describe that in order to perform these critical activities, pipeline maintenance personnel must be able to access the pipeline right-of-way, as provided in the easement agreement. It should also describe that to ensure access; the area on either side of the pipeline contained within the right-of-way must be maintained clear of trees, shrubs, buildings, fences, structures, or any other encroachments that might interfere with the operator's access to the pipeline. It should also point out that the landowner has the obligation to respect the pipeline easement or right-of-way by not placing obstructions or encroachments within the right-of-way, and that maintaining a pipeline right-of-way free of encroachments is an essential element of maintaining pipeline integrity and safety.

Residents, excavators, and land developers should be requested to contact the pipeline operator if there are questions concerning the pipeline or the right-of-way, especially if property improvements or excavations are planned that might impact the right-of-way. These audiences should also be informed that they are required by state law to provide at least 48 hours advance notice, more in some states, to the appropriate One-Call Center prior to performing excavation activities. Longer lead times for planning major projects are advised and sometimes required by state law.

Operators should consider communicating with local authorities regarding information concerning effective zoning and land use requirements/restrictions that will protect existing pipeline rights-of-way from encroachment. Communications with local land use officials could include consideration of:

• How community land use decisions (e.g. planning, zoning,) can impact community safety
• Establishing setback requirements for new construction and development near pipelines

- Requiring prior authorization from easement holders in the permit process so that construction/development does not impact the safe operation of pipelines
- Requiring pipeline operator involvement in road widening or grading, mining, blasting, dredging, and other activities that may impact the safe operation of the pipeline.

C.10 Communication of Pipeline Maintenance Activities

When planning pipeline maintenance-related construction activities, operators should communicate to the audience affected by the activity in a manner that is appropriate to the nature and extent of the activity. For major maintenance construction projects (such as main-line rehabilitation or replacement projects) operators should also notify appropriate emergency and local public officials and include information on further communications appropriate to the nature or local impact of the maintenance or construction activity. Operators should communicate appropriately in accordance with requirements associated with the acquisition of permits.

C.11 Security

Operators should include in their communications, where applicable, appropriate information pertaining to security of their pipelines and related facilities. Communications messages could include:

- General information about the pipeline or aboveground facility security measures
- Increased public awareness about security
- Communications to pipeline and facility neighbors to:

- Become familiar with the pipelines in their area (identification via pipeline marker signs)
- Become familiar with the pipeline facilities in their area (identification via fence signs at gated entrances)
- Record the operator name, contact information and any pipeline information from nearby pipeline marker signs or facility signs and keep in a permanent location near the telephone
- Be observant for any unusual or suspicious activities and unauthorized excavations taking place within or near the pipeline right-of-way or pipeline facility. Report such activities to their local law enforcement and the pipeline operator.

Pipeline neighbors are the operator's first line of defense against unauthorized excavation and other such activity in the right-of-way, and they can help by contacting the operator or the proper local authorities of suspicious activities if they have contact information available.

C.12 Facility Purpose

Communication with the affected public, emergency and public officials in proximity of major facilities (such as storage facilities, compressor or pump stations) should include an understanding of the nature of the facility. Operators should include in their communications general information about the facility and the product(s) stored or transported through the facility. Liaison with emergency officials should also include an understanding of emergency contact information for the specific facility.

APPENDIX D—DETAILED GUIDELINES FOR MESSAGE DELIVERY METHODS AND/OR MEDIA

Section 5 describes the delivery methods and tools available to pipeline operators to foster effective communication programs with the stakeholder audiences previously described. This Appendix expands on those guidelines by providing further explanation or examples of delivery methods and/or media. This section does not imply that all methods are effective in all situations. The content of the communication efforts should be tailored to the needs of the audience and the intent of the communication. Refer to Section 4 for a detailed description of the message content that the following materials or delivery methods should contain for each intended audience.

D.1 Print Materials

The use of print materials is an effective means of communicating with intended audiences. Because of the wide variety of print materials, operators should carefully select the type, language and formatting based on the audiences and the message to be delivered. Generally, an operator will use more than one form of print materials in its Public Awareness Program. While not all inclusive, several types are discussed here.

D.1.1 TARGETED DISTRIBUTION OF PRINT MATERIALS

This is the most common message delivery mechanism currently used by the pipeline industry. Print materials can convey important information about the company, the industry, pipeline safety, or a proposed project or maintenance activity and should provide contact information where the recipient can obtain further information. Print materials also afford an effective opportunity to communicate content in a graphical or pictorial way. However, note that targeted distribution of print materials alone should not be considered effective communication with local emergency response personnel.

Consideration should be given to joining with other pipeline companies in a local, regional or national setting (including both the local distribution company and transmission pipelines) to produce common message materials that can be either jointly sponsored, (e.g., include all sponsors company names/logos) or used as a "shell" and then customized to each company's individual needs, to help ensure that a consistent message is being delivered. This approach can also effectively reduce the cost to individual operators.

Print materials can be mailed to residents or communities along the pipeline system or handed out at local community fairs, open houses, or other public forums. Operators can hire

facilitators to organize mass mailings, using nine-digit zip codes or geo-spatial address databases; to designated residents in the community located along the pipeline, such as within an appropriate distance either side of the pipeline centerline. In this case it is often advisable to get information from the postal service or service provider on size, folding and closure requirements to minimize the postage costs for mass mailings. There are services that can handle the printing of materials, mailing address identification, mailing and documentation for the operator as a package.

