Public Awareness Programs for Pipeline Operators

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Introduction

Plan-Do-Check-Act

The Plan–Do–Check–Act (PDCA) cycle is a four–step model for carrying out continuous assessment and improvement. This methodology can be applied to the public awareness program as well as to individual elements and processes within the program. The PDCA principle is at the core of many management systems, and its principal aim is to encourage creating strategies and plans, executing those strategies and plans in line with guidelines, checking those actions for conformity, and using those results to adjust the next generation of plans. This cycle is iterative and is maintained to achieve continuous improvement.

There are inputs (e.g., data, information, and resources) to the processes within each element yielding a set of outputs (e.g., prioritized work that reduced risk, and ultimately improved safety performance). The pipeline operator defines public awareness program inputs and outputs within the execution of each of the essential elements. The pipeline operator defines these inputs and outputs for each of the elements to be described, and through the public awareness program reviews them periodically.

The PDCA cycle is useful when starting a new public awareness program; when developing a new or improved design of a process, product, or service; or when defining a repetitive work process.

The PDCA cycle is also useful as a model for continuous improvement and when planning data collection and analysis, when selecting and prioritizing threats or causes, and when implementing any changes.

The components of the PDCA cycle are:

Plan: This step entails establishing the objectives and processes necessary to deliver results in accordance with the organization's policies and the expected goals. By establishing output expectations, the completeness and accuracy of the process is also a part of the targeted improvement.

Do: This step is the execution of the plan designed in the previous step.

Check: This step entails the review of the results compared with established objectives. Comparing those results to the expected goals to ascertain any differences, looking for deviation in implementation from the plan.

Act: This step is where a pipeline operator takes actions to continuously improve process performance, including corrective actions on significant differences between actual and planned results, analyzes the differences to determine their root causes, and determines where to apply changes that will include improvement of the process or product.

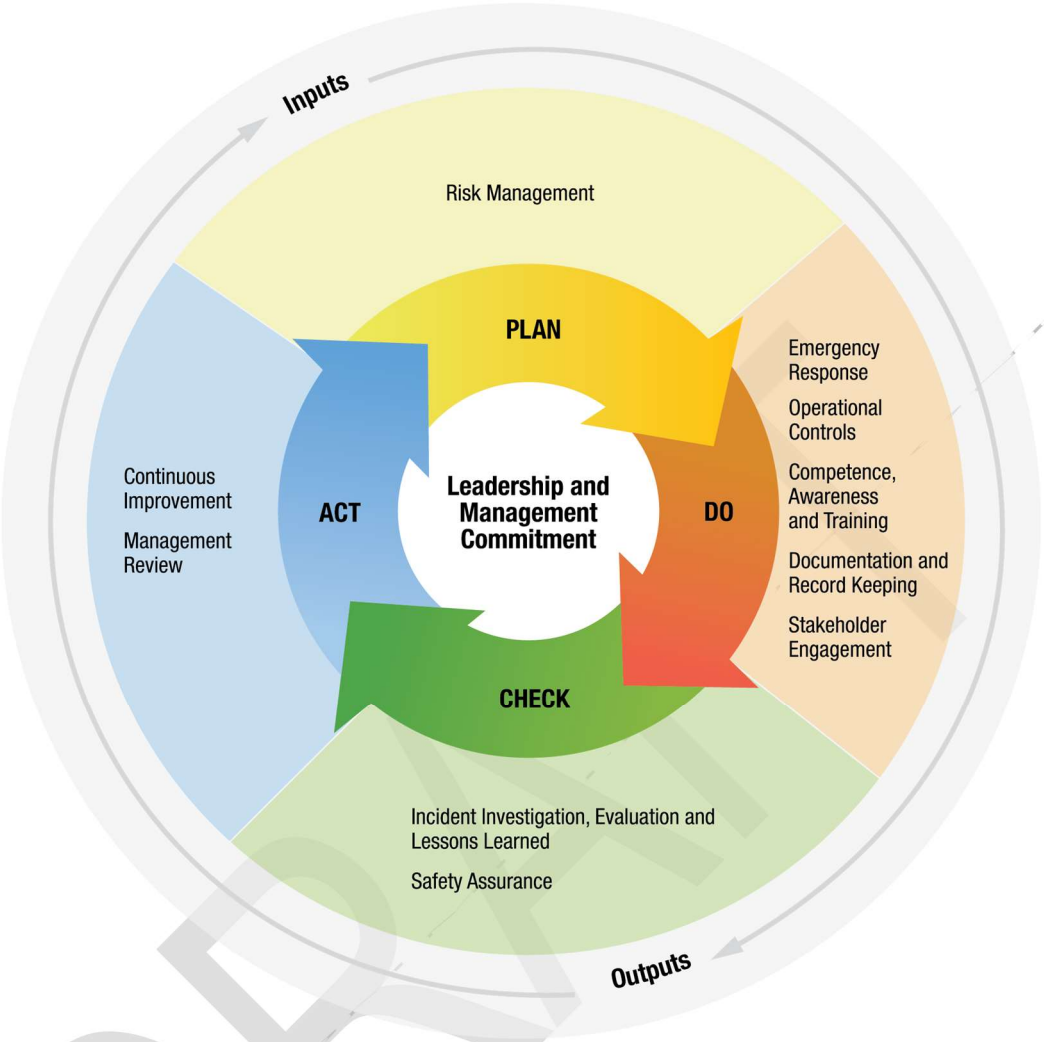


Figure 1: Plan–Do–Check–Act (PDCA) Cycle

Reflecting the cyclical nature of PDCA and the dynamic/evolutionary nature of the Public Awareness Program, the entire process begins again from the start. Each cycle through PDCA produces opportunities for improvement. The application of PDCA logic to individual elements within the process can provide similar insights and opportunities for improvement within that element.

Contents

Public Awareness Programs for Pipeline Operators

1 Scope

This document addresses the development, implementation, evaluation and documentation of pipeline safety public awareness programs associated with regulated transmission, distribution, gathering pipeline, and underground storage systems in the United States that are required under Federal or State pipeline safety regulations to have a Public Awareness Program.

NOTE DOT PHMSA Advisory Bulletin: Clarification of Terms Relating to Pipeline Operational Status - PHMSA–2016–0075 describes which regulated pipeline systems may be required to have a public awareness program.

A public awareness program is not required for abandoned pipeline systems. An Operator can choose to use this recommended practice for non-regulated transmission, local distribution, and gathering pipeline systems.

Communications occurring prior to or during new pipeline construction, offshore operations, abnormal operations, and during and immediately following emergencies are not covered by this recommended practice (RP).

This RP provides minimum requirements and offers guidance to operators to develop public awareness programs that take into account the differences and similarities in pipeline conditions, release characteristics, stakeholder audiences, excavation activities, and other factors which can influence the development and implementation of public awareness programs.

This RP provides operators with public awareness program elements and illustrates the process for establishing, implementing, measuring, and adjusting a program, in alignment with the plan-do-check-act (PDCA) process for managing programs. This RP addresses certain operational changes requiring additional communication based on the introduction of new pipeline release hazards.

NOTE At the time of this publication, non-regulated Class I and II rural gas gathering lines in the United States of America as defined in 49 CFR Part 192 are not required by Federal regulation to have a public awareness program. Annex F outlines the provisions of this RP that may apply to operators following API RP 1182, *Construction, Operation, and Maintenance of Large Diameter Rural Gas Gathering Lines.*

2 Normative References

There are no normative references in this document.

3 Terms, Definitions, Acronyms, and Abbreviations

3.1 Terms and Definitions

For the purposes of this document, the following terms and definitions apply.

3.1.1
811
In the United States, a federally designated ‘Call Before You Dig’ telephone number.

3.1.2
analysis
To examine data to determine its component parts to better understand that data.

3.1.3
assessment
The act of examining the data to make a judgment about something.

3.1.4
baseline public awareness program
Minimum requirements of a pipeline operator’s public awareness program.

3.1.5
behavioral intent
A person's perceived likelihood or subjective probability that they will engage in a given behavior.

A person's likelihood that they will engage in a given behavior

3.1.6
census sampling
A process of drawing a sample of a stakeholder population by attempting to collect data from every member of the stakeholder population.

A process of drawing a sufficient number of samples from a stakeholder population to characterize the stakeholder population as a whole within an acceptable margin of error.

3.1.7
confidence level
A determination indicating the probability a survey outcome will fall within a specified range of values if conducted again among a similar population.

3.1.8
encroachment
Unauthorized activity onto or within the operator’s right of way (ROW).

3.1.9
high consequence area
HCA
An area where pipeline releases could have greater consequences to health, safety, or the environment as defined in applicable pipeline safety regulations.

3.1.10
liaison
liaise
Communication and coordination to facilitate mutual understanding and cooperation between people or organizations.

3.1.11
margin of error
The possible range difference between the responses of the true, or actual, population and the sample population, or those surveyed.

3.1.12
one-call center
A qualified entity that administers a system through which a person can notify its member operators of lines or facilities of proposed excavations.

3.1.13
operator
Entity that operates a pipeline.

3.1.14
pipeline
pipeline system
Please refer to 49 CFR 192.3 for transmission, gathering, and distribution pipeline systems and 195.2 for hazardous liquid and carbon dioxide pipeline systems, as well as related statutes and interpretations.

3.1.15
population
The entire pool from which a statistical sample is drawn

3.1.16
qualitative research
A research method used to collect non-numerical data/information from which meaning might be interpreted.

3.1.17
quantitative research
A research method used to collect numerical data/information such that the results and findings may be expressed and analyzed statistically and mathematically.

3.1.18
radius of exposure
Distance from possible point of release to where H_2S concentration in air will dilute to below 100 PPM.

3.1.19
random sampling
A process of selecting a sample from a population in a way that every member of that population has an equal and independent chance of being selected.

3.1.20
response rate
The number of responses to a survey divided by the the survey sample size.

3.1.21
right of way
ROW
Defined land on which an operator has the rights to construct, operate, and/or maintain one or more pipelines.

NOTE A ROW may be owned outright by the operator or an easement may be acquired for its specific use.

3.1.22
sample
A part of a population selected to represent a larger population of interest.

3.1.23
stakeholder reach
The effectiveness measure used by an operator to estimate the percentage of the population for each stakeholder audience exposed to specific public awareness program messages.

3.1.24
supplemental
Additional public awareness efforts beyond the baseline public awareness program.

NOTE See Section 7.2 for additional information on program supplements

3.1.25
third-party damage
Excavation-related damage to pipelines that is not caused by the operator or their contractors.

3.2 Acronyms and Abbreviations

For the purposes of this document, the following acronyms and abbreviations apply.

AP	Affected Public
API	American Petroleum Institute
CFR	Code of Federal Regulations
EO	Emergency Officials
EX	Excavators

H_2S	hydrogen sulfide
HCA	high consequence area
IDLH	immediately dangerous to life and health
LDC	local distribution company
NAICS	North American Industry Classification System
NPMS	National Pipeline Mapping System
PDCA	Plan-Do-Check-Act
PHMSA	Pipeline and Hazardous Materials Safety Administration
PO	Public Officials
PSA	public service announcement
QAQC	quality assurance/quality control
ROW	right of way
RP	recommended practice
SIC	Standard Industrial Classification
USPS	United States Postal Service

4 Program Establishment

4.1 Figure

Public awareness programs vary because of differences in pipeline systems, stakeholder audiences, and potential hazards associated with a release.

NOTE At the time of this publication, non-regulated Class I and II rural gas gathering lines in the United States of America as defined in 49 CFR Part 192 are not required by Federal regulation to have a public awareness program. Annex F outlines the provisions of this RP that may apply to operators following API RP 1182, *Construction, Operation, and Maintenance of Large Diameter Rural Gas Gathering Lines.*

Figure 1 illustrates the process for establishing, implementing, measuring, and adjusting a public awareness program and aligns with an iterative four-step approach (Plan, Do, Check, Act, or “PDCA”) used to manage processes and programs.

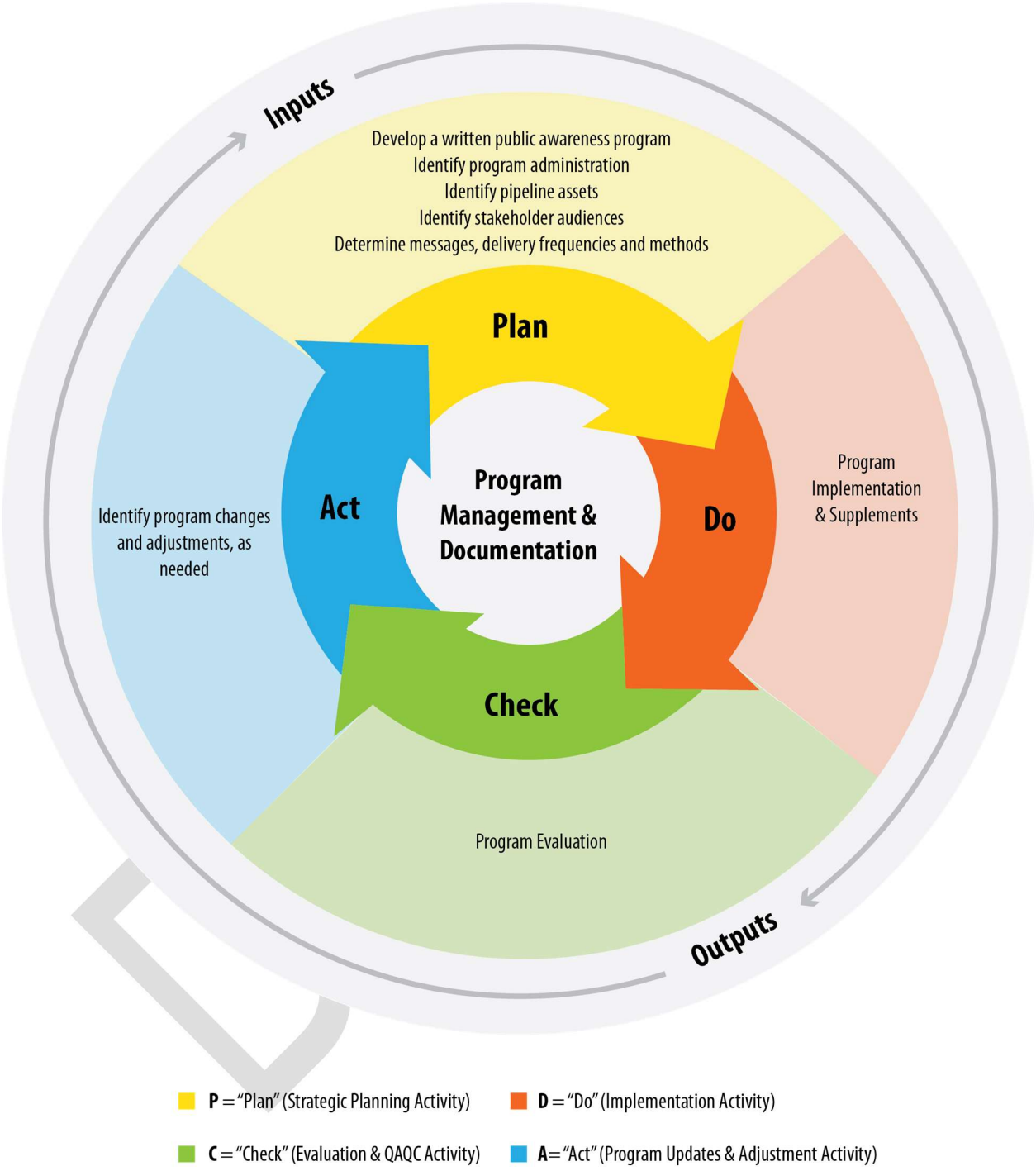
4.2 Public Awareness Program Elements

A public awareness program shall be written and include the following components:

- program objectives (Section 4.3);
- program administration (Section 4.4);
- pipeline systems covered by the public awareness program (Section 4.5);
- a process for identifying stakeholder audiences (Section 4.6);
- baseline messaging, frequencies, and methods (Section 5 and Section 6);
- a process for identifying program supplements beyond the baseline program (Section 7.2);
- a process for program evaluation (Section 8);
- documentation requirements (Section 9).

Program establishment is part of the “Plan” phase of an iterative four-step PDCA approach used to manage processes and programs.

Figure 1 – Public Awareness Programs



4.3 Program Objectives

Operators shall develop a public awareness program based on the following objectives. Operators may choose to add additional objectives.

4.3.1 Awareness

Public awareness programs should enhance stakeholder audience awareness of the presence of pipelines in their communities and the potential hazards that unintended releases may pose.

4.3.2 Prevention

Public awareness programs should help stakeholder audiences understand their role in preventing pipeline emergencies.

4.3.3 Response

Public awareness programs should help stakeholder audiences understand how to respond to potential pipeline damage and/or a pipeline emergency.

4.4 Program Administration

The written public awareness program shall describe how the program will be administered , including a program administrator (department, or title, or name), and a description of the roles and responsibilities of personnel administering the program.

4.5 Pipeline Systems

Operators shall document the pipeline systems covered by their public awareness program. The 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. Operators are not expected to include a detailed list of all assets or appurtenances which are covered by their public awareness program.

4.6 Identify Stakeholder Audiences

Stakeholder audiences are comprised of four categories: the affected public, emergency officials, public officials, and excavators.

Operators shall have a method to identify the stakeholder audiences for their public awareness program. Operators should document the method used, and the stakeholder audiences identified.

