Development of Public Awareness Programs by Hazardous Liquid Pipeline Operators

API RECOMMENDED PRACTICE 1123
SECOND EDITION, AUGUST 1996

STEP
Strategies for Today's Environmental Partnership

American Petroleum Institute

One of the most significant long-term trends affecting the future vitality of the petroleum industry is the public's concerns about the environment. Recognizing this trend, API member companies have developed a positive, forward looking strategy called STEP: Strategies for Today's Environmental Partnership. This program aims to address public concerns by improving our industry's environmental, health and safety performance; documenting performance improvements; and communicating them to the public. The foundation of STEP is the API Environmental Mission and Guiding Environmental Principles.

API ENVIRONMENTAL MISSION AND GUIDING ENVIRONMENTAL PRINCIPLES

The members of the American Petroleum Institute are dedicated to continuous efforts to improve the compatibility of our operations with the environment while economically developing energy resources and supplying high quality products and services to consumers. The members recognize the importance of efficiently meeting society's needs and our responsibility to work with the public, the government, and others to develop and to use natural resources in an environmentally sound manner while protecting the health and safety of our employees and the public. To meet these responsibilities, API members pledge to manage our businesses according to these principles:

- To recognize and to respond to community concerns about our raw materials, products and operations.
- To operate our plants and facilities, and to handle our raw materials and products in a manner that protects the environment, and the safety and health of our employees and the public.
- To make safety, health and environmental considerations a priority in our planning, and our development of new products and processes.
- To advise promptly, appropriate officials, employees, customers and the public of information on significant industry-related safety, health and environmental hazards, and to recommend protective measures.
- To counsel customers, transporters and others in the safe use, transportation, and disposal of our raw materials, products, and waste materials.
- To economically develop and produce natural resources and to conserve those resources by using energy efficiently.
- To extend knowledge by conducting or supporting research on the safety, health, and environmental effects of our raw materials, products, processes, and waste materials.
- To commit to reduce overall emission and waste generation.
- To work with others to resolve problems created by handling and disposal of hazardous substances from our operations.
- To participate with government and others in creating responsible laws, regulations, and standards to safeguard the community, workplace, and environment.
- To promote these principles and practices by sharing experiences and offering assistance to others who produce, handle, use, transport, or dispose of similar raw materials, petroleum products and wastes.

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Manufacturing, Distribution, and Marketing Department

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FOREWORD

This recommended practice provides guidelines that will help operators of hazardous liquid pipelines to develop and enhance their public awareness programs. These guidelines will also help to establish consistency among the public awareness programs throughout the industry.

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Development of Public Awareness Programs by Hazardous Liquid Pipeline Operators

SECTION 1—INTRODUCTION AND SCOPE

1.1 INTRODUCTION

This recommended practice provides guidelines that will help operators of hazardous liquid pipelines to develop and enhance their public awareness programs. These guidelines will also help to establish consistency among the public awareness programs throughout the industry.

Educating the public about pipeline safety is vital to the safe operation of a hazardous liquid pipeline. Operators have a responsibility to prevent excavation damage, and provide the public with enough information so that each member of the public knows how to protect himself or herself themselves and knows who to notify in case of an emergency. Public awareness programs should address the needs of the public and be flexible enough to change as the public's demand for information changes.

1.2 SCOPE

The guidelines presented in this recommended practice neither impose mandatory standards upon operators of hazardous liquid pipelines nor require operators to replace their public awareness programs. The guidelines are intended as a resource that can assist operators in their public awareness efforts and operators are urged to select the most appropriate mix of guidelines depending on the needs of any given pipeline segment.

The guidelines in this recommended practice apply only to intrastate and interstate hazardous liquid pipelines, as regulated by DOT 49 *Code of Federal Regulations* (*CFR*) Parts 194 and 195. Operators should be aware that some state regulations for intrastate pipelines may be more stringent than the federal requirements. These guidelines are not intended to apply to facilities, such as gas pipelines, that are outside the intended scope of this recommended practice.

1.3 REFERENCED PUBLICATIONS

The most recent editions of the following standards, codes, and specifications are cited in this recommended practice.