D.1.2 LETTERS

Research has indicated that letters mailed to residents along a pipeline system are an effective tool for the operator to use to communicate specific information, such as what to do in the event of a leak, identification of suspicious activity or notification of planned maintenance activities within the right-of-way.

Notification letters are usually effective where there is a high likelihood for third-party damage such as in agricultural areas, new developments and where other types of ground-disturbing activities may take place. Similar letters may also be send to contractors, excavators and equipment rental companies informing them of the requirement to use One-Call Systems and providing other important safety information for their workers and the public.

Letters, along with other print materials, should provide information about where the recipient can obtain further information (such as website address, e-mail address, local phone numbers and one-call numbers).

D.1.3 PIPELINE MAPS

Pipeline maps can be presented as printed material and are an important component of an operator's Public Awareness Program. The operator should consider whether maps should be part of the communications to appropriate local stakeholder(s), and what type of maps should be used to accomplish the objective. See Appendix C.6.2 for further explanation of types and availability of maps.

D.1.4 RESPONSE CARDS

Often referred to as either bounce back cards or business reply cards, these preprinted, preaddressed, postage paid response cards are often mailed to the affected public as an integral part of, or as an attachment to, other print materials. When delivering public awareness information to nearby resi-

dents, public or emergency officials, the inclusion of response cards can be used in a variety of ways:

- To maintain/update current mailing lists. Response cards permit the recipients to notify the operator of any changes in address
- To provide a convenient venue for recipients to provide comments, request additional information, raise concerns or ask questions
- To help evaluate the effectiveness of the operator's Public Awareness Program.

D.1.5 BILL STUFFERS

Bill stuffers are printed materials frequently used by local distribution companies (LDCs) in conjunction with invoice mailings to their customers. Due to the nature of their customers, these are not an appropriate option for transmission and gathering pipelines. LDCs using bill stuffers can increase the effectiveness of their programs by communicating to their active customers frequently through the repeated use of bill stuffers. For those LDCs that are combined with other energy utilities such as electric or water systems, bill stuffers regarding pipeline safety and underground damage prevention can be delivered to virtually all surroundings residents, even when some may not be natural gas customers.

D.2 Personal Contact

Personal contact describes face-to-face contact between the operator and the intended stakeholder audience. This method is usually a highly effective form of communication, and it allows for two-way discussion. This may be done on an individual basis or in a group setting. Some examples of communications through personal contact are described below:

D.2.1 DOOR-TO-DOOR CONTACT ALONG PIPELINE RIGHT-OF-WAY

This method is often used to make contact with residents along the pipeline right-of-way to relay pipeline awareness information or information on upcoming pipeline maintenance. This method can help to build stakeholder trust, which is an integral part of communication and an enhancement to the long-term Public Awareness Program. Operator representatives conducting door-to-door contact should be knowledgeable and courteous, be prepared for these types of communications and be able to discuss and respond to questions relating to the communication materials provided so that contact is meaningful and positive. They should provide the landowner/resident with basic pipeline safety information and a means for future contact.

If pipeline safety is to be discussed in this forum, the operator representative should be generally knowledgeable about the company's pipeline integrity program and emergency response procedures. In addition to the general information described in Section 4, the following additional information should also be considered:

a. Description of facilities on or near the property (i.e., pipelines, meter/regulator stations, compressor/pump stations, wellheads, treating facilities, tankage, line markers, cathodic protection, communication, etc.)
b. Description of easement and property owner's rights and limitations within the easement
c. Name and phone number of local contact within company for further information and the operator's emergency notification number to report emergencies or suspicious activity
d. Information on damage prevention and local "Call Before You Dig" programs
e. What to do in case of emergency (fire, leak, noise, suspicious person)
f. Informational items (i.e., calendar, magnetic card, pens, hats, etc.) to retain important telephone numbers
g. As appropriate, additional local information such as upcoming maintenance, projects, events and/or company community involvement such as United Way, other charities, environmental projects, etc.

D.2.2 TELEPHONE CALLS

When the intended audience is small in number, the operator may find it effective to communicate by telephone. This personal form of contact allows for two-way discussion. The operator should decide which elements of their Public Awareness Program are suitable for conducting via telephone calls.

D.2.3 GROUP MEETINGS

Group meetings can be an effective way to convey the messages to selected audiences. Meetings may be between the operator (or group of operators) and an individual stakeholder audience or between the operator (or group of operators) and a number of the stakeholder audience groups at one time.

For example, the operator could conduct individual meetings with emergency response officials, combined industry meetings with emergency response officials, and participation by emergency response officials and personnel in the operator's emergency response tabletop drills and deployment exercises. Meetings are particularly effective in conducting liaison activities with the emergency official stakeholder group.

Another example is group meetings conducted by the operator in classrooms and with educators at local schools. Informational materials can be presented to school administrators and students and can contain important public awareness messages for students to take home to their parents. This method of personal contact can readily reach a large number of people with the operator's public awareness messages and reinforce positive messages about the operator and/or the pipeline industry.

Additional group meetings could include those with state One-Call System events, local excavators, contractors, land developers, and municipalities.