Operators may choose the method used to identify stakeholder audiences. For example, operators can use internal resources, hire outside consultants to assist them, or use classification systems such as the Standard Industrial Classification (SIC), the North American Industry Classification System (NAICS), or privately compiled list(s) to identify stakeholder audiences.

4.6.1 Coverage Area

An operator shall define coverage areas in their program. Table 1 defines baseline coverage areas for specified commodity types. For commodities transported not listed in Table 1, operators should develop coverage areas based on the potential hazards of a release.

The coverage area is a geographic area surrounding the pipeline where the affected public stakeholder audience is located. Affected public stakeholders within the coverage area should be targeted with public awareness messages (see Section 5).

4.6.1.1 In establishing the coverage area where baseline messages shall be communicated, an operator shall use, at a minimum, the distance from the pipeline system listed below in Table 1. An operator may voluntarily extend the distance on a case-by-case basis.

4.6.1.2 Potential Impact Radius

As an alternative to using the baseline coverage area in Table 1, operators can calculate PIR for their pipeline. PIR can be calculated for any gas.

See Annex Y for further details on how to calculate PIR.

NOTE Operators may be asked by authorities having jurisdiction to explain their coverage areas.

Table 1 – Affected Public Baseline Coverage Areas

Commodity Type	Baseline coverage area
Natural Gas Liquids or Highly Volatile Liquids	660 ft. on either side of pipeline
Natural Gas (Transmission and Gathering)	660 ft. on either side of pipeline
Natural Gas (Distribution)	300 ft. on either side of pipeline
Hazardous Liquids	660 ft. on either side of pipeline
Carbon Dioxide	330 ft. on either side of pipeline
Hydrogen Sulfide (H_2S or Sour Gas)	Radius of Exposure (ROE) *
*defined in Section 3.1.x	

Table 2 through Table 5 identify the general stakeholder audiences impacted by this document.

4.6.2 Develop Stakeholder Audience Contact Lists

Accuracy of contact or mailing lists will provide a higher likelihood of success in reaching stakeholders identified in a baseline public awareness program. An operator should have a process or method to develop accurate stakeholder audience contact or mailing lists that are used to implement their baseline public awareness program.

Stakeholder contact lists may be developed, maintained and evaluated by the operator or a third-party. Operators should make a good faith effort to develop lists that are as accurate as possible; stakeholder audience information contained in contact lists can change frequently and 100 % accuracy may not be achievable.

Some, but not all, delivery methods require an operator to develop stakeholder audience contact lists that include contact information for stakeholder audiences. Mass media delivery methods do not require lists of stakeholder audiences. To develop stakeholder contact lists, operators may use internal or external data utilizing a variety of sources (e.g., One-Call ticket data, commercially available contact lists, professional association directories, contact information available through public sources).

Activities to develop and evaluate contact lists can include, but are not limited to:

- Consultation with individuals who have knowledge regarding stakeholders in their community or jurisdiction (i.e. local emergency officials, internal subject matter experts)
- Comparison of multiple lists created using different sources or methodology
- Rooftop count analysis using GIS data and software
- Comparison to contact lists included within operator's Emergency Response Plans or managed by operator's dispatch function
- Walking or driving within randomly selected areas to physically collect addresses for validation
- Internet research, web sites, phone calls to all or a random sample of contacts
- Comparison to directory list provided by stakeholder representatives (i.e. homeowners' associations, state fire agency organizations, Association of Mayors, American Association of Planners, National Emergency Number Association, Federal Communications Commission)
- Title or role-based review for selected communities or titles

See Section 9 for documentation requirements.

4.6.2.1 Addresses for Mailings

In circumstances where an operator chooses to communicate using direct mail, the operator shall determine addresses near the pipeline within a specified coverage area.

Examples of how an operator can identify affected public addresses are through a nine-digit USPS zip code address database or geo-spatial address databases. For multi-family dwellings, individual apartment unit addresses should be used, not just the address of the apartment building or complex.

A local distribution operator may use its customer list for identifying that portion of the Affected Public that are its customers.

4.6.3 Affected Public

The Affected Public stakeholder audience is defined in Table 2.

Table 2 – Stakeholder Audience—Affected Public

Stakeholder audiences	Audience Definition	Examples
1. Residents	People who live within the coverage area of: — transmission pipelines — gathering lines, or — major facilities such as tank farms, storage fields, and pump/compressor stations	— Tenants — Farmers — Tribal nation residents[1]
2. People near local distribution systems	People who live, work, or congregate within the coverage area of a local distribution system	— Customers — Non-customers
3. Places of congregation	Places where people congregate or work on a regular basis within the coverage area of: — transmission pipelines — gathering lines, or — major facilities such as tank farms, storage fields, and pump/compressor stations	— Businesses — Schools and school districts[2] — Childcare and senior care facilities — Places of worship — Medical facilities[3] — Parks and recreational areas — Military installations — Correctional facilities

[1] Many tribal groups refer to themselves as 'rights holders' and not stakeholders.

[2] Schools within the coverage area and their affiliated school districts are both included in the AP stakeholder audience

[3] Can include long-term care facilities and assisted living facilities

4.6.3.1 Languages other than English

Public Awareness programs shall be conducted in English and in other languages commonly understood by a significant number and concentration of the non-English speaking population in the operator's area.

Operators shall identify a process to determine languages other than English that are commonly understood by a significant number and concentration of the non-English speakers in the operator's area and are part of the Affected Public stakeholder audience. The program should include the operator's determination of significant number and concentration and provide data source(s) used in identifying

appropriate languages. Some commonly used data sources include census data, the American Community Survey, and consumer demographic data. Local knowledge of an operator's area may also be used.

4.6.4 Emergency Officials

The Emergency Officials stakeholder audience is defined in Table 3.

Table 3 – Stakeholder Audience—Emergency Officials

Stakeholder Audience	Audience Definition	Examples
Emergency officials	Local, city, municipal, county, state, or regional officials, agencies and organizations with the role and responsibility of emergency preparedness and response having jurisdiction in the pipeline system's operating area	— Fire departments — Police/sheriff departments — Local Emergency Planning Committees (LEPCs) — Local, city, municipal, county, state, or regional emergency management agencies and coordinators — 911 centers and/or emergency dispatch — Military installations[1] — Tribal emergency officials — Emergency medical services — Hazardous materials response teams
[1] When a pipeline system is located on the grounds of a military installation, the appropriate officer of that installation should be contacted		

4.6.5 Public Officials

The Public Officials stakeholder audience is defined in Table 4.

Table 4—Stakeholder Audience—Public Officials

Stakeholder Audience	Audience Definition	Examples
Public officials	Local, city, municipal, county, state, regional, and other officials or agencies with the role and responsibility of planning, land use, or street management, having jurisdiction in the pipeline system's operating area	— Planning & zoning boards — Licensing, planning & permitting departments — Building code enforcement departments — City and county managers — Public utility boards — Local governing councils — Military officials[1] — Tribal leaders — Departments of Transportation — Municipal government officials
[1] When a pipeline system is located on the grounds of a military installation, the appropriate officer of that installation should be contacted		

4.6.6 Excavators

The Excavators stakeholder audience is defined in Table 5.

Table 5 – Stakeholder Audience—Excavators

Stakeholder Audience	Audience Definition	Examples
Excavators	Companies and government agencies who are normally engaged in earth moving, ground disturbing, or digging activities in the pipeline system's operating area	— Utility companies, including railroads — Construction and drilling companies — Excavation companies — Public works departments — Public street, road, and highway departments (maintenance and construction) — Timber companies — Fence installers — Drain tiling companies — Landscapers — Well drillers — Land developers — Home builders — Plumbers — Dredging companies — Demolition contractors

5 Messages

5.1 General

Messages are information that operators provide to stakeholder audiences to improve awareness of pipelines and pipeline safety, prevent damage to pipelines, and communicate actions to take during a pipeline emergency. Message content has been divided by stakeholder audience into two main categories: baseline and supplemental messages. Baseline messages are essential safety messages and vary depending on stakeholder audience and type of pipeline. Supplemental messages are additional messages which Operators can choose to include in their public awareness programs.

Operators shall provide appropriate baseline messages to each stakeholder audience.

Operators shall determine if supplemental messages are necessary for achieving their program objectives (see Section 4.3).

Each of the following sections includes a table of baseline and supplemental message topics for each stakeholder audience and type of pipeline. This RP provides a general description of the messages. Operators should develop the content for each message based on this RP and what is appropriate for their pipeline assets and program objectives. Messages should be focused and concise.

Operators may pre-test public awareness messages for clarity and understandability before they are widely used. Operators may also pre-test materials for design and appeal. A pre-test can be performed using a representative audience, for example, a small group of operator employees not involved in developing the Public Awareness Program, or a sample of the intended stakeholder audiences.

Message development is part of the "Plan" phase of an iterative four-step PDCA approach used to manage processes and programs.

See Table 10 in Section 6 for delivery frequencies.

5.2 General Pipeline Awareness

Table 6 sets forth general pipeline awareness message topics for each stakeholder audience, type of pipeline, and whether the messages are baseline or supplemental.

Table 6 – General Pipeline Awareness Message Topics

Message Topic	Type of Pipeline	Baseline or Supplemental	Stakeholder Audience
5.2.1 Obtaining Additional Information	Transmission Distribution Gathering	Baseline	Affected Public Emergency Officials Public Officials Excavators
5.2.2 Commodity Types Transported and Possible Hazards for Unintended Releases	Transmission Distribution Gathering	Baseline	Affected Public Emergency Officials Public Officials Excavators
5.2.3 Pipeline Purpose and Reliability	Transmission Distribution Gathering	Supplemental	Affected Public Emergency Officials Public Officials Excavators
5.2.4 Sharing Pipeline Safety Information	Transmission Distribution Gathering	Supplemental	Affected Public Emergency Officials Public Officials Excavators
5.2.5 ROW / Easement / Land-Use	Transmission Distribution Gathering	Supplemental	Affected Public Emergency Officials Public Officials Excavators

The information below provides guidance for the general pipeline awareness topics for operators.

5.2.1 Obtaining Additional Information

Operators should inform all stakeholder audiences about how to get additional pipeline-related information. Examples of operator contact information can include:

- website address;
- non-emergency telephone number;
- email address;
- organizational contacts;
    - specific department contact information
        - ROW department
    - specific personnel contact information
    - local contact information
- other means to secure information.

5.2.2 Commodity Types and Possible Hazards from Unintended Releases

The ability of stakeholder audiences to appropriately respond to an unintended pipeline release is an objective of public awareness programs.

Communicating information about commodities transported, batched, or stored in an operator's pipeline system helps stakeholders understand the possible hazards from an unintended release and may also prompt them to seek out additional information.

Operators should provide stakeholder audience groups an overview of the commodity types (see Table 1) transported, batched, or stored in an operator's pipeline system(s). Messages should include the release characteristics and possible hazards from an unintended release. Real-time product specific information for batching operations is not required to be communicated to stakeholders.

This information can be communicated through a single or multiple delivery methods (see Section 6.3 for a list of potential delivery methods).

5.2.2.1 Additional Information on Commodity Types and Possible Hazards

Best practices in risk communication demonstrate that stakeholders who seek information to verify information are more likely to remember that information and take desired actions if needed to protect themselves, their family or community.

More information, rather than less, can be helpful in educating stakeholders about appropriate response to hazards.

Additional information on the general hazards of all commodity types can be beneficial to stakeholders as some have similar hazards or release characteristics.

Operators should also provide guidance to stakeholder audience groups on how or where they can learn more about the hazards associated with commodity types in portions of the operator's system near the stakeholder's home, business, or community, and why that effort is important.

5.2.3 Pipeline Purpose, Reliability and Safety Record

Operators may provide general information about pipeline transportation. Operators may also direct stakeholder audiences to regulator-provided pipeline safety compliance records, if publicly available. Messages can include:

- the role, purpose, and function of pipelines and/or associated facilities in energy supply;
- efficiency and reliability of pipelines;
- the industry's safety record;
- the benefits of the pipeline to the community;
- state and federal regulations about pipeline design, construction, operation, and maintenance;
- operational activities that promote pipeline integrity, safety, and reliability (e.g., testing practices, inspections, patrolling, monitoring, etc.);
- operator-specific compliance records, if publicly available.

NOTE PHMSA maintains a compliance database for the pipelines they regulate. It can be found on the DOT enforcement transparency webpage. Some states also maintain compliance information which is publicly available.

5.2.4 Sharing Pipeline Safety Information

Operators may encourage Excavators and Emergency Officials to share received pipeline safety messages with others in their organizations. Operators may encourage the Affected Public and Public Officials to share received pipeline safety messages with others. Some examples of sharing messages with other stakeholders can include:

- affected public sharing messages with other persons in their home, business, or place of congregation;
- excavators sharing messages with field personnel and contractors;
- public officials sharing messages with other persons in their department;
- emergency officials sharing messages with other persons in their organization.

5.2.5 ROW/Easement/Land-Use

Operators may communicate with stakeholders regarding land use requirements or governmental or legal restrictions that protect pipelines. Some examples of messages to stakeholders include:

- awareness of easements and other agreements;
- encroachments inhibit the operator's ability to perform critical activities, including:
    - conducting surveillance, routine maintenance and inspections;
    - access to the pipeline system during emergencies;
- the importance of the ROW area being clear of trees, shrubs, buildings, fences, structures, or any other encroachments that could affect the integrity of the pipeline;
- encroachments can contribute to increased damage to pipelines;
- the potential impacts of land-use decisions regarding pipeline safety..

5.3 Damage Prevention

Table 7 lists baseline and supplemental damage prevention message topics for each stakeholder audience and type of pipeline.

Table 7 – Damage Prevention Message Topics

Message Topics	Type of Pipeline	Baseline or Supplemental	Stakeholder Audience
5.3.1 Damage Prevention Importance	Transmission Distribution Gathering	Baseline	Affected Public Excavators Public Officials
		Supplemental	Emergency Officials
5.3.2 Damage Prevention Steps	Transmission Distribution Gathering	Baseline	Affected Public Excavators Public Officials
		Supplemental	Emergency Officials
5.3.3 Damage Reporting	Transmission Distribution Gathering	Baseline	Affected Public Excavators Public Officials Emergency Officials
5.3.4 Threats or Suspected Damage to a Pipeline	Transmission Distribution Gathering	Baseline	Affected Public Excavators Public Officials Emergency Officials

The information below provides guidance for the damage prevention topics for operators.

5.3.1 Damage Prevention Importance

Operators should convey to stakeholder audiences (AP, EX, PO) the importance of damage prevention. Excavation activities (e.g., installing mailboxes, privacy fences and flag poles, performing landscaping, constructing storage buildings, placing signs, etc.) can damage the pipeline or other buried utilities.

5.3.2 Damage Prevention Steps

Operators should provide damage prevention messages to stakeholder audiences (AP, EX, PO) consistent with the following:

- always call 811 or contact the One-Call Center before digging;
- wait for the site to be marked or for positive response from the operator;
- respect the marks;
- dig or excavate with care.

Operators should inform stakeholder audiences (AP, EX, PO) that it is their responsibility to understand state damage prevention laws and local ordinances where they excavate. Operators can refer stakeholders to additional resources, for example:

- 811 websites;
- state One-Call Centers;
- state or industry associations.

5.3.3 Damage Reporting

Operators should inform all stakeholder audiences that any damage to a pipeline, including dents, nicks, or damage to the coating, must be reported to the operator promptly. Operators should inform stakeholder audiences that any damage resulting in a release should be reported to the operator. Operators should inform stakeholder audiences that if damage to a pipeline results in the release of a product, the release must be reported to 911 promptly.

5.3.4 Threats or Suspected Damage to a Pipeline

All stakeholder audiences should be directed to report suspected damage to the pipeline system, observed threats, and suspicious activity on or near a pipeline system to the Operator.

Examples of threats and suspicious activity can include:

- unauthorized or unmarked excavation activity (e.g., lack of flags, marks, paint, etc.);
- observed conditions that may impact the pipeline (e.g., exposed pipe, subsidence or erosion, sink holes, or unstable soil);
- observed suspicious activity on or near pipeline infrastructure, (e.g., cutting locks or fences, turning valves, vandalism, or trespassing);
- suspected damage to a pipeline.

5.4 Emergency Awareness & Response

Table 8 lists baseline and supplemental emergency awareness and response message topics for each stakeholder audience and type of pipeline.

These messages are part of liaison with the emergency officials, including 911 emergency call and dispatch centers. Liaison with emergency officials is further discussed in Section 6.4.4.

Table 8 – Emergency Awareness & Response Message Topics

Message Topics	Type of Pipeline	Baseline or Supplemental	Stakeholder Audience
5.4.1 Priority to Protect Life	Transmission Distribution Gathering	Supplemental	Affected Public Excavators Public Officials Emergency Officials
5.4.2 Emergency Response Plans	Transmission Distribution Gathering	Baseline	Emergency Officials
5.4.3 Emergency Drills and Exercises	Transmission Distribution Gathering	Baseline	Emergency Officials
		Supplemental	Public Officials
5.4.4 Leak Recognition and Response	Transmission Distribution Gathering	Baseline	Affected Public Excavators Emergency Officials Public Officials
5.4.5 Special Emergency Response	Transmission Distribution Gathering	Baseline	Affected Public Excavators Public Officials Emergency Officials

The information below provides guidance for the emergency awareness and response topics for operators.

5.4.1 Priority to Protect Life

Operators may emphasize the priority to protect life, public safety, the environment, and property in any pipeline emergency response to stakeholder audiences.