API

RP 9000	(STEP) *Management Practices, Self Assessment Process and Resource Materials*
RP 1109	*Recommended Practice for Marking Liquid Petroleum Pipeline Facilities*

DOT[1]

Research and Special Programs Administration, 49 *CFR* Parts 192, 194, and 195

Note: Each operator is obligated to establish its own public education program according to the regulations in 49 *CFR* Part 195. Please consult Parts 194 and 195.

1.4 OTHER PUBLICATIONS

API, Western States Petroleum Association, *Quiet Steel: Our Energy Lifeline*, videotape and brochure.

SECTION 2—PROGRAM DEVELOPMENT

2.1 OBJECTIVES

The primary objective of a public awareness program on hazardous liquid pipelines is to create an informed public that knows the steps that should be taken to prevent and respond to pipeline incidents. These steps are to protect life, property and the environment, and to promptly notify pipeline operators and emergency response officials. A reduced occurrence of pipeline accidents caused by third party damage is another important objective. These goals, along with others identified by operators, are the foundation on which a public awareness program on hazardous liquid pipelines is built.

2.2 REGULATORY COMPLIANCE

Operators are required to "establish a continuing educational program to enable the public, appropriate government organizations, and persons engaged in excavation related activities to recognize a hazardous liquid pipeline emergency or a carbon dioxide emergency and to report it to the operator or the fire, police, or other appropriate public officials" (49 *CFR* Part 195.440). The program is to be "conducted in English and in other languages commonly understood by a significant number and concentration of

[1] U.S. Department of Transportation, available at the U.S. Government Printing Office, Washington, D.C. 20402.

non-English speaking population in the operator's operating areas" (49 *CFR* Part 195.440).

In addition, operators are responsible for "establishing and maintaining liaison with fire, police, and other appropriate public officials" (49 *CFR* Part 195.402(c)(12)) and for "coordinating with them preplanned and actual responses during an emergency" (49 *CFR* Part 195.402(e)(7)). Operators are also required to carry out "a written program to prevent damage to pipelines by excavation activities" (49 *CFR* Part 195.442(a)).

2.3 RESOURCES

In addition to operator personnel, various resources are available to assist operators of hazardous liquid pipelines in developing their public awareness programs. Using these resources can often shorten development time and reduce the cost of implementation. Some of these resources are described in Sections 2.3.1 through 2.3.6.

2.3.1 API

API takes an active role in sponsoring various efforts that help operators meet public awareness objectives. Some of the efforts are as follows:

a. Development and sponsorship of television and radio public service announcements (PSA).
b. Development of a joint API/Western States Petroleum Association pipeline video entitled *Quiet Steel: Our Energy Lifeline* and its accompanying brochure.
c. Printing of the pipeline safety brochures which can be customized for the operator.
d. Participate in appropriate trade shows to educate excavators.
e. Development and distribution of pipeline safety decals and materials.
f. Development of a video and brochure to aid in education of public officials in pipeline emergency response.
g. Distribution of a periodic newsletter that provides additional guidance and information to operators on issues related to public awareness programs. A listing of these materials can be obtained by contacting the American Petroleum Institute or by referring to API's latest publications catalog.
h. Issuance of news releases.

2.3.2 State Agencies

Although the pipeline industry is the primary sponsor of public awareness programs on pipeline safety, some state agencies with regulatory authority for pipeline safety can provide training and materials.

2.3.3 One–Call Centers

All states, except Hawaii, have established one-call systems, and some states may have two or more one-call systems. One-call centers may develop informational materials and are able to gather extensive information about excavation contractors. This information will be useful to pipeline operators to fulfill requirements of 49 *CFR* Part 195.442 (Damage Prevention Programs). One-call systems may also sponsor statewide excavation hazard awareness programs.

2.3.4 Outside Consultants

Many direct-mail contractors are capable of producing pipeline safety materials and providing distribution services. These contractors can assist operators in identifying residents along the pipeline route and special-interest groups, such as excavators, and can distribute the material. Public relations firms are also available to assist operators.

2.3.5 Other Pipeline Companies

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

2.3.6 Employee Participation

As members of communities and community service organizations, informed employees of a pipeline operator can play an important role in promoting pipeline awareness. An operator should include in its public awareness program provisions for familiarizing its employees with its public awareness objectives. Information and material used by the operator should be made available to employees who wish to promote pipeline awareness in their communities.