D.2.4 OPEN HOUSES

Operators often hold open houses to provide an informal setting to introduce an upcoming project, provide a "get to know your neighbor" atmosphere or to discuss an upcoming maintenance activity such as pipeline segment replacement. Tours of company facilities, question and answer sessions, videos, or presentations about pipeline safety and reliability do well in an open house environment. Even without formal presentations, allowing the public to see the facility can also be very effective. Often this type of forum would include refreshments and handouts (e.g. print material, trinkets, etc.) that attendees can take with them. Targeted or mass mailings can be used to announce planned open houses and can, in themselves, communicate important information.

D.2.5 COMMUNITY EVENTS

Community sponsored events, fairs, charity events, or civic events may provide appropriate opportunities where public awareness messages can be communicated to the event participants. Companies can participate with a booth or as a sponsor of the event.

These forums are generally used to remind the community of the operator's presence, show support for community concerns, and heighten public awareness about the benefits of pipeline transportation and about pipeline safety. Examples of community events include:
- County and state fairs
- Festivals and shows
- Job fairs
- Local association events
- Trade shows (Energy Fair)
- Chamber of Commerce events.

Operators should plan in advance and secure a large number of handout materials; as such events often include a large number of attendees and can take place over several days.

D.2.6 CHARITABLE CONTRIBUTIONS BY PIPELINE OPERATORS

While contributions to charities and civic causes are not in themselves a public awareness effort, companies should consider appropriate opportunities where public awareness messages can be conveyed as part of or in publicity of the contribution. Examples include:
- Contribution of gas detection equipment to the local volunteer fire department
- Donation of funds to acquire or improve nature preserves or green space
- Sponsorship to the community arts and theatre

- Support of scholarships (especially when to degree programs relevant to the company or industry)
- Sponsorship of emergency responders to fire training school.

D.3 Electronic Communications Methods

D.3.1 VIDEOS AND CDs

There are a variety of approaches companies may use to supplement their delivery tools with videos. While a supplement to the baseline components of an effective Public Awareness Programs, videos may be quite useful with some stakeholders or audiences in some situations. Videos can show activities such as construction, natural gas or petroleum consumers, pipeline routes, preventive maintenance activities, simulated or actual spills and emergency response exercises or actual response that printed materials often cannot. Companies may seek industry specific videos from trade organizations or develop their own customized version. Such videos can be used for landowner contacts, emergency official meetings, or the variety of community or group meetings described elsewhere in this section. Companies could also consider adding such videos to their company websites.

D.3.2 E-MAIL

Electronic mail ("e-mail") can be a means of sending public awareness information to a variety of stakeholders. The content and approach is similar to letters or brochures, but the information is sent electronically rather than delivered by mail, by person or in meetings.

E-mail contact information can be provided on company handouts, magazine advertisements, websites and other written communications. This provides an effective mechanism for the public to request specific information or to be placed on distributions lists for specific updates.

An advantage of e-mail is the ease of requesting and receiving return information from the recipient, similar to contact information, survey or feedback described in bounce-back cards explained above. Note that it is important for the operator to designate a response contact within the organization to handle follow-up responses to e-mail queries in a timely manner.

D.4 Mass Media Communications

D.4.1 PUBLIC SERVICE ANNOUNCEMENTS (PSAs)

Radio and television stations occasionally make airtime available for public service announcements. There is great competition from various public interest causes for the small amount of time available because the broadcast media is no longer required by law to donate free airtime for PSAs. Given the popularity of radio and television and the large areas cov-

ered by both, public service announcements can be an effective means for reaching a large sector of the public. Pipeline operators (or groups of pipeline operators) could consider contacting local stations along the pipeline route to encourage their use of the PSAs. The use of cable TV public access channels may also be an option.

D.4.2   NEWSPAPERS AND MAGAZINES

Newspaper and magazine articles don't have to be limited to the reactive coverage following an emergency or controversy. Pipeline operators can encourage reporters to write constructive stories about pipeline issues in various topics of relevance, such as local projects, excavation safety, or the presence of pipelines as part of the energy infrastructure. Even if the reporter is covering an emergency or controversial issue, pipeline operators can leverage the opportunity to reinforce key safety information messages such as damage prevention and the need to be aware of pipelines in the community. Trade magazines such as those for excavators or farmers often welcome guest articles or submission or assistance in writing a positive, safety-minded story for their readers. Local weekly newspapers and "metro" section inserts will sometimes include a news release verbatim at no cost to the sender.

D.4.3   PAID ADVERTISING

The use of paid advertising media such as television ads, radio spots, newspapers ads, and billboards can be an effective means of communication with an entire community. This type of advertising can be very expensive, but can be made more cost effective by joining with other pipelines, including the local utilities, to deliver a consistent message. One example is placement of a public awareness advertisement on a phone book cover, thus achieving repetitive viewing by the audience for a whole year. Another example is advertising in local shopping guides.

D.4.4   COMMUNITY AND NEIGHBORHOOD NEWSLETTERS

Information provided should be similar to that made available for newspapers and magazines. Posting of pipeline safety or other information to community and neighborhood newsletters can be done in conjunction with outreach to those communities and/or neighborhoods and is usually done for free. Operators can also develop their own newsletters tailored to specific communities. These newsletters can be used to highlight the operator's involvement in that community, provide the operator's public awareness messages, and to address any pipeline concerns that community may have.