5.4.2 Emergency Response Plans

Emergency Response Plans are utilized in the event of an emergency and to coordinate responses with emergency officials. Operators should communicate the availability of information from their emergency response plans to Emergency Officials to increase awareness of pipelines and response to emergencies. This communication only applies to operators who are required to have emergency response plans. The operator should determine what portions, if any, of their emergency response plan are available to Emergency Officials. The appropriate elements of the ERP may be shared during liaison activities such as emergency response exercises.

See Section 6.4.4 for more information on liaison activities.

5.4.3 Emergency Drills and Exercises

Operators should communicate to Emergency Officials, and may communicate to Public Officials, that drills and exercises are conducted as part of their emergency preparedness. Operators should also

communicate the opportunity to participate in emergency drills and exercises to emergency officials and public officials.

See Section 6.4.4 for more information on liaison activities.

5.4.4 Leak Recognition and Response

Operators should provide information on how to recognize and respond to a suspected pipeline leak or a release to all stakeholder audiences.

Messages about recognizing the physical indications of pipeline leak should include the following:

- sights;
- sounds;
- smells.

Messages about responding to a suspected pipeline leak should include the following:

- what to do if a leak is suspected;
- what not to do if a leak is suspected;
- to contact 911 and the operator's emergency number.

5.4.5 Special Emergency Response

If the pipeline contains commodity types that, when released, could be immediately dangerous to life and health (IDLH), the operator should communicate necessary detection and response information to all stakeholder audiences.

IDLH is an atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

IDLH information can be found on SDS sheets for particular commodities. See 29 CFR1910.134 for additional information on IDLH.

If the pipeline contains commodity types that, when released, behaves in an atypical manner, operators should communicate necessary detection and response information to all stakeholder audiences. Examples of these commodities can include diluted bitumen, non-floating oils, and liquified natural gas.

NOTE State regulations may have additional communication requirements including notification and evacuation information.

5.5 Pipeline Location

Table 9 lists baseline and supplemental pipeline location message topics for each stakeholder audience and type of pipeline.

The information below provides guidance for the pipeline location topics for operators.

5.5.1 Pipeline Markers

Transmission and Gathering pipeline operators should communicate to all stakeholder audiences that permanent pipeline markers:

- indicate the approximate location of a pipeline;
- vary in shapes, colors, and sizes;
- identify the commodity type(s) transported;
- provide the name of the pipeline operator;
- provide the operator's telephone number (including the area code) where the operator can be reached at all times.

Public awareness materials should include an example(s) or illustration(s) of a pipeline marker(s).

Distribution, transmission, and gathering operators may include information about pipeline markers and other above-ground indicators of pipeline facilities, such as meters or regulators, in their messages.

Table 9 – Pipeline Location Message Topics

Message Topic	Type of Pipeline	Baseline or Supplemental	Stakeholder Audience
5.4.1 Pipeline Markers	Transmission Gathering	Baseline	Affected Public Emergency Officials Excavators Public Officials
	Distribution	Supplemental	
5.4.2 National Pipeline Mapping System (NPMS)	Transmission	Baseline	Affected Public Emergency Officials Public Officials
5.5.3 Pipeline Maps	Transmission Distribution Gathering	Supplemental	Affected Public Emergency Officials Excavators Public Officials

5.5.2 National Pipeline Mapping System (NPMS)

Transmission operators should provide information about the NPMS to stakeholder audiences.

The NPMS is a geographic database and map viewer that depicts natural gas, liquified natural gas, and hazardous liquid transmission pipeline systems in the United States and is available from at www.npms.phmsa.dot.gov. Stakeholder audiences can obtain pipeline location, mapping information, general commodity types transported, and operator contact details from PHMSA.

NOTE Distribution and gathering lines are not included in NPMS.

5.5.3 Pipeline Maps

Operators may provide system maps, local maps, or service area maps to stakeholder audiences.

System maps provide general depiction of a pipeline 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 publications available to the industry and public. These maps provide a high-level overview of the pipeline route.

Local maps depict assets in a local area and typically do not show the entire pipeline system.

Service area maps depict distribution operator service territories and can be provided to affected stakeholders. They generally do not show specific pipeline locations but depict the general areas in which the distribution operator operates pipelines.

The level of detail in maps may vary and takes security of the energy infrastructure into consideration.

See *TSA Pipeline Security Guidelines* for more information.

6 Delivery Frequencies and Methods

6.1 General

Delivery frequencies and methods refer to how often and in what ways public awareness information is presented to stakeholder audiences. While this RP does not mandate a specific baseline delivery method, it does identify baseline delivery frequencies. Collaborative programs are discussed in Section 6.5.

Message delivery is part of the “Do” phase of an iterative four-step PDCA approach used to manage processes and programs.

6.2 Delivery Frequencies

Table 10 establishes the baseline delivery frequencies by which operators shall communicate with stakeholders. Delivery frequencies may be increased based on other factors such as stakeholder audience, program effectiveness evaluation outcomes, or pipeline type. An increased delivery frequency constitutes a supplement to the program.

Distribution operators shall deliver all baseline messages for their affected public stakeholder audiences; however, their customers receive baseline messages at a greater frequency than non-customers.

Refer to Section 7 for supplements to pipeline awareness programs.

Table 10 – Baseline Delivery Frequencies

Stakeholder Audience	Type of Pipeline	Minimum Frequency
Affected Public	Transmission Gathering	Every two years, not to exceed 27 months
Affected Public (non-customers)	Distribution	Each calendar year, not to exceed 18 months
Affected Public (LDC Customers)	Distribution	Twice annually within each calendar year, not to exceed 7 ½ months
Emergency Officials	Transmission Distribution Gathering	Each calendar year, not to exceed 18 months
Public Officials	Transmission Distribution Gathering	Every two years, not to exceed 27 months
Excavators	Transmission Distribution Gathering	Each calendar year, not to exceed 18 months

6.3 Communication due to Introduction of New Hazards

Certain operational changes initiated by the operator can introduce new hazards or new contact information that has not previously been communicated to affected stakeholders.

Operators shall communicate this new contact information or messages on how to recognize and respond to those new hazards to affected stakeholders (AP, EO).

Operators should determine which messages are delivered as appropriate for these new hazards.

Messages shall be delivered when the following new hazards are introduced due to operational changes:

- initial operation of a newly commissioned pipeline that is greater than 10 miles in length and introduces a new release hazard (e.g., installing a second pipeline within the ROW transporting a different commodity type which introduces new release hazards that have not previously been communicated or installing another pipeline which increases the coverage area);
- Introducing different commodity types through existing pipelines that require different leak recognition and response than what has already been communicated;
- Initial operation of a distribution pipeline outside existing baseline geographic coverage area established in accordance with Section 4.6.1;
- Conversion to service (e.g., liquids to gas, gas to liquids);
- Change in operator's emergency contact information (e.g., change to 24-hour emergency number).

NOTE This is a common occurrence when pipeline assets are acquired. For further information on acquisitions see Section 10.

Operators affected by these operational changes shall communicate to the appropriate stakeholder audience prior to the change, but no later than 180 days after the change occurs, or document why a longer time period was required to implement the communication.

Examples of operational changes when a communication is not expected:

Operators shall communicate these new hazards to appropriate stakeholder audiences prior to the introduction of the new hazards. If the operator is unable to complete the communication prior to the change, the operator shall document why a longer time period was required to implement the communication and when the communication occurred. Communications shall be completed no later than 180 days after the new hazards are introduced.

Examples of operational changes when a communication is not expected:

- batching (e.g., recognition/response generally the same across commodity types);
- normal operational changes (e.g., operating pressure, bi-directional flow);
- newly commissioned pipelines within an existing coverage area which do not introduce a new release hazard;
- newly commissioned pipelines which are less than 10 miles in length;
- Normal operational changes (e.g., operating pressure changes that do not increase the coverage area requiring public awareness messaging, bi-directional flow);
- Newly commissioned pipelines within an existing geographic coverage area which do not introduce new hazards or expand the coverage area;
- New distribution pipelines within an existing geographic coverage area.

Operators should still communicate to affected stakeholder groups within their baseline programs in their next public awareness cycle.

6.4 Delivery Methods

An operator's program shall identify the delivery method(s) used for public awareness messages. Operators can utilize a single or multiple delivery methods. Operators should select delivery methods for messages that support the objectives of their public awareness program. Some of the factors which can assist in the identification of delivery methods include:

- Needs of the stakeholder audience
- Intent of the communication (e.g. baseline or supplemental)
- Whether the method(s) will reach the desired stakeholders
- Documentation necessary to prove the effort was deployed
- Data necessary to support effectiveness measurement

For more information, please reference Section 9.2 on documentation.

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.

Examples of delivery methods are described below.

6.4.1 Printed Materials

Public Awareness messages may be communicated using printed materials.

Examples of printed materials can include:

— brochures, bill stuffers, flyers, booklets, or pamphlets;

— letters;

— door hangers;

— maps;

— postcards;

— promotional items;

— fact sheets;

— training materials.

6.4.2 Mass Media Communications

Media or mass media is a form of communication that can be used to reach a broad audience. Examples of media communications can include:

— public service announcements (PSAs);

— news media coverage;

— community and neighborhood newsletters;

— advertising (e.g., billboards, TV, radio, newspaper, digital);

— editorials and/or submitted articles;

— social media.

6.4.3 Personal Contact

Personal contact with stakeholder audiences can provide the opportunity for interaction and can be a highly effective communication method. This may be done on an individual basis or in a group setting. Examples of personal contact can include:

- face-to-face interaction;
- door-to-door contacts;
- meetings;
- open house events;
- facility tours;
- telephone calls;
- community events.

6.4.4 Liaison with Emergency Officials

Operators can liaise with appropriate emergency officials as part of their public awareness program. Liaison can be considered a delivery method for emergency officials and public officials. Some operators conduct liaison activities with emergency officials as part of their public awareness program, while other operators may elect to conduct liaison activities separately. If liaison activities are performed as part of an operator's public awareness program, liaison activities shall be included in the operator's written public awareness plan.

NOTE Federal regulation requires operators to liaise with emergency officials for emergency response planning. See 49 CFR 192.615(c) and 195.402(c)(12).

Examples of emergency official liaison activities can include:

- learning the responsibility and resources of each government organization that may respond to a pipeline emergency;
- acquainting the officials with the operator's ability to respond to a pipeline emergency;
- describing the types of pipeline emergencies and hazards to which emergency officials may be asked to respond;
- planning how the operator and officials can engage in mutual assistance to minimize hazards to life, public safety, the environment, and property.

Additional information that can be provided during liaison activities includes:

- availability of information from Emergency Response Plan(s);
- High Consequence Area (HCA) maps, where applicable;
- asset location(s) within jurisdiction;
- commodity types and associated Safety Data Sheet(s) (SDS), if requested;
- contact information, such as local operator personnel contacts and/or operator emergency response team(s);
- response strategy and capabilities.

6.4.4.1 Emergency Drills, Exercises, and Trainings

An 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. It provides an opportunity for each party to directly experience how the organizations will respond and cooperate in a pipeline emergency.

Operators may use emergency response drills, exercises, and trainings to liaise with emergency officials. Involving emergency officials in operator or joint emergency response drills, exercises, and training can be effective in promoting awareness, prevention, and response.-

6.4.5 Excavation Notification or Response

Operators may choose to deliver additional messages through One-Call or other excavation notification systems. Positive response notification or One-Call systems provide a platform for operators to deliver messages to stakeholder audiences.

6.4.6 Community Investments

Operator investment in the community may provide opportunities to convey public awareness safety messages.

Examples of opportunities to deliver public awareness safety messages can include:

- facilitating training for emergency response organizations;
- donations to emergency response organizations;
- sponsorship of community events;
- support of scholarships.

6.4.7 Digital Platforms

Targeted communication to stakeholder audiences may be conducted using digital content. Operators may consider the use of other emerging technologies.

Examples of digital delivery can include:

- text messaging;
- social media;
- apps;
- videos/recorded content;
- email;
- websites (see Section 5 for information which may be included on the public awareness portion of an operator's website);
- online training.

6.4.8 Pipeline Markers

Pipeline markers inform stakeholder audiences about the presence of a pipeline or pipelines, operator name, 24 hour contact number and commodity transported.

NOTE For more information on pipeline markers, see 49 CFR Parts 192 and 195 and API RP 1109.

6.5 Collaborative Programs

Collaborative programs can offer multiple pipeline operators a means of coordinating public awareness activities for common stakeholder audiences in a local, regional, or national setting. Collaborative programs can improve efficiency by providing consistency in messaging while optimizing stakeholder time and attention.

Operators utilizing collaborative programs for baseline communication shall confirm that the messages, frequencies, and delivery methods satisfy the objectives of their own public awareness programs, as well as the regulatory requirements for public awareness programs. Distribution operators can deliver baseline messages to non-customers through collaborative programs.

Collaborative programs may also be used to deliver supplemental messages.

Operators electing to participate in a collaborative program can include information specific to their pipeline system.

Examples of collaborative programs can include:

- drills and exercises;
- liaison with emergency officials;
- training programs;
- education programs;
- industry and trade organization efforts;
- one-call center outreach programs;
- mailings;
- mass media efforts;
- surveys and research;
- other public awareness initiatives.

6.5.1 Collaborative Messages

Operators using common messages may consider collaborative messaging opportunities because of the broad-based applicability to common stakeholder audiences.

Examples of collaborative messages can include:

- damage prevention;
- 811 and safe digging practices;
- leak recognition and response;
    - For collaborative programs with leak recognition and response messages, the commodity transported should have the same leak recognition characteristics and response among the operators delivering collaborative messages. Otherwise, operator specific messaging is required.
- other common public awareness messages.

7 Program Implementation and Supplements

Operators shall implement a baseline program that meets the minimum guidelines established in this RP. Operators may supplement their public awareness programs to support public awareness program objectives.

Program implementation and supplementation are the “Do” phase of an iterative four-step approach (PDCA) used to manage processes and programs.

7.1 Program Implementation

Program implementation refers to the actions that an operator takes to execute its written public awareness program (Section 4.2).

Program implementation will differ from operator to operator. Implementation activities should include:

- conducting baseline program activities as identified in the operator’s written public awareness program;
- identifying, planning, and conducting supplemental activities, if necessary;
- identifying necessary resources for program activities (e.g., internal & external resources, or consultants);
- documenting program activities.

See Annex E for a detailed checklist on program implementation elements.

7.2 Program Supplements

Supplements support public awareness program objectives (see Section 4.3) beyond the baseline program or provide an opportunity to implement innovative communication strategies or tactics, gain additional insights about stakeholder audiences, or simply expand distribution of a baseline or supplemental message. Special conditions, certain circumstances, and other factors may prompt additional communications or increased frequency of communications to stakeholders.

An operator shall determine if supplements are necessary to support their baseline public awareness program.

Supplements supporting the baseline public awareness program and the basis for their inclusion in the public awareness program should be documented.

If an operator implements supplements, the operator is not required to document the basis for the activity, unless it is to meet specific program objectives.

The operator should determine the specifics of each supplement. An operator can supplement its baseline program at any time.

Examples of factors an operator can review when supplementing a program:

- requests by emergency officials to provide additional communications.
- heightened public sensitivity to pipeline emergencies exist in the area, independent of cause or which operator was involved.
- after post-emergency review, or when there's potential for enhanced "liaison activities" between the operator and emergency officials that could have improved the emergency response to a pipeline emergency.
- high consequence areas (HCAs) (e.g., potential impact is greater for a specific area);
- population density (e.g., pipeline traverses either sparsely or densely populated areas);
- land development activity (e.g., developers perform frequent excavations near pipeline);
- agricultural activity (e.g., pipeline route traverses active farming areas);
- third-party damage incidents (e.g., operator data show damages or near misses have increased);
- environmental considerations (e.g., pipeline route traverses environmentally sensitive area);
- specific local situations (e.g., stakeholder interest in pipeline safety);
- regulatory actions (e.g., advisory bulletin, findings from inspection);
- results from previous public awareness program evaluations (e.g., survey results).

7.2.1 Program Supplements Options

Public awareness supplements can include:

- *Increased Frequency*—Providing communications to specific stakeholder audiences on a more frequent basis (shorter intervals) than the baseline public awareness program provisions.
- *Additional Message Content*—Providing additional messages to specific stakeholder audiences beyond the baseline messages, and/or tailoring messages to address specific audience needs.
- *Additional Delivery Method(s)*—Using different delivery methods (e.g., neighborhood meetings, door hangers, personal contact, etc.) to reach targeted stakeholder audiences.
- *Increased Coverage Area*—Broadening or widening the stakeholder audience coverage area.

8 Public Awareness Program Evaluation

An operator shall evaluate its Public Awareness Program by conducting an Annual Implementation Review and an Effectiveness Evaluation, which should be performed at least once every four years to determine whether program improvements are warranted.

An operator may perform additional evaluation activities. Operators that are members of collaborative programs or initiatives may also collaborate on assessing the effectiveness of programs or initiatives. Operators can include evaluations of collaborative programs in which they participate in their public awareness documentation and their Effectiveness Evaluations.

These evaluation activities are part of the “Check” phase of the iterative four-step PDCA approach used to manage processes and programs.

8.1 Annual Implementation Review

The Annual Implementation Review shall confirm that an operator’s Public Awareness Program was implemented.

The Annual Implementation Review can be conducted by operator personnel or by a third-party. Regulatory inspection documentation cannot be used as evidence of completion of an Annual Implementation Review.

Documentation of stakeholder audience contact lists and their provider (internal or external) should bebe provided as part of the Annual Implementation Review.