2.4 PROGRAM SUPPORT

Funding requirements for an operator's public awareness program development and implementation will vary according to the program's design and scope. Resource allocation to specific areas may differ within the same program to provide the optimum benefits dependent on a pipeline segment's risk. Cooperative efforts with state or federal agencies, one-call centers or other operators will improve the cost/benefit of an operator's public awareness program.

Building support for the program within all levels of the organization will also be necessary. Full organizational support can make a marked difference in the way the public awareness program is received and can even determine if the program will ultimately succeed.

SECTION 3—AUDIENCE SELECTION

3.1 SELECTING AN AUDIENCE

When a public awareness program on pipelines is being developed, one of the initial tasks is to identify the audience that should receive the program's public safety message. The message should be directed at the audience that would benefit the most from receiving information on pipelines. The primary audience consists of the individuals and groups that are or could be exposed to the pipeline, and it can be organized into three main categories: the public living and/or working near the pipeline, government agencies and emergency response representatives, and excavators. A secondary audience could be the general public either traveling or involved in recreational activities near a pipeline right-of-way.

3.2 THE PUBLIC

The public includes the individuals, groups, and companies near the pipeline that are likely to be affected in the event of a pipeline emergency. Some of these are as follows:

a. Residents or businesses on or adjacent to the pipeline rights-of-way.
b. Utility companies.
c. Homeowner organizations and neighborhood associations.
d. Other pipeline companies within the area.
e. Organizations such as schools, churches, park and recreation centers along the pipeline route.

3.3 GOVERNMENT AGENCIES AND EMERGENCY RESPONSE REPRESENTATIVES

Government agencies includes the agencies and departments obliged to respond to emergency situations and those in a unique position to assist the operator in preventing hazardous situations. Some of these agencies and departments are as follows:

a. Federal, state, county, and city governments.
b. Local fire, police, and sheriff departments.
c. Hazardous materials response teams and/or state environmental agencies.
d. Emergency management agencies and local/area emergency planning committees.
e. Zoning boards.
f. Planning commissions.
g. Bureau of Land Management.
h. Highway departments.

3.4 EXCAVATORS

Excavators includes contractors and associations that, due to the nature of their business, are likely to excavate in areas of pipeline routing. Operators could use a variety of methods to identify excavators, but one of the best means is to obtain lists of excavators available through state one-call systems.

SECTION 4—AUDIENCE COVERAGE

4.1 AUDIENCE

Once the audience has been identified, it is necessary to determine the extent and frequency of coverage for the selected audience groups.

4.2 THE PUBLIC

The operator generally determines the extent of coverage of the public by specifying a geographic area near the pipeline facility. The extent of coverage can vary among operators and pipeline segment; for example, 1/8-mile coverage on both sides of a pipeline is common. An operator may want to consider extending coverage for pipelines carrying highly volatile liquids (HVL) to include elevation gradients.

Distance plays an important role in determining which members of the public should be included in the audience coverage. As the distance from the pipeline facility increases, the public's potential exposure level generally decreases. It eventually decreases to the point that extending coverage to some members of the public is of diminishing benefit.

People living near a pipeline facility benefit from knowing how to prevent, recognize and report an emergency; this knowledge helps them to protect themselves, their property, and the environment. When a pipeline operator establishes a long-term relationship with these people, both benefit.

4.3 GOVERNMENT AGENCIES

Generally, coverage of government agencies extends to the persons or agencies that exercise influence or control over a pipeline route or property or are likely to respond to pipeline emergencies. Operators may also want to combine the liaison contacts and emergency response training as part of their response plans for onshore oil pipelines (49 *CFR* Part 194) and their public official liaison programs (49 *CFR* Part 195).

4.4 EXCAVATORS

Pipeline operators may need to identify excavators that could work near their pipeline. As it is common for some excavating contractors to do business in a wide geographic

area, an operator may need to use a variety of methods to assist in educating excavators.

Using the Standard Industrial Classification (SIC) codes is an effective way to identify excavating contractors. Another way to identify excavators is through one-call systems listings or mailing lists. Regional or statewide efforts may be more cost-effective if coordinated through a central organization such as a one-call system. Members might encourage their one-call system to provide or improve this service.