This method can be particularly effective in reaching audiences near the pipeline, namely neighborhoods and subdivisions through which the pipeline traverses.

D.5   Specialty Advertising Materials

Company specialty advertising can be a unique and effective method to introduce a company or maintain an existing presence in a community. These tools also provide ways of delivering pipeline safety messages, project information, important phone numbers and other contact information. Many such materials or items exist, including refrigerator magnets, calendars, day planners, thermometers, key chains, flashlights, hats, jackets, shirts, clocks, wallet cards, and other such items containing a short message (i.e. "Call Before You Dig"), the company logo and/or contact information. The main benefit of this type of advertising is that it tends to have a longer retention life than printed materials because it is otherwise useful to the recipient. Because of the limited amount of information that can be printed on these items, they should be used as a companion to additional printed materials or other delivery methods.

D.6   Informational Items

Operators can develop (or participate in industry associations or along with other companies) informational materials for groups or schools that heighten pipeline awareness. Operators (and their industry associations) may also sponsor or develop training materials for emergency response agencies that are designed to increase knowledge and skills in responding to pipeline emergencies. Alternatively, local emergency officials will hold training as part of their own continuing education, and attendance by pipeline personnel at these sessions is often welcome and an ideal setting for relaying public awareness information about pipelines.

D.7   Pipeline Marker Signs

The primary purposes of above ground transmission pipeline marker signs are to:

- Mark the approximate location of a pipeline
- Provide public awareness that a buried pipeline or facility exists nearby
- Provide a warning message to excavators about the presence of a pipeline or pipelines
- Provide pipeline operator contact information in the event of a pipeline emergency
- Facilitate aerial or ground surveillance of the pipeline right-of-way by providing aboveground reference points.

Refer to Section 4 for additional information on marker sign types and information content.

Below ground markers are also effective warnings. While some may not consider this part of a proactive public awareness communication program, buried warning tape or mesh can be an effective reminder to excavators of the presence of underground utilities and have proven effective in preventing damage to pipelines and other buried utilities.

D.8   One-Call Center Outreach

Most state One-Call Centers provide community outreach or implement public awareness activities about the one-call requirements and the Dig Safely awareness messages, as discussed in Section 4. Pipeline operators should encourage One-Call Centers to provide those public awareness communications and can account for such Public Awareness Programs within their own Public Awareness Program. Some One-Call Centers focus on hosting awareness meetings with excavators to further promote the Dig Safely and One-Call Messages. It is the operator's responsibility to request documentation for these outreach activities.

In order to enhance Dig Safely and one-call public awareness outreach by One-Call Centers, operators are required by 49 *CFR* Parts 192 and 195 to become members of one-call organizations in areas where they operate pipelines. Since all underground facility members share One-Call Center public awareness outreach costs, the costs to an individual operator are usually comparatively low, and can demonstrate effectiveness by increased use of the One-Call Notification system.

D.9   Operator Websites

Pipeline operators with websites can enhance their communications to the public through the use of a company website on the Internet. Since corporate websites may vary in serving the business needs of the company (e.g. investor relations, marketing, affiliate needs), the guidance in Appendix C.8 describes features of the components of a website for a company's pipeline subsidiary or operations that should fit into any corporate structure and overall website design. Many pipeline operators may choose to place additional or more detailed information on their websites to supplement their public awareness and informational efforts.

An operator's website will supplement the other various direct outreach delivery tools discussed in this RP.

APPENDIX E—ADDITIONAL GUIDELINES FOR UNDERTAKING EVALUATIONS

This appendix provides additional explanation for several methods described in Section 8 for conducting program evaluations and provides a sample survey.

E.1 Focus Groups (Interview Panels)

A focus group is a group of people representative of one or more target audiences who are gathered to provide feedback about the materials or other aspects of a planned Public Awareness Program or to comment on an existing one.

Typically, a focus group has about 6 to 12 participants. While focus groups can be professionally facilitated, feedback about public awareness materials can be gained by an informal discussion run by individuals connected with the public education program. Often participants will be asked to review draft materials and to comment on what they understood from the materials and whether the materials would draw appeal when received by mail. Focus groups can also be used to provide input on the relative effectiveness of various means of delivery.

Focus group participants might be operator employees who are not familiar with the Public Awareness Program, citizens living along a stretch of pipeline or representatives of homeowner associations or business people along the right-of-way. Target stakeholder audiences should not be mixed. The participants usually are not chosen at random but rather are selected to be reasonably representative of their focus group and capable of articulating their reactions to the materials.