The results of the review should be documented and may provide an opportunity to determine if changes should be made to an operator’s public awareness program.

Annex C includes example Annual Implementation Review forms that can be used to document activities conducted as part of the review. Operators can use or modify any of these examples or create Annual Implementation Review forms that reflect their public awareness program(s).

8.2 Effectiveness Evaluation

An Effectiveness Evaluation is used to monitor the program’s performance since the last Effectiveness Evaluation.

The purpose of an Effectiveness Evaluation of a public awareness program is to periodically:

- analyze and assess whether the current program is effective in achieving the objectives as defined in Section 4.3;
- examine the program metrics for each stakeholder audience as described in Section 8.2.1;
- determine whether public awareness program changes are warranted based on an Operator’s determination of program effectiveness.

Determinants of public awareness program effectiveness can include, but are not limited to:

- Measurement outcomes
- Feedback from stakeholders
- Overall trends
- Case studies
- Implementation of lessons learned
- Demonstrated behavior

At least once every four years an operator shall conduct an Effectiveness Evaluation and document the results of the evaluation. An operator may elect to conduct the evaluation on a more frequent basis.

An Effectiveness Evaluation should follow a documented method for collecting, analyzing, and assessing data. An operator should use standardized survey questions found in Annex G for each stakeholder

group to collect data. The data collected should be analyzed to establish findings. Using these findings, the operator should assess whether the program is attaining its objectives or requires changes. If an operator decides to use questions other than those in Annex G, they should document those alternate questions and the reasons for deviating from Annex G.

Some questions in Annex G apply to multiple public awareness objectives.

To assist with evaluating outcomes over time should use the same approach each time outcomes are evaluated. Those operators using alternative questions should consider whether they want or intend to compare outcomes to peers as this could be more difficult if questions other than the standardized questions are used.

Operators should use the selected approach to measure the outcomes of outreach efforts. The data acquired will assist the Operator to perform an analysis and establish findings. Using these findings, the Operator assesses whether the program is attaining its overall goal, objectives and results or requires changes.

8.2.1 Program Awareness Effectiveness Evaluation Metrics

The Effectiveness Evaluation should assess the extent to which the program achieved its public awareness program objectives and should assess the following metrics for each stakeholder audience:

- reach (Section 8.2.1.1);
- recall (Section 8.2.1.2);
- message understanding (Section 8.2.1.3);
- behavioral intent (Section 8.2.1.4).
- Achieving Program Objectives (Section 8.2.1.5)

8.2.1.1 Stakeholder Reach

As part of the Effectiveness Evaluation, an operator should determine the estimated percent of each stakeholder audience reached with baseline messages.

The following are examples of methods an operator can use to assess stakeholder reach:

- total and unique visits to the public awareness portions of an operator's website;
- number of response cards sent and received by an operator;
- number of public officials, emergency officials/agencies who attend emergency response exercises or meetings;
- impression data for mass media and campaigns, which may be provided by the outlet;
- contact list validation;
- examples of feedback received from stakeholders;
- other deliverability results for specific outreach method selected (e.g., USPS data, return mail analysis, e-campaign soft and hard bounce rates, total/unique impressions, number of subscribers).

8.2.1.1.1 Evaluation of Stakeholder Contact List Accuracy

Evaluation of contact list accuracy may be performed by the operator or a third-party. An operator should evaluate their stakeholder contact lists used to implement their baseline public awareness program at least once every four years.

NOTE: Not all delivery methods require an operator to develop stakeholder audience contact lists that include contact information for stakeholder audiences. Mass media delivery methods do not require lists of stakeholder audiences.

8.2.1.2 Stakeholder Recall

As part of the Effectiveness Evaluation, an operator should determine the percent of applicable stakeholders who recall receiving information related to pipelines and pipeline safety.

The standardized questions in Annex G include questions regarding information recall.

8.2.1.3 Stakeholder Message Understanding

As part of the Effectiveness Evaluation, an operator should determine the percent of stakeholders who understand baseline messages.

8.2.1.4 Stakeholder Behavioral Intent

As part of the Effectiveness Evaluation, an operator should determine the percent of stakeholders who state that they intend to engage in desired behaviors related to baseline messages.

The standardized questions in Annex G include questions regarding behavioral intent. Assessing behavioral intent is different than assessing behavior change.

8.2.1.5 Achieving Program Objectives

As part of the Effectiveness Evaluation, an operator shall determine if the program is achieving program objectives (see Section 4.3).

Achieving program objectives related to prevention can be measured by:

- third-party excavation incidents that did or did not result in release;
- third-party excavation incidents per one-call notifications, pipeline mileage, or other normalizing factors;
- third-party near miss events from excavations with or without a valid one call notification;

NOTE There is at the time of this publication, no standard definition of near miss

- one-call data;
- evaluating root causes of damage;
- number stakeholder audience reports of encroachment;
- number stakeholder audience reports of damaged pipeline markers;
- number of stakeholder audience reports of suspicious activity.

Achieving program objectives related to response can be measured by:

- number of stakeholder audience reports of potential leaks or other possible damage;
- liaison meetings and participation;
- reviews conducted following third party excavation incidents;
    - A post incident review is a process to review the incident information from occurrence to closure. The output of the meeting is a report of potential findings detailing how the incident could have been handled better.
- number of stakeholder inquiries received by an operator.

8.2.2 Effectiveness Evaluation Data Collection

Operators should use quantitative research to collect data from each stakeholder audience. Quantitative research methods can include:

- online surveys;
- phone surveys;
- mail surveys;
- business reply card questionnaires;
- face-to-face surveys.

An operator should collect quantitative data from each stakeholder audience using the standardized core survey questions in Annex G. An operator should use either the exact question wording or the allowable edits referenced and question types as listed in Annex G. If an operator decides to use questions other than those in Annex G, they should document those alternate questions and the reasons for deviating from Annex G (see Section 8.2). Alternate questions should collect quantitative data from each stakeholder audience. Operators may include additional survey questions including, but not limited to, the survey questions listed in Annex H.

Operators should collect sufficient data from each stakeholder group to support the statistical validity of the data. Refer to Table 11 for guidance regarding data collection targets based on the size of each stakeholder group. Operators may work collaboratively to execute surveys to collect data.

8.2.2.1 Stakeholder Minimum Number of Responses

The size of an operator's stakeholder group determines the survey sampling methodology and data collection targets. An operator should determine and document the survey methodology to be used to evaluate the outreach effort for each stakeholder group.

The following guidelines presented in Table 11 are provided to help operators set data collection targets based on the total population size of each operator's stakeholder group and anticipated cooperation or response rates. Data in Table 11 is based on details provided from historic surveys collected by the industry since 2007 using a variety of data collection methods including web-based surveys, direct mail surveys (including Business Reply Card surveys), and phone surveys.

Operators can consult with internal or external market research or survey professionals if they have questions about how to best apply the guidelines below to their program or to validate that a specific data collection approach aligns with these guidelines.

8.2.2.2 Level of Precision

Confidence levels are important in validating the results of a survey. Lower levels of confidence in a survey may indicate that the survey is not reliable or reflective of a population's sentiment.

For operators using random samples, if the minimum number of responses does not meet the targets in Table 11, in future surveys, the operator should perform a census survey or develop a plan to improve the level of precision.

For operators using random samples, if the resulting margin of error does not meet the estimates noted in Table 11, the operator should develop and implement a plan to improve the level of precision.

Additional efforts may include sending out more surveys, changing the method of delivery or collecting the information in a different way.

The Margin of Error (MOE) is calculated according to the formula:

$$MOE = z * \sqrt{(p * (1 - p))} / \sqrt{((N - 1) * n / (N - n))}$$

Where: z = 1.96 for a confidence level (α) of 95 % OR z = 1.64 for a confidence level (α) of 90 %, p = proportion (expressed as a decimal), N = population size, n = sample size.

Table 11 – Data Collection Targets

Stakeholder Audience	Total Stakeholder Population [a]	Survey Sampling Approach	Minimum Targeted Number of Responses	Estimated Margin of Error
Affected Public	≥ 22,500	Random [d]	≥ 225	± 6.0 % at 95 % confidence level [b]
	< 22,500	Random [d]	≥ 225	± 6.0 % at 95 % confidence level [b]
		Census	< 225 due to limited size of population	Calculate [c]
Excavator	≥ 16,500	Random [d]	≥ 150	± 6.2 % at 90 % confidence level [b]
	< 16,500	Random [d]	≥ 150	± 6.2 % at 90 % confidence level [b]
		Census	< 150 due to limited size of population	Calculate [c]
Emergency Officials	≥ 8250	Random [d]	≥ 75	± 8.7 % at 90 % confidence level [b]
	< 8250	Random [d]	≥ 75	± 8.7 % at 90 % confidence level [b]
		Census	< 75 due to limited size of population	Calculate [c]
Public Officials	≥ 8250	Random [d]	≥ 75	± 8.7% at 90 % confidence level [b]
	< 8250	Random	≥ 75	± 8.7% at 90 % confidence level [b]
		Census	< 75 due to limited size of population	Calculate [c]

[a] Assumes the following for response rates: AP = 1.0 %; EX, EO, and PO = 0.9 %

[b] A 90 % Confidence Level is used to frame the margin of error for Excavators, Emergency Response Officials, and Local Public Officials given the more limited population size of these audiences.

[c] An estimated margin of error cannot be calculated because the number of completed surveys will be based on the operator's total stakeholder population size and will vary from operator to operator.

[d] Alternatively, operators may choose to use a census sampling approach if they desire to seek feedback from the entire stakeholder audience population.

8.2.3 Effectiveness Evaluation Data Analysis & Reporting

Operators should analyze the data collected for their public awareness programs, document the results of the analysis, and identify proposed program changes, if changes are warranted.

8.2.3.1 Effectiveness Evaluation Data Analysis

Operators should analyze and assess metrics related to their public awareness program, including results from core survey questions and operator-designated data and information (e.g. locate requests, incident reports, calls to an operator's emergency number). Operators should compare data to previous data collected.[1] An operator should interpret the data, determine trends, and highlight key findings. Limitations to the evaluation should be documented. Operators can choose to analyze their results by demographics or other segmented sub-groups (e.g., location, age, education level).

As operators are interpreting their data they may consider:

- unique characteristics of the operator (e.g., products transported, type of pipeline, coverage area, branding, etc.);
- specific public awareness activities the operator has engaged in;
- industry public awareness data;
- peer comparisons;
- methodological considerations (e.g., the manner with which the questions are customized, data coding, approach to coding unaided questions, data collection methodology, etc.).

8.2.3.2 Effectiveness Evaluation Documentation

The Effectiveness Evaluation shall document data collection, analysis, findings, and assessment. At a minimum, the documentation should include:

- the survey questionnaires used to collect data for each stakeholder audience;
- a summary of data collected using survey questions for each stakeholder audience;
- a summary of operational data used in the effectiveness evaluation;
- a summary of the findings and, if applicable, trends;
- a summary of effectiveness for each program objective for each stakeholder audience;
- a summary of proposed program changes (if warranted).

NOTE Public Awareness Program objectives can be found in Section 4.3

8.3 Other Effectiveness Evaluation Activities

Operators can conduct additional program effectiveness evaluation activities related to public awareness programs. Examples of these additional evaluation activities can include reviews of collaborative programs, qualitative assessments, operator-specific initiatives not described in this RP, or other public awareness activities.

8.4 Collaborative Effectiveness Evaluations

Collaborative effectiveness evaluations are where two or more operators pool resources to conduct effectiveness evaluations of the public awareness messaging to one or more stakeholder groups. Examples of where collaborative effectiveness evaluations may be used include:

[1] API

— Two or more operators collaborate to deliver common messages to one or more stakeholders using a collaborative program or,

— Two or more operators deliver common messages to one or more stakeholders but do not use a collaborative program.

8.4.1 Collaborative Effectiveness Evaluations of Collaborative Programs

Operators that collaborate to deliver messages to one or more stakeholders using identical delivery methods and frequencies may also collaborate on evaluating the effectiveness of the collaborative message delivery program. For these collaborative evaluations, the Total Stakeholder Size/Population is the sum of the stakeholder size/population of all participants in the collaborative messaging effort. It is not necessary that Data Collection Targets shown in Table 11 be achieved in each participant's Baseline Coverage Area. Survey data used to evaluate such a collaborative public awareness program must be applicable for evaluation of the common program but do not need to be segregated by operator because there is only one program. Operators should include a statement in their program as to why the methodology they use is appropriate.

8.4.2 Collaborative Effectiveness Evaluations of Different Programs

Operators that deliver messages to one or more stakeholders using different delivery methods and frequencies may also collaborate on evaluating the effectiveness of each participating operator's public awareness program. For these collaborative evaluations the Data Collection Targets shown in Table 11 should be achieved in each participant's Baseline Coverage Area. Survey data used to evaluate these separate public awareness programs conducted by different operators should be segregated to represent each individual operator's programs and audiences.

9 Documentation

9.1 General

Each operator shall collect and retain documentation of their public awareness program. These records should demonstrate that an operator's public awareness program was implemented as written. Documentation allows the program administrator to review the public awareness program and to demonstrate compliance with regulatory requirements.

The public awareness program documentation should include the written program elements listed in Section 4.2.

9.2 Documentation Records

Documentation records that an operator shall retain, if applicable, include:

— Stakeholder audience identification, which can include:
  - Methodology used to identify stakeholder audiences, which can include, but are not limited to:
    - Drive times
    - SIC Codes
    - Job titles
    - Parcel data
    - Internal documentation, which can include, but are not limited to:
      - Lease agreements
      - ROW line lists
  - Methodology used to identify coverage areas, which can include, but are not limited to:
    - Service areas for distribution pipeline networks
    - Identified baseline coverage areas (see Table 1)

        - Asset county or parish
        - GIS data
    - Process or method used to develop, maintain and evaluate accuracy of stakeholder audience contact or mailing lists
    - Stakeholder audience language analysis;
- Records of messages to stakeholder audiences
    - Baseline communication materials provided to each stakeholder audience
    - Supplemental communication materials provided to each stakeholder audience
- Records of delivery of messages to stakeholder audiences
    - for radio, TV and other mass media delivery methods, a record of how often and by what media the message was transmitted
    - impression data for mass media and campaigns, which may be provided by the outlet;
    - implementation dates;
    - postage receipts for direct mail campaigns;
    - open-rate and / or click-through rates for email campaigns;
    - Rationale used to select delivery methods (See Section 6.3)
- Supplements supporting the baseline public awareness program and the basis for their inclusion in the public awareness program should be documented.
    - If an operator implements supplements, the operator is not required to document the basis for the activity, unless it is to meet specific program objectives.
- Records supporting Measurement activities, which can include, but are not limited to:
    - Annual Implementation reviews (see Section 8.1)
    - Effectiveness evaluations (see Section 8.2)

9.3 Record Retention

The record retention period shall be a minimum of seven years, or as defined in the operator's public awareness program, whichever is longer.

10 Acquisitions

10.1 Following an acquisition, a review of the asset's public awareness program should be conducted. This review should be completed within 12 months of the acquisition unless the operator develops an implementation plan or transmission services agreement which justifies a later date.

10.2 Review items to be considered can include:

- program objectives (Section 4.3);
- program administration (Section 4.4);
- pipeline systems covered by the public awareness program (Section 4.5);
- a process for identifying stakeholder audiences (Section 4.6);
- baseline messaging, frequencies, and methods (Section 5 and Section 6);
- a process for identifying program supplements beyond the baseline program (Section 7.2);
- a process for program evaluation (Section 8);
- documentation requirements (Section 9).

10.3 In conducting the review of an acquired asset, an operator may:

- accept all or part of the prior operator's public awareness program, or
- temporarily accept all or part of the prior operator's public awareness program during a transition period pending internal review and risk assessment.

Annex A
(informative)

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Annex B
(informative)
Resources

B.1 Trade Associations

The major pipeline industry trade associations take an active role in sponsoring efforts to help operators meet public awareness objectives. 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 them. The trade associations also undertake specific efforts in public outreach, such as the following:

— printing of pipeline safety brochures that may 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 PSAs;

— participation in appropriate trade shows to inform excavators, regulators, legislators, and others.

For additional information on these efforts, contact the trade associations below directly.

American Gas Association (AGA)
www.aga.org
400 N. Capitol Street NW
Suite 450
Washington, DC 20001

American Petroleum Institute (API)
www.api.org
200 Massachusetts Avenue NW
Washington, DC 20001

American Public Gas Association (APGA)
www.apga.org
201 Massachusetts Avenue NE
Suite C-4
Washington, DC 20002

Association of Oil Pipe Lines (AOPL)
www.aopl.org
1808 Eye Street NW
Washington, DC 20006

Interstate Natural Gas Association of America (INGAA)
www.ingaa.org
20 F Street NW
Washington, DC 20001

B.2 Government Agencies

Some state agencies with regulatory authority for pipeline safety provide training and materials for public awareness programs or sponsor or conduct pipeline public awareness efforts. At the federal level, PHMSA is a source of relevant information.

U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration (PHMSA)

www.phmsa.dot.gov

National Association of Pipeline Safety Representatives (NAPSR)

www.napsr.org

The National Association of Pipeline Safety Representatives (NAPSR) is the national association representing State pipeline safety personnel in the contiguous United States as well as the District of Columbia and Puerto Rico. Through a partnership with the U.S. Department of Transportation, NAPSR members have oversight responsibilities for the safe and reliable transportation of natural gas and hazardous liquids through pipelines.