SECTION 5—MESSAGE CONTENT

The following is a list of primary messages that may be suitable for various audiences. An operator will have to select the optimum combination of frequency and message mode that meets the needs of the audience. Information materials may also include general information about the pipeline operator, pipeline operations, the safety record of pipelines and other information that an operator deems appropriate. The basic message to be conveyed in an operator's public awareness program should provide enough information so that in the event of a pipeline emergency, the intended audience will know how to identify a potential hazard, protect itself and others, and how to notify emergency response personnel. Some of the components of the message are discussed in Sections 5.1 through 5.9.

5.1 PIPELINE MARKERS

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

5.2 LEAK RECOGNITION

Information should be provided on how to recognize a pipeline leak through the senses of sight, sound, and smell.

5.3 RESPONSE ACTION

Materials should include instructions, outlining the appropriate action to be taken once a pipeline leak or release is suspected or discovered. These include immediate evacuation of the area, avoiding ignition sources, warning others nearby of the potential danger, and consequences downhill and downwind from the release site.

5.4 EMERGENCY CONTACTS

Information should be available on how to contact the appropriate local emergency response agencies. For example, the instructions should explain how to contact the police and the fire departments, use of the 911 system and how to contact the pipeline operator through the 24-hour toll-free or call-collect emergency phone numbers. Explaining about calling priorities may also be appropriate. Operators with pipeline segments in areas where English is not the primary language may want to explore options for receiving or translating emergency calls.

5.5 PRIORITY TO PROTECT LIFE

Information should reinforce that personal safety is always more important than protection of property.

5.6 ONE-CALL INFORMATION

The audience should be reminded to call the local one-call system in their area before they begin any excavation activity. Third-party damage is still the leading cause of pipeline accidents. Federal regulation encourages the use of one-call systems, and most states have penalties for failure to use established one-call procedures.

5.7 PIPELINE LOCATION

In addition to using one-call systems, the audience should know how to search the surrounding area (especially the area's road crossings, fence lines, and street intersections) for pipeline markers and how to call the pipeline operator, if an emergency is suspected or discovered. They should also be reminded that pipeline markers do not indicate the exact location or depth of the pipeline.

5.8 EXCAVATION DAMAGE

The audience should be reminded that even minor activity (for example, installing privacy fences and flag poles, performing landscaping, and constructing storage buildings) requiring excavation can cause damage to a pipeline or its protective coating. It is important that the operator be notified of any suspected signs of damage.

5.9 ENCROACHMENTS

The importance of keeping the pipeline rights-of-way free from unauthorized encroachments should be stressed. Keeping the rights-of-way free reduces the chance of excavation damage and ensures ready access for routine maintenance, testing, and emergency response activity. Instructions on how to identify pipeline easements and their boundaries might also be provided. Consideration might also be given to encouraging the audience to report excavation activity near known pipeline rights-of-way in some areas.

SECTION 6—COMMUNICATIONS MEDIA AND DISTRIBUTION METHODS

6.1 SELECTION

This section will guide operators in the selection of media and distribution methods appropriate for conveying public awareness messages.

6.2 PIPELINE WARNING SIGNS

Pipeline marker posts and warning signs are used by operators to identify the general location of a pipeline. The criteria for the format, placement, and maintenance of these marker posts and signs are found in API Recommended Practice 1109.

6.3 PERSONAL CONTACT

Many operators personally contact landowners, excavators and emergency response personnel. These visits may be appropriate for certain pipeline segments and can be particularly effective in communicating specific information about pipeline operation and safety, whether conducted individually or in groups. As this form of communication can be extremely effective, the resources required and receptiveness of the audience needs to be evaluated. Participation with local or area emergency committees or emergency response exercises conducted under 49 *CFR* Part 194 (or general emergency preparedness programs) is also an excellent means of personal contact.

6.4 BROCHURES

Brochures, whether customized or developed by industry groups, can effectively communicate long and complex messages and can present photos and other illustrations. Operators that lack the internal expertise necessary for writing, designing, and producing brochures can hire consultants, advertising design houses, or public relations agencies that help to produce brochures. API makes several brochures available to operators, including some that can be customized with the operator's name and other unique information.

Some operators prefer to use their own internal mailing lists when they mail their brochures to members of the public, such as easement holders and tenants. Others find it convenient to hire direct-mail contractors to handle the distribution of their brochures. These direct-mail contractors can develop mailing lists that consist of addresses of people living near the pipeline rights-of-way.