E.2 Sample Assessment of Program Implementation

Table E-1—Sample Audit of Program Implementation

I Program Development and Documentation: Has the Public Awareness Program been developed and written to address the objectives, elements and baseline schedule as described in Section 2 and the remainder of this RP?   1. Does the operator have a written Public Awareness Program?   2. Have all of the elements described in Section 2 of this RP been incorporated into the written program?   3. Does the written program address all of the objectives of this RP as defined in Section 2.1?   4. Does the documented program address regulatory requirements identified in Section 2.2 of this RP and other regulatory requirements that the operator must comply with?   5. Does the operator have a plan that includes a schedule for implementing the program?   6. Does the program include requirements for updating responsibilities as organizational changes are made?
II Program Implementation: Has the public awareness plan been implemented and documented according to the written plan?   1. Is the program updated and current with any significant organizational or major new pipeline system changes that may have been made?   2. Are personnel assigned responsibilities in the written program aware of their responsibilities and have management support (budget and resources) for carrying out their responsibilities on the program?   3. Has the program implementation been properly and adequately documented?   4. Have all required elements of the program plan been implemented in accordance with the written plan and schedule?   5. Does the operator have documentation of the results of evaluating the program for effectiveness?   6. Are the results of the evaluation of program effectiveness being used in a structured manner to improve the program or determine if supplemental actions (e.g. revised messages, additional delivery methods, increased frequency) in some locations?

E.3 Supplemental Information to Operators Conducting Surveys to Evaluate Effectiveness

E.3.1   Type of Survey—Surveys may be conducted in person, over the phone, or via mail questionnaires. Conducting them in person is more labor intensive and costly but yields the best result and the largest return. Mail surveys are least expensive but typically have only 10-20 percent of the forms returned, which raises questions about whether the results are representative. Incentives for completing mail surveys may improve participation. Telephone surveys are a good compromise for the modest size samples needed to draw broad conclusions, but any of the methodologies can be made to work.

E.3.2   Sample Size—Typically a survey is designed to reach a random number of the targeted stakeholder audience. A variation on the random sample when conducting surveys in person is a "cluster sample" in which a block may be chosen at random and then a cluster of several households on the block visited at the same time. That is a relatively efficient way to increase sample sizes and not sacrifice much in statistical validity. The telephone number for affected residents is typically not readily accessible to the operator, although a random survey in a designated zip code or geographic area may include questions on whether the respondent lives or works along the right-of-way (to ensure a sufficient number of the affected public is included in the survey). For conducting a survey in person, the operator can work with a random selection of homes or businesses drawn from aerial maps or simply by selecting segments at random to be visited near the right-of-way. Mail surveys might be sent to all in a census tract, all in a zip code, or sub-zip code area. Third-party experts in conducting surveys can readily assist, at least for the first time a survey is attempted.

E.3.3   Statistical Confidence—There is typically concern about being statistically reliable. Often this leads to needlessly expensive surveys when one really only needs to know the approximate percentage of the target group that has been reached and is knowledgeable.

In deciding sample size, one can keep in mind a simplification of a lot of statistical rules and tables:

The statistical error associated with a random survey is approximated by $1/\sqrt{n}$, where n is the size of the sample. A sample of 100 gives an accuracy of approximately $\pm 1/\sqrt{100}$, or about 10 percent.

There are a number of detailed assumptions behind that approximation, which is more valid the larger the total population to be surveyed. For smaller populations, the sampling error is actually even smaller than that approximation. Very modest-size surveys can be used for evaluating pipeline safety for public awareness and still have statistical validity to

support broad conclusions that, in turn, drive changes (as necessary) or support continuation (when supported) to the Public Awareness Program.

E.3.4   Content—Different sets of questions are needed for different audiences. There obviously would be a different set of questions asked of households along a pipeline versus those asked of excavators. The survey questionnaire should be clear, brief and pre-tested to increase the participation and minimize the cost. Operators should try to keep their questions the same over time so that trends can be evaluated. The questions can be yes/no, multiple choice, or open-ended. It is easier to analyze data from multiple choice or yes/no questions than open-ended questions; the latter require someone to read and interpret them, and then complete computer-readable tallies or do a tally by hand. A combination of both open-end and multiple-choice questions can be used. A survey can focus on only one program element or several elements and can measure the following with one or more of the selected stakeholder audiences:

- **Outreach:** Surveys can determine whether the audience received the public awareness communication.
- **Knowledge:** Surveys can also inquire about what the person would do hypothetically in certain situations, such as "If you observed a suspected leak in a pipeline, what would you do?"
- **Behavior:** In addition to knowledge and attitudes, surveys can be designed to inquire of actual behaviors; e.g., "Have you ever called to inquire about the location of a pipeline," "Have you ever been involved in any way with a pipeline break or spill," etc.

As a supplement to the baseline survey, the operator or operators working in collaboration or with trade associations may also include information about general attitudes about pipelines and knowledge of their role in delivering energy.

Some thought is needed as to whether it is better to get open-ended responses that do not prompt the respondent, to avoid bias. A short example: One might be tempted to ask, "What number would you call if you saw a break in a pipeline," but that question already assumes somebody would look up a number, which may be what you are trying to determine. A less biased question would be "what would you do if you saw a break in a pipeline?"

E.3.5   Implementation—An operator can:

- Develop and conduct a survey on its own system using internal or external expertise
- Select a survey format designed by external parties or an industry association
- Adapt surveys designed by others and conduct on its own systems, or
- Join with others in a regional survey.

E.4 Sample Survey

E.4.1 Survey Questions—The content of the questions on the survey should reflect the goals of the public education program. The wording of questions is critical.

Developing appropriate wording is more difficult than it may appear to be on the surface. It is easy to inadvertently build in biases or confuse the person being interviewed. The questionnaires should be tested before use. A focus group or small sample can be used for that purpose. If the wording is changed, the questions should be retested.