B.3 Private Organizations and Other Resources

B.3.1 Common Ground Alliance (CGA)

CGA (www.commongroundalliance.com) at 1421 Prince St., Suite 410, Alexandria, Virginia 22314, is a nationally recognized non-profit organization dedicated to shared responsibility in damage prevention. It promotes 811 (www.call811.com) and has created best practices for protection of underground facilities. CGA sponsorship and membership are open to all stakeholder organizations that want to support the CGA's damage prevention efforts. For information on the Damage Information Reporting Tool (DIRT), a web-based application for the collection and reporting of underground damage information, please visit www.cga-dirt.com.

B.3.2 Outside Consultants

Many outside consultants are available to support an operators' public awareness program. Direct-mail vendors may produce and distribute pipeline safety materials. They may help identify residents and other stakeholders, such as excavators along the pipeline route. Public relations firms are also available to assist operators in developing material specifically geared to the intended audience. Their expertise may help heighten the readability of public awareness materials and improve the operator's overall success in communicating the intended message. Research firms may be used to help operators measure the effectiveness of the programs.

B.3.3 Other Pipeline Operators

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

B.4 One-Call Centers

One-Call Centers promote public safety, protect underground facilities (including pipelines), and minimize service interruptions by processing locate requests and providing damage prevention awareness education. In the United States, all states and the District of Columbia have established One-Call Centers (some states may have multiple One-Call Centers). Some One-Call Centers develop public awareness information materials and gather information about excavation contractors. If available to the pipeline operator, this information may be useful to fulfill regulatory requirements. Some One-Call Centers also sponsor statewide excavation hazard awareness programs.

Annex C
(informative)

Examples: Annual Implementation Review

An internal self-assessment is one methodology to complete an annual evaluation of the program as described in Section 8 to assess program implementation. Any examples can be used by an operator as the basis for their annual review. They are intended to be customized by an operator to fit the particular objectives and needs of their public awareness program.

Example 1 – Annual Implementation Review

Operator Name: Click here to enter text.

DATE OF ASSESSMENT: enter date.

CONDUCTED BY: Click here to enter text.

PUBLIC AWARENESS PROGRAM YEAR ASSESSED: Click here to enter text.

A. PROGRAM DEVELOPMENT AND DOCUMENTATION

1. **What is the written Public Awareness Program effective date and revision number that was used for the currently assessed program year?**

Public Awareness Program	
Revision Number	**Effective Date**
	Click or tap to enter a date.

2. **Does the written program address the objectives in accordance with API RP 1162, Section 4.3? Provide a summary of how these objectives were achieved during the current assessment's program year.**

Included	Objective	Comments
☐	Enhance stakeholder audiences' awareness of the presence of pipelines in their communities and the hazards that pipelines may pose	
☐	Assist or help stakeholder audiences understand how to prevent pipeline emergencies	
☐	Assist or help stakeholder audiences understand how to respond to potential pipeline damage and/or a pipeline emergency	

3. **Does the operator have a plan that includes a schedule for an annual implementation review?**

Yes	No
☐	☐

4. **During the program year, have any significant organizational changes occurred or changes in personnel with Public Awareness Program responsibilities? If so, provide a summary of changes below.**

Yes	No
☐	☐

Click here to enter text.

5. **Since the last annual implementation review, was the written program updated to reflect any major pipeline system changes? If so, provide a summary of the major pipeline system changes.**

Yes	No
☐	☐

Click here to enter text.

6. **Does the written program identify and include roles and responsibilities of personnel administrating the Program?**

Yes	No
☐	☐

7. **Are personnel with public awareness program responsibilities aware of the required tasks necessary to implement the program? If so, how is this communicated?**

Yes	No
☐	☐

Click here to enter text.

8. **Does the operator use external consultants or third-party vendors to provide support for specific program implementation or overall program support? If so, list the external consultants or third-party vendors and the program components or outreach in which they provided support during the currently assessed program year.**

External Support Company	Type of Support Provided

9. **Was the public awareness program properly and adequately documented? Describe the process of how documentation is captured and where documentation is located.**

Yes	No
☐	☐

Click here to enter text.

10. **Was the written program reviewed and/or updated to reflect new processes or newly identified program components?**

Yes	No
☐	☐

B. PROGRAM IMPLEMENTATION ASSESSMENT

Stakeholder Identification

1. **Provide a summary of stakeholder audiences who received baseline or supplemental communication during the current assessment's program year and the identification criteria.**

Stakeholder Audience	Communication Buffer/Parameters	Identified Criteria (SIC codes, job function titles, parcel data, etc.)	Internal List Included	Type of Internal List Included (if applicable)
			☐	
			☐	
			☐	
			☐	
			☐	
			☐	

Message Frequency and Methods

TABLE C.1: MESSAGE FREQUENCY

Audience	Previous Outreach		Current Outreach		Comments (Include details regarding specific systems and/or states included during current assessment's program year)
	Planned	Date	Planned	Date	
Affected Public	☐		☐		
Emergency Officials	☐		☐		
Excavators	☐		☐		
Public Officials	☐		☐		
Other Click or tap here to enter text.	☐		☐		

TABLE C.2: COMMUNICATION METHODS

Summarize the communication methods used during the current assessment's program year.

Audience	Methods Used (See Section 6.2)	Rationale for Method(s) Used
Affected Public	•	
Public Officials	•	
Emergency Officials	•	
Excavators	•	

Message Content and Review

TABLE C.3: MESSAGE CONTENT REQUIREMENTS

Confirm the API RP 1162 required program messages that were communicated in accordance with the operator's written plan and schedule during the current assessment's program year. The messages in this table are required for all audience groups unless otherwise noted for a specific audience group or type of pipe operator.

Message Type	Affected Public	Emergency Officials	Excavators	Public Officials
	Completed during current program year	Completed during current program year	Completed during current program year	Completed during current program year
5.1.1 Obtaining Additional Information	☐	☐	☐	☐
5.1.2 Commodity Types Transported & Potential Hazards	☐	☐	☐	☐
5.1.3 Operator's Pipeline Safety Compliance Record	☐	☐	☐	☐
5.1.4 Pipeline Purpose and Reliability	☐	☐	☐	☐

Message Type	Affected Public	Emergency Officials	Excavators	Public Officials
	Completed during current program year	Completed during current program year	Completed during current program year	Completed during current program year
5.1.5 Sharing Pipeline Safety Information	☐	☐	☐	☐
5.1.6 ROW / Easement / Land-Use	☐	☐	☐	☐
5.2.1 Damage Prevention Importance	☐	☐	☐	☐
5.2.2 Damage Prevention Steps	☐	☐	☐	☐
5.2.3 Threats or Suspected Damage to a Pipeline	☐	☐	☐	☐
5.3.1 Priority to Protect Life	☐	☐	☐	☐
5.3.2 Emergency Response Plans	☐	☐	☐	☐
5.3.3 Emergency Drills and Exercises	☐	☐	☐	☐
5.3.4 Leak Recognition and Response	☐	☐	☐	☐
5.3.5 Special Emergency Response	☐	☐	☐	☐
5.4.1 Pipeline Markers	☐	☐	☐	☐
5.4.2 National Pipeline Mapping System (NPMS)	☐	☐	☐	☐
5.4.3 Pipeline Maps	☐	☐	☐	☐

1. **Was pre-testing conducted on any baseline materials for the current program year? If so, provide summary of pre-testing methodology, type of stakeholder materials tested and location of supporting documentation.**

Yes	No
☐	☐

Click here to enter text.

2. **Was a language assessment conducted prior to affected public outreach during this program year? If so, provide a summary of the language assessment results (e.g., areas/zip codes exceeding identified threshold within written program, languages identified, data sources used, location of results, etc.).**

Click here to enter text.

C. ASSESS THE NEED FOR PROGRAM SUPPLEMENTS

1. **Was an assessment conducted during the current assessment's program years to determine if the public awareness program for the next program year warrants change or supplement due to relevant factors along the operator's pipeline systems?**

Yes	No
☐	☐

2. **If an assessment of relevant factors was conducted, provide details regarding any identified triggers that warrants a program change or supplement and a description of the planned activity or strategy to be implemented during the next program year.**

Relevant Factor Category	**Description of Identified Trigger**	**Planned Program Supplement or Change** (describe outreach or strategy to be implemented)

D. REACH ASSESSMENT – LIST VALIDATION & DELIVERABILITY

The purpose of this section is to assess whether this year's implemented public awareness program effectively reached the targeted audiences based on the program goals as defined in the operator's written program and its objectives.

1. LIST VALIDATION

To assess whether the public awareness baseline messages are reaching its intended stakeholders, was a list validation/list completeness review conducted in an effort to obtain the most accurate and complete mailing addresses of the program's stakeholders? Was the identification method that was used, effective in identifying stakeholders? If a validation process was completed, identify the stakeholder audience and the process used.

Stakeholder Audience	List Validation Conducted	Date Conducted	Describe Process Used
Affected Public	☐		
Emergency Officials	☐		
Excavators	☐		
Public Officials	☐		
Other Click or tap here to enter text.	☐		

a. If a list validation/list completeness review was conducted, describe to results or findings of the assessment.

2. DELIVERABILITY

To assess the deliverability of program activities, use the tables below discuss outreach fluctuation and to estimate percent reached.

TABLE C.5: OUTREACH FLUCTUATION

Stakeholder Audience	Previous Year Outreach Total	Current Year Outreach Total	Fluctuation (% Change)	Rationale for Fluctuation

TABLE C.6: DELIVERABILITY ASSESSMENT – ESTIMATED PERCENT REACHED

Deliverability Assessment (Reach)				
Stakeholder Audience	**Deliverability Method**	**Quantity of Stakeholders Reached**	**Quantity of Stakeholders Not Reached**	**Estimated Percent Reach**

E. PROGRAM IMPLEMENTATION EFFECTIVENESS EVALUATION

Were program effectiveness efforts conducted to measure stakeholder message comprehension and knowledge, and behavioral intent during the current assessment's program year? If so, provide a high-level summary of the efforts completed and complete the table below.

Surveys Conducted to Measure Message Comprehension & Knowledge & Desired Behaviors					
Audience	*Mail Survey*	*Phone Survey*	*Date Completed*	*In-House or Industry Survey*	*Location of Documentation*

1. **Did the results of the previous year's program implementation assessment identify the need for program changes? If applicable, provide a summary of the program improvements and/or changes implemented during this program year.**

Description of Program Component/Activity/Process Change	Program Change	Program Supplement	Basis for Implementation
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	

2. **Were the results of the last public awareness program core effectiveness evaluation used to improve the program or determine supplemental program components for the current assessment's program year? If so, provide a summary of any recommendations or changes that were implemented during this program year in follow up to the last core effectiveness evaluation.**

Description of Program Component/Activity/Process Change	Program Change	Program Supplement	Basis for Implementation
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	

3. **Provide a summary of any other program or process improvements that were implemented during the current assessment's program year as a means of continuous improvement.**

Click here to enter text.

Example 2 – Annual Implementation Review

For Company: _____

Date of Assessment: _____ Assessment Conducted By: _____

What Period Does Assessment Cover? _____

I. *Program Development and Documentation*—Was the public awareness program developed and written to address these objectives, elements, and baseline schedule as described in Section 5 and Annex A of API RP 1162?

1) Does the operator have a written public awareness program?

Yes ☐ No ☐

2) Does the written program address all of the objectives of this RP as defined in 4.3 for Awareness (Section 4.3.1), Prevention (Section 4.3.2), and Response (Section 4.3.3)?

Yes ☐ No ☐

3) Does the documented program address regulatory requirements identified in Section 4 of API 1162 and other regulatory requirements that the operator must comply with?

Yes ☐ No ☐

4) Does the operator have a plan that includes a schedule for conducting program activities?

Yes ☐ No ☐

II. *Program Implementation*—Was the public awareness program implemented according to the written program?

1) Was the program updated to reflect significant organizational and or major pipeline system changes?

Yes ☐ No ☐

2) Does the program include a schedule for conducting program activities?

Yes ☐ No ☐

3) Were monetary budgets and the required resource(s) developed and identified?

Yes ☐ No ☐

4) Were the required tasks needed to implement the program identified and assigned to company employees and/or external consultants?

Yes ☐ No ☐

5) Were the required program activities conducted and completed (e.g., targeted distribution of print materials or personal contact)?

Yes ☐ No ☐

6) Was the program updated with newly identified activities?

Yes ☐ No ☐

Newly identified activities include:

III. *Measuring Program Effectiveness*—Was the public awareness program evaluated for effectiveness according to the written program?

1) Does the operator have documentation of the results of evaluating the program for effectiveness?

Yes ☐ No ☐

If Yes, provide date of program evaluation and attach supporting materials.

If No, provide anticipated date for measuring program effectiveness.

2) Are the results of the evaluation of program effectiveness being used to improve the program or determine if supplemental actions (e.g., revised messages, additional delivery methods, increased frequency) are needed in some locations?

Yes ☐ No ☐

If Yes, provide summary of program improvements and supplemental activities conducted during reporting cycle.

IV. *Program Documentation*—Has the public awareness program been documented according to the written program?

1) Was the public awareness program documented according to Section 9?

Yes ☐ No ☐

2) Is there a description of the roles and responsibilities of personnel administering the program?

Yes ☐ No ☐

3) Was the media and methods of communication used in the program identified including the basis for selecting the chosen media method?

Yes ☐ No ☐

4) Was the frequency and the basis for selecting that frequency for communicating with each of the targeted audiences documented?

Yes ☐ No ☐

5) Was the process for identifying program enhancements beyond the baseline program, including the basis for implementing such program supplements, documented?

Yes ☐ No ☐

6) Was the program evaluation process documented, 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?

Yes ☐ No ☐

7) Were the documents required in Section 9.2 retained for a minimum of seven (7) years?

Yes ☐ No ☐

Baseline Communication(s) Frequency from Section 6.1

Stakeholder Audience	Frequency	Date Last Completed	Date Due	Date Completed
Affected public				
Emergency officials				
Public officials				
Excavators				

Baseline Communication Method(s) from Section 6.2

	Affected Public	Emergency Officials	Public Officials	Excavators
Electronic communication	☐	☐	☐	☐
Mass media	☐			☐
Personal contact	☐	☐	☐	☐
Target distribution of print materials	☐	☐	☐	☐

Baseline Message Content Summary from Tables 5, 6, 7, and 8

	Affected Public	Emergency Officials	Public Officials	Excavators
Damage prevention	☐		☐	☐
Emergency preparedness communications		☐		
Leak/damage recognition and response	☐	☐	☐	☐

	Affected Public	Emergency Officials	Public Officials	Excavators
NPMS		☐	☐	
One Call requirements	☐		☐	☐
Pipeline location information	☐	☐	☐	☐
Potential hazards	☐	☐	☐	☐
ROW encroachment	☐		☐	

Supplemental Message Content Summary from Tables 5, 6, 7, and 8

	Affected Public	Emergency Officials	Excavators	Public Officials
Information and/or overview of operator's IMP	☐	☐	☐	☐
ROW encroachment prevention	☐	☐	☐	☐
If applicable, provide information about designation of HCA (or other factors unique to segment) and summary of integrity measures undertaken	☐	☐	☐	☐

_____ _____

Signature Date

Annex D
(informative)

Additional Information on Surveying

D.1 Type of Survey

Surveys may be conducted in person, over the phone, online, or via mail questionnaires. Online, mail and telephone surveys are usually more cost-effective. All survey vehicles have advantages and disadvantages.

D.2 Sample Size

Typically, a survey is designed to reach a random member 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 numbers for affected residents are 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 pipeline (to verify a sufficient number of the affected public is included in the survey). For conducting a survey in person, the operator may 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 pipeline. Mail surveys can be sent to all in a census tract, all in a zip code, or sub-zip code area. Third-party experts in conducting surveys may readily assist, at least for the first time a survey is attempted.

D.3 Statistical Confidence

There is typically concern about statistical reliability. Often this leads to needlessly expensive surveys when one only needs to know the approximate percentage of the target group that was reached and was knowledgeable.

In deciding sample size, the following simplification should be considered.

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, $1/\sqrt{100}$ or about 10 %.

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. Modest-size surveys may 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.

D.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 the questions the same over time so that trends may be evaluated. The questions may 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 may be used. A survey may focus on only one program element or several elements.

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 release from 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?”

Annex E
(informative)

Sample Public Awareness Program Checklists

The following example checklist is compiled from the written text of API 1162 and can be used by the operator as a guide in implementing its public awareness program. The checklist can be used at any phase. As an example, if an operators is designing a new brochure, the checklist can be used to double-check that required elements were included. This example checklist is by no means an all-inclusive list and is not intended to cover all possible public awareness activities.

