



Pipeline Association for Public Awareness 2018—Emergency Responders Study Research Report

*Prepared for Pipeline Association for Public Awareness
By Culver Company, LLC
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INTRODUCTION

This report was commissioned by the Pipeline Association for Public Awareness and conducted by Culver Company. The purpose of the study was to measure knowledge among Emergency Responders about issues relating to pipelines, pipeline safety and related matters, and to compare these data with those found in similar studies conducted in 2007, 2010 and 2014. The information contained in this report is based on 500 in-depth interviews conducted from January to February 2018.

SURVEY METHODOLOGY:

All surveys are completed using the pure random sample methodology by experienced executive interviewers using Computer-Assisted Telephone Interviewing (CATI) software. The CATI software selects the sample and leads the interviewer through the questionnaire. It automatically adjusts for “skip patterns,” and reduces the possibility of interviewer error.

The sample universe was comprised of stakeholders included on the mailing list for the previous year’s communication program. Every stakeholder on the list has an equal chance of being interviewed. The complete list of states, counties and stakeholder organizations included in the mailing is available from the program documentation folder on the web site. The total number of stakeholders in this database was approximately 27,000.

When reviewing the results from this survey, it should be kept in mind that all surveys are subject to sampling error. Sampling error, simply stated, is the difference between the results obtained from a sample and those that would be obtained by surveying the entire population under consideration. The overall sampling error for this survey is approximately +/-4.5% at a 95% confidence interval.

HOMOGENEOUS NATURE OF STAKEHOLDER AUDIENCES:

This stakeholder audience is determined to be homogeneous because 90% of the respondents replied “yes” to the question, “*In general, do you feel the information on pipeline safety you have received would be relevant and applicable if you relocated to another part of the country for the same kind of work?*” and the information communicated through the program is widely applicable to all geographic areas and pipeline systems. Additional supporting factors include:

- Within specific product categories (e.g., natural gas, hazardous liquids, highly volatile liquids, etc.), the products transported by individual member pipelines have similar characteristics and will behave in a similar manner when released,
- The program materials contain messages applicable to the specific product categories and the products transported by the individual member pipelines,
- The required messages are general in nature and contain basic information that is intended to be widely understood across each audience,
- The laws and regulations governing the operation of pipelines, excavation activities, emergency response and other governmental services are consistent enough from state to state such that the expectations of the audiences are uniform with respect to the

subject matter contained in the programs and the level of detail required in the messaging.

APPLICABILITY:

This study should only be used to evaluate the collaborative program conducted by the Pipeline Association for Public Awareness and should not be classified as an “industry” or “trade association” survey. Segmentation of the survey results by operator, state or other separation would reduce the accuracy of the results and not provide any additional information necessary to adequately evaluate the program’s effectiveness. The basic principles of research theory can be applied because the sampling method is purely random and the audience is homogenous. The results are valid for all participating members where the content of the materials adequately address their specific products.

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STUDY FINDINGS

Defining the Term “Pipeline”

Approximately 6 in 10 (58%) emergency responders mentioned pipes carrying natural gas when asked what kinds of facilities come to mind when they hear the word, “pipeline.” Smaller percentages mentioned a variety of other characteristics.

TABLE 1

“When you hear the word ‘pipeline,’ what kinds of facilities come to mind?”

Facilities	Percent of Respondents			
	2007	2010	2014	2018
Pipes that carry natural gas	65	39	53	58
Pipes that carry liquids (oil, gasoline)	47	39	53	29
Below-ground pipes	17	20	15	15
Large-diameter pipes	2	4	6	2
Above-ground pipes	6	6	3	2
Transfer stations	1	6	3	5
Water pipes	3	3	2	3
Local pipeline mentions	2	3		2
Refineries		2	2	2
Factories/commercial business		1	2	2
Small pipes	1	1	1	1
Dangerous/hazmat	1	2	1	1
Utility pipelines	1	2	1	1
Sewer pipes	*	*	1	1
Transportation/rail		2	1	
Don't know	3	1	1	1

Totals exceed 100% due to multiple responses

*Indicates less than half of 1%

Awareness that pipelines can be as small as 1 to 2 inches has dropped from 2014, but overall awareness that “pipelines” does not just describe large, cross-country pipelines continues to increase.

TABLE 2

“What is the smallest diameter pipe, in inches, that you would consider to be a pipeline?”

Response	Percent of Respondents			
	2007	2010	2014	2018
1 to 2 inches	46	43	50	27
3 to 5 inches	20	22	25	31
6 to 10 inches	15	17	9	29
10+ inches	8	10	9	4
Don't know	11	8	7	9

The next question was inadvertently programmed to capture only the respondent’s first response, rather than to record multiple responses, as was the case in prior studies. However, the hierarchy of pipeline products identified by first responders remains consistent with the findings from prior studies.