6.5 LETTERS

Letters can be an effective means of meeting public awareness requirements, and they are often used in conjunction with other materials. Studies of direct-mail marketing indicate that cover letters generally increase the effectiveness of other persuasive communications. In small mailings, it may be desirable to personalize each letter by including each person's name and address on his or her letter and greeting him or her by name in the letter's salutation.

6.6 MAPS

Among the items frequently included in mail-outs are maps showing the general location of pipelines that individual companies operate. Maps can be mailed as stand-alone items, or they can be incorporated into public awareness materials such as brochures.

6.7 SPECIALTY ADVERTISING (IMPRINTED MEMENTOS)

It is important that an operator's emergency-reporting telephone number be readily available to the members of the public most likely to report an emergency. An ideal way for an operator to meet this responsibility is to have its telephone number imprinted on specialty advertising items or mementos.

Mementos might include inexpensive items such as wall calendars, rain gauges, pocket pens, road atlases, penlights, magnets, wallet calendars, potholders, key chains, and pen knives. Some of the larger items, such as the calendars and road atlases, have more printing space available, so longer messages can be printed on them. This extra space might be used to print local facility telephone numbers, to display system maps, or to list state one-call numbers.

6.8 RESPONSE CARDS

Operators that use their own mailing lists when they mail public awareness materials to the public should maintain up-to-date lists. To maintain current lists, operators can provide response cards to the recipients of the awareness materials. These cards permit the recipients to notify the operators of any changes in address and could measure the effectiveness of the safety message. Often referred to as either bounce back cards (BBC) or postage-paid business reply cards (BRC), these preprinted response cards are often mailed to the public as an integral part of, or as an attachment to, other items. Response cards also permit recipients to comment on employee courtesy, request additional information, and submit questions.

6.9 PRESENTATION MEDIA

Presentations are an effective means of educating the public and promoting goodwill. Civic clubs, conventions, professional societies, community groups, and schools are often eager to have outside speakers. Operators should give special attention to finding groups that contain members of the public that they want to reach, for example, groups consisting of emergency response personnel or excavators.

Communications research indicates that audio-visual aids can increase the effectiveness of presentations. Operators can often generate these aids inexpensively using their internal resources.

Group video presentations can also be effective. Some operators produce their own customized videos; however, off-the-shelf videos are also available. API and some state one-call systems offer a number of videotapes and other presentation items (see Section 2.3.1). Operators are encouraged to loan or give copies of videos to groups, such as local emergency officials, to encourage viewing by other personnel within their organization and the community.

6.10 MASS MEDIA PUBLICITY

The mass media provide inexpensive opportunities to educate the public. To take advantage of these opportunities, operators should consider the following:

a. By issuing news releases, operators can create their own publicity opportunities in the print media. News releases containing appropriate messages can be inexpensively prepared and released. Print messages with photos and illustrations tend to receive more notice than messages without them, so operators should consider including photos and illustrations with their news releases. For example, a "call before you dig" story would be enhanced by photos of pipeline marker signs. API periodically prepares such releases and distributes them nationally.

b. The electronic media tend to run shorter messages than the print media, so operators should format their news releases accordingly.

c. When preparing publicity for radio stations, operators should consider providing voice actualities ("voicers" or "beepers") to the stations. These may be provided through prerecorded cassettes, by live talent interviewed at the station, or by telephone interviews.

d. Television stations may consider airing video news releases (VNR) provided by operators, but special skills are required in the production of effective video news releases. Operators considering using VNR's may wish to retain outside production consultants.

e. Some operators may wish to provide internal experts to speak or appear on radio and television talk shows. Directories of the networks and the individual stations that provide such opportunities are available.

f. The probability of a mass medium running information about pipelines is enhanced if the medium comes to the operator with a request for information. It is important to honor this type of request promptly, keeping in mind that the reporter needs to meet a deadline.

g. The mass media especially interested in pipeline information when an accident has occurred. Although rare, operators should remember that a media opportunity exists to educate the public when a pipeline accident does occur.

h. Many operators are giving increased attention to training selected staff members in crisis communication skills. It is important that the individuals authorized to represent the company to the mass media and to act as corporate spokespersons be provided training to enhance their effectiveness.