Public Awareness Elements Checklist	
Define objectives Awareness Prevention Response	☐ ☐ ☐
Establish program administration Description of roles and responsibilities of personnel administering program Identify key personnel and titles	☐ ☐
Identify pipeline assets	☐
Identify Stakeholder audiences Affected public Emergency officials Public officials Excavators **Determine coverage area**	☐ ☐ ☐ ☐ ☐ ☐

Public Awareness Elements Checklist	
Determine baseline messages	
Transmission—Affected public	☐
Obtaining Additional Information	☐
Commodity Types Transported and Potential Hazards	☐
Operator's Pipeline Safety Compliance Record	☐
Damage Prevention Importance	☐
Damage Prevention Steps	☐
Threats or Suspected Damage to a Pipeline	☐
Priority to Protect Life	☐
Leak Recognition and Response	☐
Special Emergency Response	☐
Pipeline Markers	☐
National Pipeline Mapping System	☐
Transmission—Emergency officials	☐
Obtaining Additional Information	☐
Commodity Types Transported and Potential Hazards	☐
Sharing Pipeline Safety Information	☐
Threats or Suspected Damage to a Pipeline	☐
Priority to Protect Life	☐
Emergency Response Plans	☐
Emergency Drills and Exercises	☐
Leak Recognition and Response	☐
Special Emergency Response	☐
Pipeline Markers	☐
National Pipeline Mapping System	
Transmission—Public officials	☐
Obtaining Additional Information	☐
Commodity Types Transported and Potential Hazards	☐
Damage Prevention Importance	☐
Damage Prevention Steps	☐
Threats or Suspected Damage to a Pipeline	☐
Priority to Protect Life	☐
Leak Recognition and Response	☐
Special Emergency Response	☐
Pipeline Markers	☐
National Pipeline Mapping System	
Transmission—Excavators	☐
Obtaining Additional Information	☐
Commodity Types Transported and Potential Hazards	☐
Sharing Pipeline Safety Information	☐
Damage Prevention Importance	☐
Damage Prevention Steps	☐
Threats or Suspected Damage to a Pipeline	☐
Priority to Protect Life	☐
Leak Recognition and Response	☐
Pipeline Markers	☐

Public Awareness Elements Checklist	
Distribution—Affected public	
Obtaining Additional Information	☐
Commodity Types Transported and Potential Hazards	☐
Damage Prevention Importance	☐
Damage Prevention Steps	☐
Threats or Suspected Damage to a Pipeline	☐
Priority to Protect Life	☐
Leak Recognition and Response	☐
Special Emergency Response	☐
Distribution—Emergency officials	
Obtaining Additional Information	☐
Commodity Types Transported and Potential Hazards	☐
Sharing Pipeline Safety Information	☐
Threats or Suspected Damage to a Pipeline	☐
Priority to Protect Life	☐
Emergency Response Plans	☐
Emergency Drills and Exercises	☐
Leak Recognition and Response	☐
Special Emergency Response	☐
Distribution—Public officials	
Obtaining Additional Information	☐
Commodity Types Transported and Potential Hazards	☐
Damage Prevention Importance	☐
Damage Prevention Steps	☐
Threats or Suspected Damage to a Pipeline	☐
Priority to Protect Life	☐
Leak Recognition and Response	☐
Special Emergency Response	☐
Distribution—Excavators	
Obtaining Additional Information	☐
Commodity Types Transported and Potential Hazards	☐
Sharing Pipeline Safety Information	☐
Damage Prevention Importance	☐
Damage Prevention Steps	☐
Threats or Suspected Damage to a Pipeline	☐
Priority to Protect Life	☐
Leak Recognition and Response	☐

Public Awareness Elements Checklist	
Gathering—Affected public	
Obtaining Additional Information	☐
Commodity Types Transported and Potential Hazards	☐
Operator's Pipeline Safety Compliance Record	☐
Damage Prevention Importance	☐
Damage Prevention Steps	☐
Threats or Suspected Damage to a Pipeline	☐
Priority to Protect Life	☐
Leak Recognition and Response	☐
Special Emergency Response	☐
Gathering—Emergency officials	
Obtaining Additional Information	☐
Commodity Types Transported and Potential Hazards	☐
Sharing Pipeline Safety Information	☐
Threats or Suspected Damage to a Pipeline	☐
Priority to Protect Life	☐
Emergency Response Plans	☐
Leak Recognition and Response	☐
Special Emergency Response	☐
Gathering—Public officials	☐
Obtaining Additional Information	☐
Commodity Types Transported and Potential Hazards	
Damage Prevention Importance	☐
Damage Prevention Steps	☐
Threats or Suspected Damage to a Pipeline	☐
Priority to Protect Life	☐
Leak Recognition and Response	☐
Special Emergency Response	☐
Gathering—Excavators	☐
Obtaining Additional Information	☐
Commodity Types Transported and Potential Hazards	
Sharing Pipeline Safety Information	☐
Damage Prevention Importance	☐
Damage Prevention Steps	☐
Threats or Suspected Damage to a Pipeline	☐
Priority to Protect Life	☐
Leak Recognition and Response	☐
	☐
	☐
Determine baseline delivery frequency	
Transmission	
Affected public—Every 2 years, not to exceed 27 months	☐
Emergency officials—Each calendar year, not to exceed 15 months	☐
Public officials—Every 2 years, not to exceed 27 months	☐
Excavators— Each calendar year, not to exceed 15 months	☐

Public Awareness Elements Checklist	
Distribution	
Affected public	
LDC Customer—Twice annually within each calendar year, not to exceed 7.5 months	☐
Non-customer—Each calendar year, not to exceed 15 months	☐
Emergency officials—Each calendar year, not to exceed 15 months	☐
Public officials—Every 2 years, not to exceed 27 months	☐
Excavators— Each calendar year, not to exceed 15 months	☐
Gathering	
Affected public— Every 2 years, not to exceed 27 months	☐
Emergency officials—Each calendar year, not to exceed 15 months	☐
Public officials—Every 2 years, not to exceed 27 months	☐
Excavators— Each calendar year, not to exceed 15 months	☐
Determine baseline delivery method for each Stakeholder audience based on required frequency	
Affected public	☐
Emergency officials	☐
Public officials	☐
Excavators	☐
Implement the program	
Conduct baseline program activities as identified in the operator's written public awareness program	☐
Identify, plan and conduct supplemental activities indicated by available data	☐
Identify and request necessary resources (e.g., internal support or budget, external resources or consultants)	☐
Conduct communication activities on certain operational changes that may require affected stakeholder to recognize and respond differently	☐
Collect feedback from program stakeholders to evaluate program implementation or effectiveness	☐
Work with internal resources to secure documentation of program activities	☐
Perform program annual implementation reviews and effectiveness evaluation	
Annual Implementation Review	
Internal self-assessment, or	☐
Third-party assessment	☐
Evaluate stakeholder contact list accuracy	☐
Measure program effectiveness at least once every four years	
Reach	☐
Recall	☐
Message understanding	☐
Behavioral Intent	☐

Public Awareness Elements Checklist	
Collect and retain documentation	
Communication materials provided to each stakeholder audience (e.g., brochures, mailings, letters, digital communications, etc.)	☐
Lists, records, or other documentation of stakeholder audiences with whom the operator has communicated	☐
Implementation dates	☐
Postage receipts	☐
Program effectiveness evaluations and annual implementation reviews	☐
Stakeholder audience language analysis	☐
Supplements to the baseline program	☐

Annex F
Large Diameter Rural Gas Gathering Lines

(informative)

At the time of this publication, non-regulated Class I and II rural gas gathering lines in the United States of America are not required by federal regulation to have a public awareness program. Operators following API Recommended Practice 1182**,** *Construction, Operation, and Maintenance of Large Diameter Rural Gas Gathering Lines*, can refer to Annex F to see the provisions of this RP which apply to their systems**.**

The following Sections of this RP serve as guidance for these operators.

RP 1182 Section Requirements	RP 1162 Sections Users May Find Helpful	Comments
8.8 – Public Awareness for Type C Gathering Lines An operator of Type C gathering lines shall develop and implement a public awareness program to educate the affected public, emergency responders, public officials, and persons engaged in excavation-related activities, as appropriate, on the essential elements identified in Section 8.8.1 for these assets. Refer to API RP 1162 for further guidance on public awareness programs.	4.2 – Public Awareness Program Elements 4.5 – Pipeline Systems	Type C lines are not required to have a written program.
8.8.1 – Essential Elements: A public awareness program should include provisions that address the following topics:	6.4 – Collaborative Programs 6.4.1 – Collaborative Messages	
• Use of one-call notification system prior to excavation	5.3.2 – Damage Prevention Steps	
• Possible hazards associated with unintended releases of gas from a pipeline	5.2.2 – Commodity Types and Possible Hazards from Unintended Releases	
• Indications that a release of a gas from a pipeline may have occurred	5.4.4 – Leak Recognition and Response	

RP 1182 Section Requirements	RP 1162 Sections Users May Find Helpful	Comments
• Steps that can be taken to protect the public if gas is released from a pipeline	5.4.1 – Priority to Protect Life 5.4.2 – Emergency Response Plans 5.4.3 – Emergency Drills and Exercises 5.4.4 – Leak Recognition and Response 5.4.5 – Special Emergency Response	
• Procedures for reporting an unintentional release of gas from a pipeline	5.3.3 – Damage Reporting 5.3.4 – Threats or Suspected Damage to a Pipeline	
8.8.2 – Local Knowledge An operator may use local knowledge to identify the affected stakeholders covered in a public awareness program.	4.6 – Identify Stakeholder Audiences	Type C lines may establish their own methods for a minimum coverage area and contact list development.
	4.6.3 – Affected Public	Type C lines are not required to determine if languages other than English are required for their public awareness program.
	4.6.4 – Emergency Officials	
	4.6.5 – Public Officials	
	4.6.6 – Excavators	
8.8.3 – Operator Discretion An operator may exercise discretion in determining the appropriate means of educating affected stakeholders, given local conditions.	6.4 – Delivery Methods	

Annex G

Effectiveness Evaluation Questions

(informative)

This annex provides guidance to an operator on how to structure and deploy standardized survey questions to stakeholders and then collect and analyze stakeholder responses. Tables G.1 – G.4 list for each stakeholder audience the public awareness topics that should be measured, the question stems that should be used, the response categories that should be designed, and how the question should be formatted. Additionally, the tables provide operators with an understanding on how each question relates back to Program Objectives in Section 4.3. This will assist operators in performing the "check" phase of their public awareness program. The findings based on evaluation results can identify the areas for an operator to make improvements to the public awareness program.

The questions in the tables below were selected from historical survey questionnaires that were utilized by pipeline operators. In certain instances, the standardized survey question is structured to allow an operator to be more specific about an industry segment (i.e. distribution, gathering, or transmission) or the commodity transported (e.g. natural gas or crude). The permitted customization within the question does not change the intent of the question but allows an industry segment, coalition, or an operator to benchmark performance and build comparisons over time.

The standardized survey questions included in Annex G were based on leading measurement practices and developed to encourage standardization across the pipeline industry. If an operator decides to use questions other than those in this Annex, they should document those alternate questions and the reasons for deviating (see Section 8).

Examples of how an operator could compose customized questions and code responses are provided in the table footnotes. A question listed as "aided" provides exact responses from which the respondent will select an answer, while an "unaided" question offers the respondent the ability to provide an open-ended response. The list provided for unaided questions is intended to assist the operator to evaluate responses.

Table G.1 – Standardized Survey Questions: Affected Public

Question Number	Topic (Meas. Factor)	Question	Response Categories[2]	Unaided/Aided	Single/Multiple Response	Section 4 Objectives
	Pipeline Proximity Awareness (Message Understanding)	To the best of your knowledge are there currently [a descriptor pipeline] operating in your community [that transport descriptor product]?[3]	Yes/No/Don't Know	Aided		4.3.1 (Awareness)
		Examples of allowable edits and customized text that can be used: To the best of your knowledge are there currently natural gas pipelines in your community? To the best of your knowledge are there currently pipelines in your community that transport liquid petroleum gas? To the best of your knowledge are there currently pipelines in your community that transport highly volatile liquids (HVLs)? To the best of your knowledge are there currently crude oil pipelines in your community? To the best of your knowledge are there currently gas utility lines in your community?				
	Information Recall (Recall)	Within the past four years, do you recall	Yes/No/Don't Know	Aided		4.3.1 (Awareness)

[2]

[3] The following are examples of allowable edits and customized text that can be used for this question:
To the best of your knowledge are there currently natural gas pipelines in your community?
To the best of your knowledge are there currently pipelines in your community that transport liquid petroleum gas?
To the best of your knowledge are there currently pipelines in your community that transport highly volatile liquids (HVLs)?
To the best of your knowledge are there currently crude oil pipelines in your community?
To the best of your knowledge are there currently gas utility lines in your community?

		reading, seeing or hearing information from [a descriptor pipeline operator] related to [descriptor] pipelines and pipeline safety?[4]				
	Leak Recognition (Message Understanding)	From what you've read, seen or heard, what are the kinds of things that might tell you that [a descriptor pipeline] is leaking?[5]	• Smell (e.g., strong petroleum odor or rotten eggs) • Dead vegetation, • Noise (e.g., hissing or roaring sound) • Liquid on ground • Dirt being blown in the air • Fire or explosion • Dense white cloud or fog	Unaided		4.3.1 (Awareness)

[4] The following are examples of allowable edits and customized text *that can be used* for this question:
Within the past four years, do you recall reading, seeing or hearing information from a natural gas utility related to gas pipelines and pipeline safety?
Within the past four years, do you recall reading, seeing or hearing information from pipeline operators related to pipelines and pipeline safety?
Within the past four years, do you recall reading, seeing or hearing information from Company Y related to propane pipelines and pipeline safety?

[5] The following are examples of allowable edits and customized text that can be used for this question:
From what you've read, seen or heard, what are the kinds of things that might tell you that natural gas is leaking? Please provide as many responses as come to mind.
From what you've read, seen or heard, what are the kinds of things that might tell you that a crude pipeline is leaking? Please provide as many responses as come to mind.
From what you've read, seen or heard, what are the kinds of things that might tell you that an un-odorized gas pipeline is leaking? Please provide as many responses as come to mind.
From what you've read, seen or heard, what are the kinds of things that might tell you that a gas utility line is leaking? Please provide as many responses as come to mind.

		Please provide as many responses as come to mind.	• Sheen on water • Condition of the pipe (e.g., corrosion, cracks, rust) • Bubbling of water • Other • Don't Know			
	Damage Prevention (Behavioral Intent)	If you were planning on digging [on your property,] which of the following actions would you likely take to avoid damaging [a descriptor pipeline]?[6]	• Contact 811/the One-Call System • Contact the [descriptor] operator • Call 911/Emergency operator • Other • Do Nothing • Don't Know	Aided		4.3.2 (Prevention)
	Damage Prevention (Behavioral Intent)	If you were going to dig on your property, what number would you call, or website would you visit to have [descriptor pipelines]	List with 811/One-Call [or a specific One-Call name/number] as one of the options	Unaided		4.3.2 (Prevention)

From what you've read, seen or heard, what are the kinds of things that might tell you that a pipeline is leaking? Please provide as many responses as come to mind.

[6] The following are examples of allowable edits and customized text that can be used for this question:
If you were planning on digging, which of the following actions would you likely take to avoid damaging a pipeline?
If you were planning on digging on your property, which of the following actions would you likely take to avoid damaging a gas utility line?
If you were planning on digging, which of the following actions would you likely take to avoid damaging an underground pipeline or utility line.

		located and marked?[7]				
	Damage Prevention (Behavioral Intent)	How often would you say you contact 811 or the One-Call System to identify whether [a descriptor pipeline] exist before digging?[8] Would you say…	• Always • Usually • Sometimes • Rarely • Never • Don't know • N/A[9] – Don't dig on property	Aided		4.3.2 (Prevention)
	Hazard Awareness (Message Understanding)	To the best of your knowledge, what are the potential hazards associated with	• Sickness/Poisoning • Explosions • Fire/Flames • Injury/Death • Property Damage (e.g., to home, building, the surrounding area) • Water/Air/Environmental Contamination	Unaided		4.3.1 (Awareness) 4.1.3 (Response)

[7] The following are examples of allowable edits and customized text that can be used for this questions:
If you were going to dig on your property, what number would you call, or website would you visit to have natural gas lines located and marked?
If you were going to dig on your property, what number would you call, or website would you visit to have underground pipelines located and marked?
If you were going to dig on your property, what number would you call, or website would you visit to have pipelines located and marked?

[8] The following are examples of allowable edits and customized text that can be used for this question:
How often would you say you contact 811 or the One-Call System to identify whether buried natural gas pipelines exist before digging? Would you say…
How often would you say you contact 811 or the One-Call System to identify whether underground pipelines exist before digging? Would you say…
How often would you say you contact 811 or the One-Call System to identify whether underground utility lines exist before digging? Would you say…
How often would you say you contact 811 or the One-Call System to identify whether buried pipelines exist before digging? Would you say…

[9] When analyzing the results – the N/A results need to be recoded as missing (so as not to inappropriately impact the results)

		[a descriptor pipeline] leak?[10]	• Other • Don't Know			
	Leak Response (Behavioral Intent)	There are several things you could do if you suspected a [descriptor] leak in [a descriptor pipeline]. What is the FIRST thing you would do?[11] What else, if anything, would you do?	• Call 911/Emergency operator • Contact the pipeline operator • Contact 811/the One-Call System • Leave/flee the area immediately • Shelter in place • Other • Do Nothing/Nothing Else • Don't Know	Unaided		4.3.3 (Response)

[10] The following are examples of allowable edits and customized text that can be used for this question:
To the best of your knowledge, what are the potential hazards associated with a natural gas leak?
To the best of your knowledge, what are the potential hazards associated with a propane pipeline leak?
To the best of your knowledge, what are the potential hazards associated with a pipeline leak?
To the best of your knowledge, what are the potential hazards associated with a gas line leak?

[11] The following are examples of allowable edits and customized text that can be used for this question:
There are several things you could do if you suspected a leak in a gas line. What is the FIRST thing you would do? What else, if anything, would you do?
There are several things you could do if you suspected a natural gas leak. What is the FIRST thing you would do? What else, if anything, would you do?
There are several things you could do if you suspected a leak in a crude pipeline. What is the FIRST thing you would do? What else, if anything, would you do?
There are several things you could do if you suspected a transmission pipeline leak. What is the FIRST thing you would do? What else, if anything, would you do?