TABLE 3

“As an “Emergency Responder,’ when you hear the word ‘pipeline,’ what types of products do you believe the pipelines carry?”

Response	Percent of Respondents			
	2007	2010	2014	2018
Natural gas transmission pipelines	76	66	67	58
Local natural gas distribution lines	40	52	51	16
Petroleum products	50	56	50	14
Water	5	6	5	5
Sewage	2	2	1	2
Toxic waste	2	4	1	2
All kinds	1	1	1	1
Agricultural products/fertilizer	1	*	1	1
Utilities	*	*	1	1
Oxygen	1	0	*	0
Don’t know	2	1	1	*

Totals exceed 100% due to multiple responses

*Indicates less than half of 1%

Awareness of Facilities in Their Community

More than 8 in 10 respondents are aware of natural gas pipelines, compressor stations, processing or storage units (83%); and local pipelines distributing natural gas to residential and business users (85%) in their communities. Approximately half (51%) are aware their community has other hazardous liquids pipelines, pump stations, processing or storage facilities.

TABLE 4

“As far as you know, do you have any of the following kinds of facilities located in your community?”

Facilities	Percent of Respondents			
	2007	2010	2014	2018
Local pipelines distributing natural gas to residential and business users	86	81	89	85
Natural gas pipelines, compressor stations, processing or storage facilities	88	84	85	83
Other hazardous liquids pipelines, pump stations, processing or storage facilities	54	58	64	51

Sources of Information on Pipelines

When asked where they would go to find information on hazardous liquids or natural gas pipelines in their area, respondents mentioned calling the gas company in their area (45%), using the internet or phone book (18%) and a variety of other sources.

TABLE 5

“If you wanted to know where hazardous liquids or natural gas pipelines were located in your area of responsibility, where do you think would be the best place to go for that information.”

Response	Percent of Respondents			
	2007	2010	2014	2018
Call gas company in my area	40	31	40	45
Phone book/library	12	5	8	18
Internet	4	8	7	18
National Pipeline Mapping System (NPMS)	18	15	25	12
One Call/811/etc.	6	7	6	8
USDOT	4	3	4	1
Pre-plan books/emergency manual	6	7	3	6
Pipeline Association	4	4	3	4
Government (city/county/state)	3	6	3	6
Dispatcher	2	2	3	3
Emergency Management Agency	5	6	2	2
Fire department/fire chief	4	5	2	1
Other maps	2	4	2	1
Self	2	4	*	0
Don't know	6	4	4	0

Totals exceed 100% due to multiple responses

*Indicates less than half of 1%

Awareness of NPMS

Nearly 8 in 10 (79%) respondents are aware of the National Pipeline Mapping System (NPMS), an increase of 11 percentage points since 2014.

TABLE 6

“(IF DOES NOT MENTION NPMS OR USDOT IN PREVIOUS QUESTION, ASK) Are you aware of the National Pipeline Mapping System operated by The US Department of Transportation? It is sometimes referred to as the NPMS.”

Year	Percent “Yes” and Those Mentioning NPMS in Table 5
2007	62
2010	64
2014	68
2018	79

Sources of Information on Pipeline Operators

When asked where they would go to get information on companies that operate pipelines in their area, respondents most commonly mentioned the phone book or their dispatcher (56%), the local oil or gas company (31%) and their supervisor (26%).

TABLE 7

“If you needed to find out how to contact the companies that are operating pipelines in your area, how would you do that?”

Source	Percent of Respondents			
	2007	2010	2014	2018
Phone book/dispatcher	43	45	34	56
Call local gas/oil company	29	19	32	31
Supervisor/someone in department	7	6	8	26
National Pipeline Mapping System (NPMS)	12	10	13	8
Pre-plan book/emergency manual	7	7	6	3
Internet	3	5	5	6
One Call/811/etc.	5	4	4	2
Government	6	6	3	1
Fire department/hazmat	2	3	1	1
Emergency Management Agency	2	4	1	1
Pipeline Association	1	3	1	0
Other	1	1	1	0
Not sure	3	3	2	5

Totals exceed 100% due to multiple responses

Where to Report a Pipeline Leak

Respondents were asked whether they know the number or know where to get the number to alert a pipeline operator in their area about a leak. Almost all (99%) respondents reported they know the number or where to go get to get the number.

TABLE 8

“If your department received a report of a pipeline leak, do you know what number to call to alert the pipeline company or do you know where to get their number?”

Response	Percent of Respondents			
	2007	2010	2014	2018
Know the number	56	55	59	22
No, but can get number	41	41	39	77
Don't know	3	4	2	1

Pipeline Markers

Respondents mentioned the name of the pipeline company (41%), the emergency number to call (70%) and what material is in the pipe (29%) as information contained on pipeline markers. Fewer respondents are unsure of what is on the markers than in 2014.