Preferably, the same wording would be used for a group of operators if not all of the industry, to achieve comparability and be able to compare statistics for the industry or a region. Individual operators should try to keep their questions the same over time so that trends can be evaluated.

Where possible, it is preferable to use multiple-choice questions rather than open-ended questions, because the former are easier to analyze objectively. A combination of both open-end and multiple-choice questions can be used. Negative answers or problems raised by respondents preferably should be followed up by a diagnostic question to understand the respondent's point of view better, and to get insight for making improvements.

In the tables below are two sample sets of survey questions—one for the general public near pipelines, the other for excavators. These lists of questions can be used as menus from which to choose if there is time only for a few questions. The asterisked questions are the most important.

The questions may refer to the respondent's experience in the past six months, year, or two years; generally one does not ask about information older than one year because of memory problems, except for dramatic events likely to be remembered.

E.4.2 Introduction—In administering a survey, there should be a brief introduction to set the stage. For example:

> "Our company [or insert company name association] believes it is important to get feedback from people (excavators) such as you about pipeline safety. We would like to ask you a few questions and would greatly appreciate your candid answers. The information on your particular response will be kept confidential. Let me start by asking ...."

E.4.3 Venues—Basically the same questions can be asked during a formal survey, whether undertaken by mail, telephone, or in person. They also can be used during customer contacts or as part of contacts with appropriate personnel from excavators.

Tables

Table E-2—Sample Survey Questions for Affected Public

Attribute Measured	Sample Questions (Asterisk * marks most important questions.)

Outreach	*1. In the last year [or 2 years], have you seen or heard any information from [our company] relating to pipeline safety? *[Yes or No]*
	
	 If yes:
	 1a. What was the source of the information (check all that apply):
	
	     a. Written material (brochure, flyer, handout)
	     b. Radio?
	     c. TV?
	     d. Newspaper ad or article?
	     e. Face-to-face meeting?
	     f. Posted information (e.g., on or near pipeline)
	     g. Other: _____
	
	 1b. About how many times did you see information on pipeline safety in the last year?_____

Outreach	2. Have you or has or anyone in your household ever tried to obtain information about pipeline safety in the last 12 months? *[Yes or No]* _____
	
	 2a. If yes, where did you try? Check all that apply:
	     a. Internet
	     b. Call
	     c. Letter
	     d. Visit
	     e. Other: _____

Knowledge	*3. Do you live close to a petroleum or gas pipeline? *[Yes, No, do not know]* 3a. If yes, where is it (or how close are you to it)?_____ _____

Knowledge	*4. What would you do in the event you were first to see damage to a pipeline?
	 [Can check more than one]
	     a. Call 911
	     b. Call pipeline operator
	     c. Flee area
	     d. Nothing (not my responsibility)
	     e. Other: _____

Knowledge	5. What would you do if you saw someone intentionally trying to damage a pipeline?
	 [Can check more than one]
	     a. Call 911
	     b. Call pipeline operator
	     c. Flee area
	     d. Nothing (not my responsibility)
	     e. Other: _____

Behavior	*6. Have you ever called a pipeline operator, 911, or anyone else to report suspicious or worrisome activity near a pipeline? *[Yes or No]*
	
	 6a. If yes, what did you report:
	     a. Break
	     b. Product release
	     c. Digging
	     d. Other: _____

Table E-2—Sample Survey Questions for Affected Public (Continued)

Attribute Measured	Sample Questions (Asterisk * marks most important questions.)
Behavior	*7. Have you or has anyone in your household [or company if a business] ever encountered a damaged pipeline or product released from a pipeline? *[Yes or No]* If yes, what did you do? _____ _____ _____
Behavior	8. Have you ever passed information about pipeline safety to someone else? *[Yes or No]* If yes, what information and to whom: _____ _____ _____
Outcomes	9. Has anyone in your household or have nearby neighbors ever had any injuries or damage associated with a pipeline break or spill? *[Yes or No]* 9a. If yes, describe event. _____ _____ _____
Attitude	10. Do you agree or disagree that your local pipeline operator has been doing a good job of informing people like you about pipeline safety? a. Strongly agree b. Agree c. Disagree d. Strongly disagree If you disagree, why: _____ _____ _____

Table E-3—Sample Survey Questions for Excavators

The questions below could be worded for a specific operator or for any operator; some excavators may deal with more than one pipeline.

Outreach   *1. In the last 12 months, have you been contacted or received written information from [local pipeline operator] regarding pipeline safety? *[Yes or No]*

If yes, what was the source:
a. Telephone call
b. Mail
c. Visit or in-person meeting
d. E-mail
e. Sign or billboard
f. Other:_____

Outreach   2. Have you received information from any other sources about pipeline safety?
[Yes or no]

2a. If yes, which? _____

Behavior   3. Have you contacted [pipeline operator name] in the past year to inquire about the location of pipelines? *[Yes or no]*

3a. If yes, about how many times? _____

3b. If yes, how did you make the contact:
a. Telephone
b. E-mail
c. Letter
d. In-person
e. Other: _____

Behavior   *4. How often would you say your operator checks whether a pipeline exists before digging in a new spot?
a. Always
b. Usually
c. Sometimes
d. Rarely or Never
e. Don't know.