6.11 PUBLIC SERVICE ANNOUNCEMENTS (PSA'S)

Radio and television stations usually make some air time available for public service messages. There is great competition from various public interest causes for the small amount of time still available because the broadcast media is no longer required to donate free time for PSA's.

Given the popularity of radio and television and the large areas covered by both, public service announcements can be an inexpensive means for reaching a large sector of the public. API regularly produces public service materials about oil pipelines and makes the materials available to the electronic media. Pipeline operators may want to consider contacting local stations along the pipeline route to encourage their use of the PSA's. The use of cable TV public access channels may also be an option.

6.12 PAID ADVERTISING

Paid advertising, though often expensive, is an option available to operators. At their own expense, operators can communicate their pipeline messages through newspapers, television, radio, or other forms of the media.

6.13 EXHIBITS AND DISPLAYS

Exhibits and displays can reach large numbers of people at conventions, trade shows and meetings. Consequently, a number of operators and pipeline trade associations that hold periodic tours for small groups at operator facilities have developed a substantial number of exhibits related to the hazardous liquids pipeline industry. API has also developed a portable pipeline display booth for use at conventions and other meetings to promote pipeline safety.

6.14 INTERNET

Pipeline companies may also want to consider using the Internet to communicate important safety messages to the public, particularly if the operator has established a presence or home-page to communicate business-related information.

SECTION 7—DISTRIBUTION FREQUENCY

7.1 DISTRIBUTION CONSIDERATIONS

The distribution frequency and methods will differ for the various media depending on the need of the audience, the associated benefit of each form of communication and the objectives for the risk of each pipeline segment.

7.1.1 Turnover Rates

Turnover rates in an identified population should be considered when determining appropriate distribution frequencies. Heavily developed urban areas are likely to have a higher turnover rate than the more stable rural areas. Changing land uses in areas of heavy development can also impact the distribution frequency.

7.1.2 Material Updates

The need to update public education material will occur from time to time because of changes in the pipeline system, compliance requirements, geographic boundaries, construction activity, or the needs of the public. If these changes are significant, special distributions of the updated material to selected groups within the audience may be warranted.

7.2 DISTRIBUTION FREQUENCIES

Distribution frequency of the various messages will depend on the audience, the relative risk of a pipeline segment, the turnover rate of the audience and the medium chosen. Typically the frequency varies from one to three years.

7.3 OTHER INFORMAL DISTRIBUTION OPPORTUNITIES

Informal distribution opportunities will arise from time to time during normal operation, maintenance, and testing activities. Local maintenance crews that are in contact with the public and government personnel during their routine activities are in an ideal position to distribute public awareness materials. Operators should take advantage of these and other informal distribution opportunities. Every contact with an outside agency, a landowner, a contractor, a neighbor, or a developer is an opportunity to promote pipeline safety. Operators may want to have materials available to field maintenance personnel for this purpose.

SECTION 8—PROGRAM DOCUMENTATION

Pipeline public awareness programs should be documented. Program documentation provides a clear and consistent plan for program directors and serves as a useful reference when the plan is being evaluated or updated. Good program documentation also enables operators to readily demonstrate their compliance and public awareness program efforts to outside entities. The documentation would typically include the following:

a. Written public awareness and damage prevention plan and procedures.
b. Correspondence related to public awareness activities.
c. Copies of the materials that have been distributed or have appeared in the media.
d. Tabulation of distribution dates.
e. Mailing list of contacts or other postal records.
f. Results of the program evaluation or feedback.
g. Records of participation in API programs.
h. Access to current identification of excavators.
i. Records of excavation activity communication.
j. Records of personnel contacts.
k. Records of attendance of public officials at emergency exercises.
l. Memberships in state one-call systems.

Program documentation should be retained for two years or until the next distribution or presentation, whichever period is greater. Various legal or company retention practices may suggest a longer retention period.

SECTION 9—PROGRAM EVALUATION

9.1 EVALUATION

A program evaluation can help assure that a program's objectives are being met. Since public awareness efforts rely upon voluntary participation from the public, an operator's ability to control the learning process is limited; however, periodic evaluations can help an operator to improve the effectiveness of its public awareness program.

9.2 EVALUATION STANDARDS

Federal regulations serve as a standard by which an operator can evaluate its public awareness and damage prevention programs. From time to time, an operator's program may be subject to scrutiny from outside entities, and the operator may be called upon to defend its program and evaluation criteria. An operator should consider these concerns when establishing evaluation standards for its public awareness program.