TABLE 9

“As you may know, the pipeline industry uses markers or signs to identify the location of buried pipelines. As best as you can recall, what information is contained on pipeline markers?”

Response	Percent of Respondents			
	2007	2010	2014	2018
Emergency number to call	56	56	44	70
Name of pipeline company	45	44	45	41
What material is in pipe	37	45	42	29
Caution (warning/don't dig)	2	3	5	4
Location identifier	5	3	3	4
Pipe info (size, depth, pressure, etc.)	3	3	3	6
Color	1	1	2	4
Not sure	25	23	16	11

Totals exceed 100% due to multiple responses

Conditions that Indicate a Pipeline Leak

Respondents were asked whether each of a series of conditions indicates a pipeline leak. This list of conditions is more extensive and specific than may be found in previous studies, and findings demonstrate a very high level of understanding among first responders.

TABLE 10

“From your training to date or your personal experience, do the following conditions definitely, probably or probably not indicate a hazardous liquids or natural gas pipeline leak?”

2018

Pipeline Leak Indication	Percent of Respondents			
	Definitely	Probably	Probably Not	Not Sure
Fire coming out of or on top of the ground	64	34	1	1
Dirt blowing from a hole in the ground	57	41	1	1
A loud roaring sound like a jet engine	55	42	2	1
An odor like rotten eggs or a burnt match	54	44	1	1
An odor like petroleum liquids or gasoline	51	47	1	1
A white vapor cloud that may look like smoke	49	48	2	1
A hissing or whistling noise	47	51	1	1
An irritating and pungent odor	47	51	1	1
An area of frozen ground in the summer	43	52	3	2
Bubbling in pools of water	39	58	1	2
The pooling of liquid on the ground	36	58	4	2
An area of dead vegetation	35	61	3	1
A sheen on the surface of water	33	62	3	2
An unusual area of melted snow in the winter	31	65	2	2

TABLE 10 (CONTINUED)

2014

Pipeline Leak Indication	Percent of Respondents			
	Definitely	Probably	Probably Not	Not Sure
Vapor cloud	64	32	4	0
Hissing sound	66	33	1	0
Strange odor	59	39	2	0
Dirt blowing	49	43	7	1
Dead plants/vegetation	43	48	8	1
Pool of strange liquid	50	43	6	1
Bubbles in pond of standing water	54	42	3	1
Ice/frozen soil	31	52	15	2
Wet soil	28	54	16	2

2010

Pipeline Leak Indication	Percent of Respondents			
	Definitely	Probably	Probably Not	Not Sure
Vapor cloud	71	26	2	1
Hissing sound	67	31	1	1
Strange odor	53	44	2	1
Dirt blowing	56	33	8	3
Dead plants/vegetation	46	43	6	5
Pool of strange liquid	48	45	5	2
Bubbles in pond of standing water	48	45	5	2
Ice/frozen soil	30	44	21	5
Wet soil	22	54	18	6

TABLE 10 (CONTINUED)**2007**

Pipeline Leak Indication	Percent of Respondents			
	Definitely	Probably	Probably Not	Not Sure
Vapor cloud	65	32	3	0
Hissing sound	57	40	2	1
Strange odor	50	47	2	1
Dirt blowing	47	38	12	3
Dead plants/vegetation	35	51	12	2
Pool of strange liquid	32	58	7	3
Bubbles in pond of standing water	30	59	10	1
Ice/frozen soil	26	51	17	6
Wet soil	17	58	21	4

Hazards Resulting from a Pipeline Leak

Respondents were then asked whether each of four hazards will definitely, probably or probably not result from a pipeline leak. Virtually all see each of the four as either a definite or a probable result of a leak.

TABLE 11

“To the best of your knowledge, do the following hazards definitely, probably or probably not result from a pipeline leak?”

2018

Pipeline Leak Hazard	Percent of Respondents			
	Definitely	Probably	Probably Not	Not Sure
Oxygen can be displaced	62	37	0	1
Escaping gasses or liquids can ignite and burn	68	32	0	0
Water supplies can become contaminated	71	28	0	1
Serious skin irritations are possible	54	45	1	0

2014

Pipeline Leak Hazard	Percent of Respondents			
	Definitely	Probably	Probably Not	Not Sure
Oxygen can be displaced	76	20	2	2
Escaping gasses or liquids can ignite and burn	78	20	2	0
Water supplies can become contaminated	72	26	2	0
Serious skin irritations are possible	72	27	1	0