4a. If not always: why not?
a. Didn't know where to get information
b. Not necessary
c. Didn't think about it
d. Takes too much time
e. Think we can tell where pipeline is on our own
f. Other: _____

Outreach   5. How do you make sure that all the right people in the company get the information on whom to call before digging? That is, how do you disseminate the information?
a. Post it
b. Discuss in meetings
c. E-mail
d. Calls
e. Put in company's written procedures
f. Put in company newsletter
g. Other: _____

Outreach (Audience Size)   6. About how many people in your company actually determine where to dig?
_____

Table E-3—Sample Survey Questions for Excavators (Continued)

6a. What jobs do they have (e.g., excavator equipment operator; executive; operations boss; etc.):
_____

Outreach
6b. How many of them probably have information on where to call before digging?
a. All
b. Most
c. Some
d. Few or None

Outcome
*7. Has your company ever unexpectedly encountered a pipeline while digging? *[Yes or No]*

7a. If yes, how often has this occurred? _____

Explain whether pipeline location was unknown and why. _____

_____

_____

7b. If yes, how many were "close calls"? _____

7c. How many resulted in damage: _____

Table E-4.1—Measuring Effectiveness of Pipeline Public Awareness Programs for Transmission or Liquid or Gathering Pipelines

Local Public Officials

The following are sample survey questions on pipeline safety for local government/public officials. They can be used when meeting one on one with such officials or when doing a more systematic survey in connection with evaluating Public Awareness Programs for pipeline safety.

Introduction if survey is in person:

I am _____representing _____

I would like to ask you a few questions regarding pipeline safety.

Knowledge

1. Do you have an oil or gas pipeline running through your community? _____(Y/N)
If not yes, tell them. [Reviewers: Should we also ask if they know where it is?]

2. Do you know the name of your local pipeline operator? _____ (Y/N)

2a. If yes, who? _____
[This may be given away by the introductory line.]

Outreach

3. Have you heard or seen a message regarding pipeline safety in the last 12 months? _____ (Y/N)

3a. If yes, about how many? _____

4. Before today, about when was your last contact with someone from the pipeline industry related to pipeline safety? _____ (If known, fill in approximate date or number of weeks, months, or years ago.)

Knowledge (again)

5. Do you have the number to call in the pipeline company if there is an incident or you need more information? _____(Y/N)

6. Have you heard of the Office of Pipeline Safety in the U. S. Department of Transportation? _____ (Y/N)

7. Do you know what precautions an excavator should take prior to digging, to avoid accidentally hitting a pipeline? _____ (Y/N)

7a. If yes, what are they? _____

8. Are you familiar with the one-call line? _____ (Y/N)
(If no, they should be informed about it.)

9. How would you rate the adequacy of information you have about pipeline safety (e.g., how to recognize a leak, what to do when there is a leak, what first responders should do, etc.)?
    a. About right? _____
    b. Too much? _____
    c. Not enough? _____

[This question is essentially a self-assessment of knowledge for a measure such as "percent of local officials who felt they needed more information about pipeline safety."]

Behavior

10. Does your community have an emergency response plan to deal with a pipeline break (regardless of whether intentional or accidental)? _____(Y/N)

Outcome

11. Are you aware of any pipeline breaks that occurred in your community in the last 10 years? _____ (Y/N)

11a. If yes, how many? _____

Table E-4.1—Measuring Effectiveness of Pipeline Public Awareness Programs for Transmission or Liquid or Gathering Pipelines (Continued)

11b. What were they? _____

[The interviewer should be prepared to tell the local official the correct answer.]

12. Have any of your local citizens or businesses expressed concern in the last 12 months about any issue regarding pipeline safety? _____ (Y/N)

12a. If yes, what was it? _____

13. Overall, do you feel the pipeline industry has an adequate public safety awareness program?
    a. Definitely yes _____
    b. Pretty much so _____
    c. Not sure _____
    d. Don't know _____
    e. Probably not _____
    f. Definitely not _____

[This is an overall perception of their awareness program. The operatory could use for measures such as "percent of local governments who rated the overall program as definitely or probably adequate."]

Table E-4.2—Measuring Effectiveness of Pipeline Public Awareness Programs for Transmission or Liquid or Gathering Pipelines

Emergency Officials

These questions are primarily for local first responders (e.g., fire, police, EMS officials), but could also be used for utility responders, and other emergency officials.

Knowledge	1.	Do you know where the nearest oil or gas pipeline is in or near your community? _____(Y/N) [If not, tell them after the interview.]
	2.	Do you know the name of your local pipeline operator? _____ (Y/N)
		15a. If yes, who? _____
	3.	Do you know who to call in the pipeline company if there is an incident, or if you need more information? _____(Y/N)
Outreach	4.	Have you seen, heard, or received any information regarding pipeline safety in any media in the last year? _____ (Y/N)
		17a. If yes, do you recall what? _____
	5.	Have you or anyone else in your department to your knowledge met with any representatives of the pipeline company to discuss pipeline safety within the last 12 months, prior to today? _____(Y/N)
		18a. If yes, when?_____
		18b. With whom? _____
Behavior	6.	Do you have a response plan or SOPs for responding to a pipeline incident, such as a break? _____ (Y/N)
	7.	Have you done any practical training to deal with a break? _____(Y/N)
Outcome	8.	Do you know if there were any pipeline incidents within the last ten years in your community? _____ (Y/N)
		8a. If yes, about when? _____
		8b. What was the incident? _____
		8c. Did the department respond? _____(Y/N)
		8d. If yes, Do you feel the department dealt with the incident in a satisfactory manner? [Self-assessment, if knowledgeable about the incident.]
		_____
		_____
		_____
		_____

Table E-5.1—Measuring Effectiveness of Pipeline Public Awareness Programs for Local Distribution Companies

Local Public Officials

The following are sample survey questions on pipeline safety for local government/public officials. They can be used when meeting one on one with such officials or when doing a more systematic survey in connection with evaluating Public Awareness Programs for pipeline safety.