Table G.2 – Standardized Survey Questions: Emergency Officials

Question Number	Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided	Single/Multiple Response	Section 4 Objectives
	Pipeline Proximity Awareness (Message Understanding)	To the best of your knowledge are there currently [descriptor pipelines] in your community that transport [descriptor]?	Yes/No/Don't Know	Aided		4.3.1 (Awareness)
	Information Recall (Recall)	Within the past four years, do you recall reading, seeing or hearing information from [a descriptor pipeline operator] related to [descriptor] pipelines and pipeline safety?[12]	Yes/No/Don't Know	Aided		4.3.1 (Awareness)

[12] The following are examples of allowable edits and customized text that can be used for this question:
Within the past four years, do you recall reading, seeing or hearing information from the gas company related to natural gas pipelines and pipeline safety?
Within the past four years, do you recall reading, seeing or hearing information from pipeline operators related to pipelines and pipeline safety?
Within the past four years, do you recall reading, seeing or hearing information from Company Y related to natural gas transmission pipelines and pipeline safety?

Question Number	Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided	Single/Multiple Response	Section 4 Objectives
	Liaison Recall (Recall)	In the past four years, have you or anyone in your [department/agency] met or communicated with a [descriptor] representative [of a descriptor pipeline operator] to discuss pipeline safety and emergency response?[13]	Yes/No/Don't Know	Aided		4.3.1 (Awareness) 4.3.3 (Response)

[13] The following are examples of allowable edits and customized text that can be used for this question:
In the past four years, have you or anyone in your agency met or communicated with a representative of Company Y to discuss pipeline safety and emergency response?
In the past four years, have you or anyone in your agency met or communicated with a representative of the local gas company to discuss pipeline safety and emergency response?
In the past four years, have you or anyone in your agency met or communicated with a crude transmission pipeline representative to discuss pipeline safety and emergency response?
In the past four years, have you or anyone in your agency met or communicated with a propane transmission pipeline representative to discuss pipeline safety and emergency response?

Question Number	Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided	Single/Multiple Response	Section 4 Objectives
	Hazard Awareness (Message Understanding)	To the best of your knowledge, what are the potential hazards [a descriptor pipeline] leak poses to first responders and the community?[14]	• Sickness/Injury/Poisoning • Explosions • Fire/Flames • Death • Property Damage (e.g., to home, building, the surrounding area) • Water/Air/Environmental Contamination • Other • Don't Know	Unaided		4.3.1 (Awareness) 4.3.3 (Response)

[14] The following are examples of allowable edits and customized text that can be used for this question:
To the best of your knowledge, what are the potential hazards a natural gas leak poses to first responders and the community?
To the best of your knowledge, what are the potential hazards a pipeline leak poses to first responders and the community?
To the best of your knowledge, what are the potential hazards a crude pipeline leak poses to first responders and the community?
To the best of your knowledge, what are the potential hazards propane pipeline leak poses to first responders and the community?

Question Number	Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided	Single/Multiple Response	Section 4 Objectives
	Leak Response (Behavioral Intent)	When responding to a suspected [descriptor] leak [in a descriptor pipeline], there are several things first responders can do. What is the FIRST thing you and your [department/agency] would do when responding to a suspected [descriptor] leak?[15]	• Call 911/Emergency operator • Contact the pipeline operator • Contact 811/the One-Call System • Turn off equipment • Turn off valves and/or meters • Evacuate/secure the area/establish a perimeter • Eliminate ignition source(s) • Shelter in place • Position equipment upwind and uphill of the site of the incident • Avoid driving into or operating mechanical equipment near a vapor cloud • Protect people and property from exposure to fire • Provide first aid to injured • Other • Do Nothing/Nothing Else • Don't Know	Unaided		4.3.3 (Response)

[15] The following are examples of allowable edits and customized text that can be used for this question:
When responding to a suspected natural gas leak, there are several things first responders can do. What is the FIRST thing you and your department would do when responding to a suspected leak? What other response actions, if any, would your department do?
When responding to a suspected propane pipeline leak, there are several things first responders can do. What is the FIRST thing you and your department would do when responding to a suspected leak? What other response actions, if any, would your department do?
When responding to a suspected gas utility leak, there are several things first responders can do. What is the FIRST thing you and your department would do when responding to a suspected gas leak? What other response actions, if any, would your department do?

Question Number	Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided	Single/Multiple Response	Section 4 Objectives
	Leak Response (Behavioral Intent)	What other response actions, if any, would your [department/agency] do?	• Call 911/Emergency operator • Contact the pipeline operator • Contact 811/the One-Call System • Turn off equipment • Turn off valves and/or meters • Evacuate/secure the area/establish a perimeter • Eliminate ignition source(s) • Shelter in place • Position equipment upwind and uphill of the site of the incident • Avoid driving into or operating mechanical equipment near a vapor cloud • Protect people and property from exposure to fire • Provide first aid to injured • Other • Do Nothing/Nothing Else • Don't Know	Unaided		4.3.3 (Response)

Question Number	Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided	Single/Multiple Response	Section 4 Objectives
	Information Sharing (Behavioral Intent)	In general, do you share with employees or co-workers the information you receive [from descriptor pipeline operators] regarding pipeline safety, public awareness, and one-call requirements?[16]	Yes/No/Don't Know	Aided		4.3.1 (Awareness) 4.3.3 (Response)
	Identifiers[17]	Please describe the primary responsibilities of your organization or agency?[18] Which of the following best describes your organization or agency?[19]	• Fire Service Agency or Fire Department • Law Enforcement Agency • 911 or a Public Safety Access Point (PSAP) • Emergency Management or Planning • Other	Flexibility to Ask Either Aided or Unaided		N/A

[16] The following are examples of allowable edits and customized text that can be used for this question:
In general, do you share with employees or co-workers the information you receive from your gas utility company regarding pipeline safety, public awareness, and one-call requirements?
In general, do you share with employees or co-workers the information you receive from pipeline companies regarding pipeline safety, public awareness, and one-call requirements?
In general, do you share with employees or co-workers the information you receive from liquids pipeline companies regarding pipeline safety, public awareness, and one-call requirements?

[17] Operators should select one of the two questions presented based on their preference for aided or unaided questions.

[18] Question wording for unaided version of this question.

[19] Question wording for aided version of this question.

Table G.3 – Standardized Survey Questions: Excavators

Question Number	Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided Flag	Single/Mul Response
	Information Recall (Recall)	Within the past four years, do you recall reading, seeing or hearing information from [a descriptor pipeline operator] related to [descriptor] pipelines and pipeline safety?[20]	Yes/No/Don't Know	Aided	
	Leak Recognition (Message Understanding)	From what you've read, seen or heard, what are the kinds of things that might tell you that [a descriptor pipeline] is leaking? Please provide as many responses as come to mind.[21]	• Smell (e.g., strong petroleum odor or rotten eggs) • Dead vegetation • Noise (e.g., hissing or roaring sound) • Liquid on ground • Dirt being blown in the air • Fire or explosion • Dense white cloud or fog • Sheen on water • Condition of the pipe (e.g., corrosion, cracks, rust) • Bubbling of water • Other • Don't Know	Unaided	

[20] The following are examples of allowable edits and customized text that can be used for this question:
Within the past four years, do you recall reading, seeing or hearing information from pipeline operators related to pipelines and pipeline safety?
Within the past four years, do you recall reading, seeing or hearing information from ABC Pipeline Company related to pipelines and pipeline safety?
Within the past four years, do you recall reading, seeing or hearing information from a gas utility related to natural gas pipelines and pipeline safety?

[21] The following are examples of allowable edits and customized text that can be used for this question:
From what you've read, seen or heard, what are the kinds of things that might tell you that a crude oil pipeline is leaking? Please provide as many

Question Number	Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided Flag	Single/Mul Response
	Damage Prevention (Behavioral Intent)	What are all the precautions you or your company take to avoid damaging [a descriptor pipeline]? Please consider precautions that may be taken before, during and after an excavation project.[22]	• Contact 811/the One-Call System • Call 911/Emergency operator • Contact the pipeline operator • Hand dig first • Physical inspection • Look for marked pipelines or pipeline markers • Wait for lines to be marked before digging • Hydro excavating • Pothole/dig test holes/spot check for lines/use a spotter • Use maps/NPMS • Leave matting over excavation site • Proper backfill • Do Nothing • Other • Don't Know	Unaided	

responses as come to mind.
From what you've read, seen or heard, what are the kinds of things that might tell you that natural gas is leaking? Please provide as many responses as come to mind.
From what you've read, seen or heard, what are the kinds of things that might tell you that a pipeline is leaking? Please provide as many responses as come to mind.

[22] The following are examples of allowable edits and customized text that can be used for this question:
What are all the precautions you or your company take to avoid damaging pipelines and underground utilities. Please consider precautions that may be taken before, during and after an excavation project.
What are all the precautions you or your company take to avoid damaging a gas line? Please consider precautions that may be taken before, during and after an excavation project.
What are all the precautions you or your company take to avoid damaging underground infrastructure? Please consider precautions that may be taken before, during and after an excavation project.

Question Number	Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided Flag	Single/Mul Response
	Damage Prevention (Behavioral Intent)	How often would you say your company contacts 811 or the One-Call System before digging?[23] Would you say…[24]	• Always • Usually • Sometimes • Rarely • Never • Don't know	Aided	
	Hazard Awareness (Message Understanding)	To the best of your knowledge, what are the potential hazards associated with [a descriptor pipeline] leak?[25]	• Injury/Poisoning/Sickness • Explosions • Fire/Flames • Death • Property Damage (e.g., to home, building, the surrounding area) • Water/Air/Environmental Contamination • Other • Don't Know	Unaided	

[23] The following are examples of allowable edits and customized text that can be used for this question:
How often would you say your company contacts 811 or the One-Call System to identify whether gas lines exists in a work area before digging? Would you say…
How often would you say your company contacts 811 or the One-Call System to identify whether a pipeline exists in a work area before digging? Would you say…
How often would you say your company contacts 811 or the One-Call System to identify whether pipelines or underground utility lines exists in a work area before digging? Would you say…

[24] "Would you say…" man be omitted for written surveys or online surveys.

[25] The following are examples of allowable edits and customized text that can be used for this question:
To the best of your knowledge, what are the potential hazards associated with a gas leak?
To the best of your knowledge, what are the potential hazards associated with a crude oil pipeline leak?
To the best of your knowledge, what are the potential hazards associated with a pipeline leak?

Question Number	Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided Flag	Single/Mul Response
	Leak Response (Behavioral Intent)	There are several things you could do if you suspected a [descriptor] leak in [a descriptor pipeline]. What is the FIRST thing you would do?	• Call 911/Emergency operator • Contact the pipeline operator • Contact 811/the One-Call System • Leave/flee the area immediately • Turn off equipment • Turn off valves and/or meters • Evacuate/secure the area • Eliminate ignition source(s) • Shelter in place • Contact supervisor • Other • Do nothing/Nothing Else • Don't Know	Unaided	
	Leak Response (Behavioral Intent)	What else, if anything, would you do?[27]	• Call 911/Emergency operator • Contact the pipeline operator • Contact 811/the One-Call System • Leave/flee the area immediately • Turn off equipment • Turn off valves and/or meters • Evacuate/secure the area • Eliminate ignition source(s) • Shelter in place • Contact supervisor • Other • Do nothing/Nothing Else • Don't Know	Unaided	

[27] The following are examples of allowable edits and customized text that can be used for this question:
There are several things you could do if you suspected a leak in a pipeline. What is the FIRST thing you would do? What else, if anything, would you do?
There are several things you could do if you suspected a natural gas leak in a gas line. What is the FIRST thing you would do? What else, if anything, would you do?
There are several things you could do if you suspected a natural gas leak. What is the FIRST thing you would do? What else, if anything, would you do?

Table G.4 – Standardized Survey Questions: Public Officials

Question Number	Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided Flag	Single/Multiple Response	Section 4 Ob
	Pipeline Proximity Awareness (Message Understanding)	To the best of your knowledge are there currently [descriptor pipelines] in your community that transport [descriptor]?[28]	Yes/No/Don't Know	Aided		4.3.1 (Awareness)
	Information Recall (Recall)	Within the past four years, do you recall reading, seeing or hearing information from [a descriptor pipeline] related to [descriptor] pipelines and pipeline safety?[29]	Yes/No/Don't Know	Aided		4.3.1 (Awareness)

[28] The following are examples of allowable edits and customized text that can be used for this question:
To the best of your knowledge are there currently utility lines in your community that transport natural gas?
To the best of your knowledge are there currently pipelines in your community that transport energy products?
To the best of your knowledge are there currently pipelines in your community that transport propane?

[29] The following are examples of allowable edits and customized text that can be used for this question:
Within the past four years, do you recall reading, seeing or hearing information from your gas utility company related to natural gas pipelines and pipeline safety?
Within the past four years, do you recall reading, seeing or hearing information from pipeline companies related to pipelines and pipeline safety?

Question Number	Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided Flag	Single/Multiple Response	Section 4 Ob
	Operator Contact Information (Message Understanding)	If you needed to find out how to contact the [the descriptor pipeline operators] in your community, how would you do that?[30]	• NPMS/PIMMA • Contact emergency management/LEPC • 911/Emergency operator • 811/One-call center • PHMSA/State Regulators • Contact local government (e.g., mayor's office, city administrator, etc.) • Refer to pipeline markers • Internet search • Telephone search (e.g., 411) • I already know this information • Other • Don't Know	Unaided		4.3.1 (Awareness)

[30] The following are examples of allowable edits and customized text that can be used for this question:
If you needed to find out how to contact the natural gas utility company in your community, how would you do that?
If you needed to find out how to contact pipeline operators in your community, how would you do that?

Question Number	Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided Flag	Single/Multiple Response	Section 4 Ob
	Damage Prevention (Behavioral Intent)	[If your agency has direct oversight or influence on excavation activities,] What are all the precautions your agency, department or your hired contractors take to avoid damaging [a descriptor pipeline]? Please consider precautions that may be taken before, during and after an excavation project.[32]	• Contact 811/the One-Call System • Call 911/Emergency operator • Contact the pipeline operator • Hand dig first • Physical inspection • Look for marked pipelines or pipeline markers • Wait for lines to be marked before digging • Pothole/dig test holes/spot check for lines/use a spotter • Use maps/NPMS • Leave matting over excavation site • Proper backfill • Do Nothing • Other • Don't Know	Unaided		4.3.2 (Prevention)

[32] The following are examples of allowable edits and customized text that can be used for this question:
What are all the precautions your agency, department or your hired contractors take to avoid damaging natural gas utility lines? Please consider precautions that may be taken before, during and after an excavation project.
What are all the precautions your agency, department or your hired contractors take to avoid damaging underground pipelines and utility lines? Please consider precautions that may be taken before, during and after an excavation project.

Question Number	Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided Flag	Single/Multiple Response	Section 4 Ob
	Hazard Awareness (Message Understanding)	To the best of your knowledge, what are the potential hazards [a descriptor pipeline] leak poses to the community?[33]	• Injury/Poisoning/Sickness • Explosions • Fire/Flames • Death • Property Damage (e.g., to home, building, the surrounding area) • Water/Air/Environmental Contamination • Traffic disruption • Other • Don't Know	Unaided		4.3.1 (Awareness)
	Information Sharing (Behavioral Intent)	In general, do you share with employees or co-workers the information you receive from [descriptor pipeline operators] regarding pipeline safety or one-call requirements?[34]	Yes/No/Don't Know	Aided		4.3.1 (Awareness) 4.3.2 (Prevention) 4.3.3 (Response)

[33] The following are examples of allowable edits and customized text that can be used for this question:
To the best of your knowledge, what are the potential hazards a natural gas leak poses to the community?
To the best of your knowledge, what are the potential hazards a crude pipeline leak poses to the community?
To the best of your knowledge, what are the potential hazards a propane pipeline leak poses to the community?

[34] The following are examples of allowable edits and customized text that can be used for this question:
In general, do you share with employees or co-workers the information you receive from your local gas utility company regarding pipeline safety, public awareness and one-call requirements?
In general, do you share with employees or co-workers the information you receive from pipeline operators regarding pipeline safety, public awareness and one-call requirements?

Question Number	Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided Flag	Single/Multiple Response	Section 4 Ob
	Identifiers	Please describe the primary responsibilities of your organization or agency?[37] OR Which of the following best describes your organization or agency?[38]	— Planning & zoning boards — Licensing, planning & permitting departments — Building code enforcement departments — City and county managers — Public utility boards — Local governing councils — Military officials[1] — Tribal leaders — Departments of Transportation — Municipal government official — Other, please specify	Flexibility to Ask Either Aided or Unaided		

[37] Question wording for unaided version of this question.

[38] Question wording for aided version of this question.

Annex H

Supplemental Questions

(informative)

The questions presented in this annex are not required to be asked of stakeholder audiences and are provided for informative purposes only. They are examples of supplemental questions that some operators have asked, but may not reflect all operators public awareness programs or objectives, and are provided for guidance only. Operators are free to edit, amend, or alter these questions and response categories, as well as if they are asked aided or unaided as they see fit. While it is recommended that the screener questions are asked prior to others, no specific question order is intended.