9.3 INFORMAL EVALUATION TECHNIQUES

Informal evaluation techniques provide helpful information but lack scientific precision. Some informal evaluation techniques frequently used to measure the effectiveness of public awareness programs are discussed in Sections 9.3.1 through 9.3.5. Additional guidance and evaluation practices on community awareness programs are included in API's Recommended Practice 9000, *STEP Management Practices.*

9.3.1 News and Electronic Media Clip Counts

Counts of the number of articles on pipelines printed in newspapers and the items on pipelines heard or seen on radio and television provide an informal indication that pipeline awareness program information is appearing in the mass media. A number of services are available that monitor the media at the national, state, and local levels and then provide copies of items that appear in the media. These services provide clippings of print stories from daily and weekly newspapers and national magazines. They also provide transcripts of items that appear in the electronic media and can, if requested, provide audio cassettes of radio news and video cassettes of television stories. Simply counting appearances in the mass media, tells us little about the audience that may have received the message.

9.3.2 Letters, Response Cards, and Phone Call Counts

Counts of responses, such as letters, phone calls, and hits made on an internet site, and business reply cards, can provide an indication of the effectiveness of a public education program. These responses can also be scored as positive, negative, or neutral in tone. Operators using such counting or scoring systems should remember that the results are not random. People who write letters, make phone calls, or return response cards to a pipeline are placing themselves into a sample rather than turning up randomly in the sample.

9.3.3 Audience Counts

Counts of the number of people who have attended videotape or other group presentations are helpful because they may show that large segments of an audience have been reached with the message. Most pipeline companies that have lending libraries for videotapes and slide shows include a business reply card with outgoing materials, and the person receiving the presentation is asked to fill the card out. The card asks for the date the item was shown, a description of those who viewed the presentation, and other information. The completed card is then mailed postage-paid to the operator.

9.3.4 Idea Juries, Focus Groups, and Interview Panels

An idea jury, a focus group, or an interview panel, although generally too small to be representative of an audience (such as an entire community or a special-interest group) can provide helpful information about many aspects of a public awareness program. Before an operator prints and mass mails a new brochure, for example, the brochure might be tested on a focus group to discover if it is communicating the desired message. Such pretesting can do much to improve a public awareness program before it is implemented.

9.3.5 Monitoring Pipeline Safety Statistics

Monitoring pipeline safety statistics is a good way to determine if a pipeline public awareness program is working. Because it may be difficult to validate that the improvement in these statistics is directly attributable to a pipeline public awareness program, safety statistics will likely remain an informal indicator.

9.4 FORMAL EVALUATION TECHNIQUES

Formal evaluation techniques provide scientifically based results. A survey based on a systematic probability sample drawn randomly from representatives of a population, for example, allows one to draw inferences about the population with statistical precision. Some of the formal evaluation techniques available are discussed in Sections 9.4.1 through 9.4.3.

9.4.1 Readership and Viewership Studies

Counts of people in a random sample who have actually seen and retained messages from pipeline public awareness programs provide scientific evidence that such programs are having an impact on the population in general.

9.4.2 Opinion Surveys

Surveys of randomly selected audiences can provide valuable information on topics such as the population's perception of operators and the interests of the audience.

9.4.3 Message Content Analysis

While print and electronic media clip counts provide only an informal indicator of public awareness program effectiveness, analysis of the content of these clips using empirical techniques can be insightful. Content analysis, for example, can provide indications of the number of favorable and unfavorable messages about pipelines being carried by the media. The number of messages in each item can similarly be scored in various ways.

SECTION 10—CONCLUSIONS

Educating the public about pipeline safety is essential to the safe operation of liquid petroleum pipelines. Through pipeline awareness programs, the public becomes more knowledgeable about pipeline operations and appropriate safety precautions. This knowledge enhances pipeline safety and ultimately benefits the public and the environment.

Pipeline public awareness programs offer other benefits as well. Through the communication media used in the public awareness programs, operators can establish constructive dialogues with members of the public. These exchanges can be useful in conveying other important information to the public and can be helpful in promoting positive public relations. Pipeline operators share a common commitment to providing a safe operating environment for members of the public who live and work near petroleum pipelines; public awareness programs play a key role in fulfilling that commitment.

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