Introduction if survey is in person:

I am _____representing _____

I would like to ask you a few questions regarding pipeline safety.

Knowledge	1.	Do you have natural gas pipelines running through your community? _____(Y/N)
	2.	Do you know the name of your local natural gas company? _____ (Y/N)
		2a. If yes, who? _____ [This may be given away by the introductory line.]
Outreach	3.	Have you heard or seen a message regarding natural gas safety in the last 12 months? _____ (Y/N)
		3a. If yes, about how many? _____
	4.	Before today, about when was your last contact with someone from the natural gas industry related to pipeline safety? _____ (If known, fill in approximate date or number of weeks, months, or years ago.)
Knowledge (again)	5.	Do you have the number to call the natural gas company if there is an incident or you need more information? _____(Y/N)
	6.	Do you know who regulates the natural gas company in this community? _____ (Y/N) (If no, they should be informed about it.)
	7.	Do you know what precautions an excavator should take prior to digging, to avoid accidentally hitting a natural gas pipeline? _____ (Y/N)
		7a. If yes, what are they? _____
	8.	Are you familiar with the one-call line? _____ (Y/N) (If no, they should be informed about it.)

	9.	How would you rate the adequacy of information you have about natural gas safety (e.g., how to recognize a leak, what to do when there is a leak, what first responders should do, etc.)?
		    a. About right? _____
		    b. Too much? _____
		    c. Not enough? _____

		[This question is essentially a self-assessment of knowledge for a measure such as "percent of local officials who felt they needed more information about pipeline safety."]
Behavior	10.	Does your community have an emergency response plan to deal with a natural gas leak (regardless of whether intentional or accidental)? _____(Y/N)

Table E-5.1—Measuring Effectiveness of Pipeline Public Awareness Programs for Local Distribution Companies
(Continued)

Outcome   11.   Are you aware of any pipeline leaks that occurred in your community in the last 2 years?
_____ (Y/N)

11a. If yes, how many? _____

11b. What were they? _____
[The interviewer should be prepared to tell the local official the correct answer.]

12.   Have any of your local citizens or businesses expressed concern in the last 12 months about
any issue regarding natural gas safety? _____ (Y/N)

12a. If yes, what was it? _____

13.   Overall, do you feel the natural gas industry has an adequate public safety awareness program?
a. Definitely yes _____
b. Pretty much so _____
c. Not sure _____
d. Don't know _____
e. Probably not _____
f. Definitely not _____

[This is an overall perception of their awareness program. Could use for measures such as
"percent of local governments who rated the overall program as definitely or probably
adequate."]

Table E-5.2—Measuring Effectiveness of Pipeline Public Awareness Programs for Local Distribution Companies

First Responders/Emergency Officials

These questions are primarily for local first responders (e.g., fire, police, EMS officials), but could also be used for utility responders, and other emergency officials.

Knowledge	1.	Do you have natural gas pipelines running through your community?? _____(Y/N) [If not, tell them after the interview.]
	2.	Do you know the name of your local natural gas company? _____ (Y/N)
		15a. If yes, who? _____
	3.	Do you know how to contact the local natural gas company if there is an incident, or if you need more information? _____(Y/N)
Outreach	4.	Have you seen, heard, or received any information regarding natural gas safety in any media in the last year? _____ (Y/N)
		17a. If yes, do you recall what? _____
	5.	Have you or anyone else in your department to your knowledge met with any representatives of the natural gas company to discuss pipeline safety within the last 12 months, prior to today? _____(Y/N)
		18a. If yes, when?_____
		18b. With whom? _____
Behavior	6.	Do you have a response plan or SOPs for responding to a natural gas incident, such as a leak? _____ (Y/N)
	7.	Have you done any practical training to deal with a leak? _____(Y/N)

8. Do you feel reasonably well prepared to deal with a natural gas leak, should one occur in your community? _____(Y/N) If not, in what areas are there deficiencies? (Check all that apply.)
    a. Training _____
    b. Special Equipment _____
    c. Knowledge about leaks _____
    d. Inherent dangers _____
    e. Other: (Write in.)_____

9. If you heard a report of a natural gas leak right now, what actions would you or your department take? [Write in the steps; someone should grade the responses to get a sense of whether there has been adequate training or preparation, or if the respondent just mentioned general procedures applicable to any kind of incident.]

_____

_____

Outcome   10. Do you know if there were any natural gas leaks within the last two years in your community? _____ (Y/N)

10a. If yes, about when? _____

10b. What was the incident? _____

10c. Did the department respond? _____(Y/N)

10d. If yes, Do you feel the department dealt with the incident in a satisfactory manner? [Self-assessment, if knowledgeable about the incident.] _____

_____