A question listed as “aided” provides exact responses from which the respondent will select an answer, while an “unaided” question offers the respondent the ability to provide an open-ended response. The list provided for unaided questions is intended to assist the operator to evaluate responses.

Not all of these questions have specified objectives as they are supplemental and may be collected to improve the program as a whole rather than meet one of the three objectives described in Section 4.3.

Table H.1 – Supplemental Survey Questions: Affected Public

Topic (Meas. Factor)	Question	Response Categories	Unaided / Aided Flag	Section 4 Objectives
Information Recall	Specifically, how did you receive this safety information from the [descriptor pipeline] operator, or operators [about pipelines and pipeline safety]?[39]	• Written material (e.g., mailing, brochure, flyer, door hanger, etc.) • Face-to-face meeting with an operator representative (e.g., in-person meeting, open house, etc.) • Telephone call • Email • The Internet • Social media (e.g., Facebook, Twitter, etc.) • Text message • Radio • TV • Newspaper ad or article • Posted signs or other information near a pipeline • Word of mouth • Other • Don't Know	Flexibility to Ask Either Aided or Unaided	4.3.1 (Awareness)

[39] Asked only to those who recall receiving safety information

Topic (Meas. Factor)	Question	Response Categories	Unaided / Aided Flag	Section 4 Objectives
Information Recall	If a [descriptor] operator were to communicate with you in the future about [descriptor pipeline] safety, what method(s) would you prefer they use?	• Written material (e.g., mailing, brochure, flyer, door hanger, etc.) • Face-to-face meeting with an operator representative (e.g., in-person meeting, open house, etc.) • Telephone call • Email • The Internet • Social media (e.g., Facebook, Twitter, etc.) • Text message • Radio • TV • Newspaper ad or article • Posted signs or other information near a pipeline • Word of mouth • Other • Don't Know	Flexibility to Ask Either Aided or Unaided	4.3.1 (Awareness)
Information Recall	On a Scale of 1 – 5 where 1 is Very Informed and 5 is Not at all Informed, how informed or uninformed would you say you are regarding [descriptor pipelines] in your neighborhood or surrounding area?	• 1 = Very Informed • 2 = informed • 3 = neither informed nor uninformed • 4 = uninformed • 5 = Very uninformed	Aided	4.3.1 (Awareness) 4.3.2 (Prevention) 4.3.3 (Response)

Topic (Meas. Factor)	Question	Response Categories	Unaided / Aided Flag	Section 4 Objectives
Damage Prevention	[40]Why don't you always contact 811 or the One-Call System to see if [a descriptor pipeline] exists, and where it is located, prior to digging? [Please provide as many responses as come to mind.]	• Didn't know where to get the information • It wasn't necessary • Not a legal requirement in your state • Didn't think about it • Takes too much time • You can tell where the pipeline is on your own • Done previously – don't need to do it again • It's your property – you can decide when to check • Other (please specify) • Don't Know	Flexibility to Ask Either Aided or Unaided	4.3.2 (Prevention)
Leak Response	On a scale from 1 to 5 where 1 is Extremely Confident and 5 is Not at All Confident, how confident are you that you know what measures to take for your safety in the event of a [descriptor] leak?	• 1 = Extremely Confident • 2 • 3 = Neither Confident nor Not at All Confident • 4 • 5 = Not at All Confident	Aided	4.3.3 (Response)
Leak Response	On a scale from 1 to 5 where 1 is Extremely Confident and 5 is Not at All Confident, how confident are you that you will take measures for your safety in the event of a [descriptor] leak?	• 1 = Extremely Confident • 2 = • 3 = Neither Confident nor Not at All Confident • 4 • 5 = Not at All Confident	Aided	4.3.3 (Response)

[40] Only asked to Affected Public who do not always contact 811/One-Call before digging

Topic (Meas. Factor)	Question	Response Categories	Unaided / Aided Flag	Section 4 Objectives
Trust	How strongly do you agree with each of the following statements? I feel very confident about [descriptor] ability to keep me safe. AND/OR [Descriptor] can accomplish what it says it will do regarding pipeline public safety. AND/OR Sound principles seem to guide [descriptor] behavior regarding pipeline public safety. AND/OR Whenever [descriptor] make important decisions about pipeline safety I know they will be concerned about people like me.	• Strongly Agree • Somewhat Agree • Neither Agree nor Disagree • Somewhat Disagree • Strongly Disagree • Don't Know	Aided	4.3.2 (Prevention)

Table H.2 – Supplemental Survey Questions: Emergency Officials

Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided Flag	Section 4 Objectives
Information Recall	How informed or uninformed would you say you are regarding [descriptor pipelines] in your community?	• 1 = very informed • 2 = informed • 3 = neither informed nor uninformed • 4 = uninformed • 5 = very uninformed	Aided	4.3.1 (Awareness) 4.3.2 (Prevention) 4.3.3 (Response)
Information Recall	If you needed to find information on the commodity type(s) that are transported through [descriptor pipelines] in your area, how would you do that?	• NPMS/PIMMA • Contact the pipeline operators • Contact emergency management/LEPC • PHMSA/State Regulators • 911/Emergency operator • Refer to pipeline markers • N/A – I already know this information • Other • Don't Know	Unaided	4.3.1 (Awareness)
Information Recall	What commodity type(s) are transported through [descriptor pipelines] in your area?	• Natural gas • Crude oil • Refined products (e.g., gasoline, jet fuel, fuel oil) • Highly volatile liquids (e.g., propane) • CO_2 • Chemicals • Other • Don't Know	Unaided	4.3.1 (Awareness) 4.3.3 (Response)

Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided Flag	Section 4 Objectives
Leak Recognition	From what you've read, seen or heard, what are the kinds of things that might tell you that [a descriptor pipeline] is leaking? Please provide as many responses as come to mind.	• Smell (e.g., strong petroleum odor or rotten eggs) • Dead vegetation • Noise (e.g., hissing or roaring sound) • Liquid on ground • Dirt being blown in the air • Fire or explosion • Dense white cloud or fog • Sheen on water • Condition of the pipe (e.g., corrosion, cracks, rust) • Bubbling of water • Other • Don't Know	Unaided	4.3.1 (Awareness) 4.3.3 (Response)
Leak Response	On a scale from 1 to 5 where 1 is Extremely Confident and 5 is Not at All Confident, if a [descriptor] pipeline emergency occurred in your community, how confident do you feel about your [department/ agency's] ability to respond successfully?	• 1 = Extremely Confident • 2 • 3 = Neither Confident nor Not at All Confident • 4 • 5 = Not at All Confident	Aided	4.3.3 (Response)

Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided Flag	Section 4 Objectives
Leak Response	What information that [descriptor pipeline] operators are not currently providing; do you feel your [department/agency] needs that would help in the event of a pipeline emergency? [Would you say you need…]	• Maps • Emergency Response Plans • Emergency Procedures • Training • Excavation Procedures • Encroachment Guidelines • Response Capabilities • Contact Information • Location of Pipeline • Depth of Pipeline • Commodity type Information • Nothing else needed • Other • Don't Know	Flexibility to Ask Either Aided or Unaided	4.3.3 (Response)
Leak Response	Does your [department/ agency] have an emergency response plan or standard operating procedure for responding to a [descriptor] pipeline emergency?	Yes/No/Don't Know	Aided	4.3.3 (Response)
Leak Response	Has someone in your [department/agency] conducted and/or participated in any pipeline emergency-related training, such as drills or exercises?	Yes/No/Don't Know	Aided	4.3.3 (Response)

Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided Flag	Section 4 Objectives
Liaison	In which of the following ways do [descriptor pipeline] operators in your jurisdiction liaise with your [department/agency]? [Descriptor] pipeline operators…	• Keep us informed regarding pipelines in our community and joint emergency response. • Provide an opportunity for our agency to share information, concerns, ideas and feedback regarding pipelines in our community and joint emergency response. • Provide an opportunity for our agency to influence joint emergency response. • Provide an opportunity for our agency to work collaboratively to develop plans for joint emergency response. • There has been no or limited liaison on pipelines and emergency response. • Don't know	Aided	4.3.3 (Response)

Table H.3 – Supplemental Survey Questions: Excavators

Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided Flag	Section 4 Objectives
Near Miss & Incidents (Behavioral Intent)	In the past year, how many times, if any, has your company been involved in a pipeline incident that resulted in damage to [a descriptor pipeline]?	Accept any whole number starting with 0 (and have ability to code Don't Know)	Unaided	4.3.2 (Prevention)
Pipeline Proximity Awareness	To the best of your knowledge are there currently [descriptor pipelines] operating in your community that transport [descriptor]?	Yes/No/Don't Know	Aided	4.3.1 (Awareness)
Information Recall	Specifically, how did you receive this safety information from the [descriptor] operator, or operators [about pipelines and pipeline safety]?	• Written material (e.g., mailing, brochure, flyer, door hanger, etc.) • Face-to-face meeting with a operator representative (e.g., in-person meeting, open house, etc.) • Telephone call • Email • The Internet • Social media (e.g., Facebook, Twitter, etc.) • Text message • Radio • TV • Newspaper ad or article • Posted signs or other information near a pipeline • Word of mouth • Other • Don't Know	Flexibility to Ask Either Aided or Unaided	4.3.1 (Awareness)

Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided Flag	Section 4 Objectives
Information Recall	If a [descriptor] operator was to communicate with you in the future about [descriptor pipeline] safety, what method(s) would you prefer they use?	• Written material (e.g., mailing, brochure, flyer, door hanger, etc.) • Face-to-face meeting with a operator representative (e.g., in-person meeting, open house, etc.) • Telephone call • Email • The Internet • Social media (e.g., Facebook, Twitter, etc.) • Text message • Radio • TV • Newspaper ad or article • Posted signs or other information near a pipeline • Word of mouth • Other • Don't Know	Flexibility to Ask Either Aided or Unaided	4.3.1 (Awareness)
Damage Prevention	Why doesn't your company always contact 811 or the One-Call System to see if [a descriptor pipeline] exists, and where it is located, before digging?[44]	• Didn't know where to get the information • Not necessary • Not a legal requirement in my state • Didn't think about it • Takes too much time • We can tell where pipeline is on our own • Done previously – don't need to do it again • No pipeline in the area • We don't do any digging • Other • Don't know	Aided	4.3.2 (Prevention)

[44] Only asked to Excavators who do not always contact 811/One-Call before digging

Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided Flag	Section 4 Objectives
Damage Prevention	On a scale from 1 to 5 where 1 is Extremely Confident and 5 is Not at All Confident, how confident are you in your organization's ability to read and dig safely near temporary markings for underground [descriptor] lines?	• 1 = Extremely Confident • 2 • 3 = Neither Confident nor Not at All Confident • 4 • 5 = Not at All Confident	Aided	4.3.1 (Awareness) 4.3.2 (Prevention)
Information Sharing	In general, do you share with employees or co-workers the information you receive from [descriptor pipeline] operators regarding pipeline safety, public awareness and One-Call requirements?	Yes/No/Don't Know	Unaided	4.3.1 (Awareness) 4.3.2 (Prevention) 4.3.3 (Response)
Near Miss & Incidents	For the purpose of this question, a near miss is defined as "discovering the [descriptor pipeline] while doing excavation work without actually touching it or causing damage". In the past year, how many times has your company experienced a near miss with a pipeline while digging?	Accept any whole number starting with 0 (and have ability to code Don't Know)	Unaided	4.3.2 (Prevention)
Identifiers	Approximately how many people are currently employed at your company?	Accept any whole number starting with 0 (and have ability to code Don't Know)	Unaided	

Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided Flag	Section 4 Objectives
Identifiers	How would you best describe your business or line of work?	• Excavator • General Contractor • Specialized Contractor • Builder/Developer • Other • Don't Know	Unaided	
Identifiers	What is your job title?		Unaided	

Table H.4 – Supplemental Survey Questions: Public Officials

Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided Flag	Section 4 Objectives
Information Recall (Behavioral Intent)	In the past [timeframe], have you or anyone in your [department/agency] met or communicated with any representative of [a descriptor pipeline] operator to discuss pipeline safety and emergency response?	Yes/No/Don't Know	Aided	4.3.1 (Awareness) 4.3.2 (Prevention) 4.3.3 (Response)
Information Recall	How informed or uninformed would you say you are regarding [descriptor pipelines] in your community?	• 1 = Very Informed • 2 = Informed • 3 = neither informed nor uninformed • 4 = Uninformed • 5 = Very uninformed	Aided	4.3.1 (Awareness) 4.3.2 (Prevention) 4.3.3 (Response)
Information Recall	What commodity type(s) are transported through [descriptor pipelines] in your area?	• Natural gas • Crude oil • Refined products (e.g., gasoline, jet fuel, fuel oil) • Highly volatile liquids (e.g., propane) • CO_2 • Chemicals • Other • Don't Know	Unaided	4.3.1 (Awareness) 4.3.2 (Prevention) 4.3.3 (Response)
Damage Prevention	How familiar are you with either the 811 number, that is the toll-free national "Call before you dig" telephone number, or the One-Call System in your area? Would you say…	• 1 = Very familiar • 2 = familiar • 3 = neither familiar nor unfamilar • 4 = unfamilar • 5 = Very unfamilar	Aided	4.3.2 (Prevention)

Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided Flag	Section 4 Objectives
Damage Prevention	Are you aware of any preventive measures that [descriptor pipeline] operators take in order to maintain safe operations? If so, which ones?	• Aerial and ground patrols • Pipeline corrosion prevention measures • Pipeline emergency response exercises • Pipeline inspections and maintenance • Pipeline monitoring • Pressure testing • Public awareness programs • Other • Not aware of any prevention measures • Don't know	Unaided	4.3.2 (Prevention)
Leak Recognition	From what you've read, seen or heard, what are the kinds of things that might tell you that [a descriptor pipeline] is leaking? Please provide as many responses as come to mind.	• Smell (e.g., strong petroleum odor or rotten eggs) • Dead vegetation, • Noise (e.g., hissing or roaring sound) • Liquid on ground • Dirt being blown in the air • Fire or explosion • Dense white cloud or fog • Sheen on water • Condition of the pipe (e.g., corrosion, cracks, rust) • Bubbling of water • Other • Don't Know	Unaided	4.3.1 (Awareness) 4.3.3 (Response)

Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided Flag	Section 4 Objectives
Leak Response	On a scale from 1 to 5 where 1 is Extremely Confident and 5 is Not at All Confident, if a [descriptor] pipeline emergency occurred in your community, how confident do you feel about your department agency's ability to respond successfully?	• 1 = Extremely Confident • 2 • 3 = Neither Confident nor Not at All Confident • 4 • 5 = Not at All Confident	Aided	4.3.3 (Response)
Leak Response	There are several things you and your organization could do if you suspected a leak in [a descriptor pipeline], what is the FIRST thing you would do? What else, if anything, would you do?	• Call 911/Emergency operator • Contact the pipeline operator • Contact 811/the One-Call System • Leave the area immediately • Turn off equipment • Turn off valves and/or meters • Evacuate/secure the area • Eliminate ignition source(s) • Shelter in place • Other • Do nothing/Nothing Else • Don't Know	Unaided	4.3.3 (Response)
Leak Response	What information that [descriptor pipeline] operators are not currently providing; do you feel your [department/agency] needs that would help in the event of a pipeline emergency? [Would you say you need…]	• Maps • Emergency Response Plans • Emergency Procedures • Training • Excavation Procedures • Encroachment Guidelines • Response Capabilities • Contact Information • Location of Pipeline • Depth of Pipeline • Commodity type Information • Nothing else needed • Don't Know	Flexibility to Ask Either Aided or Unaided	4.3.3 (Response)

Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided Flag	Section 4 Objectives
Trust	How strongly do you agree with each of the following statements I feel very confident about [descriptor] ability to keep me safe. AND/OR [Descriptor] can accomplish what it says it will do regarding pipeline public safety. AND/OR Sound principles seem to guide [descriptor] behavior regarding pipeline public safety. AND/OR Whenever [descriptor] make important decisions about pipeline safety I know they will be concerned about people like me.	• Strongly Agree • Somewhat Agree • Neither Agree nor Disagree • Somewhat Disagree • Strongly Disagree • Don't Know	Aided	4.3.2 (Prevention)
Identifiers	How long have you been in your current role?	Allow for years in whole numbers with an option for 'Don't Know'	Unaided	

Topic (Meas. Factor)	Question	Response Categories	Unaided/ Aided Flag	Section 4 Objectives
Screener	To make sure I am speaking with the right person let me first ask this: Are you or is anyone in your office or department involved in reviewing plans, providing input, approving or overseeing any of the following? a. The siting or location of new hazardous liquid or natural gas pipelines b. Residential, commercial, or industrial developments c. Reviewing, approving or maintaining any streets, roads, or highways in your area d. Identifying or inspecting hazardous liquid or natural gas pipelines or related facilities	Yes/No/Don't Know	Unaided	

Annex I

Examples of List Validation Activities

(informative)

Bibliography

[1] API Recommended Practice 1109, *Marking Liquid Petroleum Pipeline Facilities*

[2] AGA GPTC Z380.1[45], *Guide for Gas Transmission and Distribution Piping Systems*

[3] 49 CFR 192 [46], *Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards*

[4] 49 CFR 195, *Transportation of Hazardous Liquids by Pipeline*

[5] *Hazards Associated with Striking Underground Gas Lines* [47], www.osha.gov/dts/shib/shib_05_21_03_sugl.pdf.

[6] API Recommended Practice 1182, *Construction, Operation, and Maintenance of Large Diameter Rural Gas Gathering Lines*

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