TABLE 11 (CONTINUED)**2010**

Pipeline Leak Hazard	Percent of Respondents			
	Definitely	Probably	Probably Not	Not Sure
Oxygen can be displaced	76	22	1	1
Escaping gasses or liquids can ignite and burn	70	30	0	0
Water supplies can become contaminated	69	26	4	1
Serious skin irritations are possible	65	33	2	0

2007

Pipeline Leak Hazard	Percent of Respondents			
	Definitely	Probably	Probably Not	Not Sure
Oxygen can be displaced	72	23	3	2
Escaping gasses or liquids can ignite and burn	71	28	1	0
Water supplies can become contaminated	66	30	3	1
Serious skin irritations are possible	63	33	3	1

Confidence in Their Ability to Respond to a Hazardous Liquids or Natural Gas Incident

As shown in Table 12, respondents feel a higher overall degree of confidence in their own ability to respond to a hazardous liquids or natural gas incident in their community than in 2014.

TABLE 12

“For this question, please use a scale of 0 to 10, where 10 means you feel totally confident and 0 means you do not feel confident. Here is the question: Should a hazardous liquids or natural gas incident occur in your community, how confident on the 0-to-10 scale do you feel about your ability to respond to such an incident?”

Year	Percent of Respondents				
	Very Confident (8–10)	Fairly Confident (6–7)	Not Very Confident (3–5)	Not At All Confident (0–2)	Not Sure
2007	63	18	14	2	3
2010	61	20	14	4	1
2014	74	16	7	2	1
2018	66	31	3	0	0

Minimizing Hazards and Damage to Pipelines

Respondents are aware of a variety of methods pipeline companies use to minimize damage to their pipelines.

TABLE 13

“To the best of your knowledge, what things do pipeline companies do to minimize hazards or damage to their pipelines?”

Response	Percent of Respondents			
	2007	2010	2014	2018
Post signs/yellow markers	50	48	46	44
Bury them	22	12	28	10
Test pipe integrity with internal devices	25	22	19	18
Belong to One Call system	14	17	18	10
Patrol the pipelines	28	20	14	31
Provide safety sheet information	17	15	9	12
Fence them off from public	9	10	9	6
Routine inspections/maintenance	9	16	8	25
Provide informational training seminars	9	10	5	10
Public education		0	*	4
Emergency shut-off valve		1	1	1
Coat the pipes	1	1	*	1
They do nothing	*	0	*	*
Don't know	8	6	7	6

Totals exceed 100% due to multiple responses

*Indicates less than half of 1%

Awareness of One Call

More than 9 in 10 (96%) respondents are aware of the “One Call” free information system.

TABLE 14

“There is also a free information system called “One Call” or 8-1-1 that anyone who plans to do an excavation is required to call before digging. Someone will then come and mark the location of underground utilities, including hazardous liquids and natural gas pipelines, prior to the start of an excavation. Before I read this to you just now, were you aware of the ‘One Call’ system and the service provided?”

Year	Percent “Yes”
2007	91
2010	96
2014	89
2018	96

Need for Additional Information

Approximately 2 in 10 (19%) respondents indicated they feel they need additional information from pipeline companies, a decrease of 7 percentage points from 2014. This may be a reflection of the volume and quality of the information they have received in the last four years. Verbatim responses of those who have suggestions are provided in Table 15A.

TABLE 15

“In general, do you feel you need additional information from pipeline companies?”

Year	Percent “Yes”
2007	33
2010	35
2014	26
2018	19

TABLE 15A

Additional training for emergency situations

All

Annual updates on any changes and as a reminder of presence of pipelines.

Answers to questions in this survey

Any additional information that could help with public safety

Any changes that they undergo in terms of process and procedures; any changes in product carried or piping that we might have to deal with.

Any that we can have about mitigation of any leak would be helpful

Anything

Better locations of where they are at exactly. More training better training opportunities so we know what is going through our lines

Better ways to understand and locate any issues

Call numbers. Initial response information

Common issues and how to take care of them quickly

Common issues that could result in dangerous situations

Contact information

Contact information for pipelines in my area.

Contact numbers, locations

(Continued)

Continual education

Definite location. The capacity of pipelines.

Don't know (2 responses)

Don't We Could Use More Knowledge On Their Pipelines

Education on pep response products that facilities carry facility level of response and containment.

Emergency procedures

Evacuation procedures updates

Everything

General information

General training to response to incidents

General updates

Hazard signs. Follow-up procedures that kind of thing

How to approach, how to stay away, don't try to fix it or control it

How to shut them off and specific pipeline types

I would like to know what materials are going through how many employees are in the facility and if they are trained for emergencies.

I'd like to know more about leaking procedures and general information on pipeline safety

If emergency situation what kind of line I'm dealing with what would we need to contain or shut off

Information on specific lines in the community regular updates

Information on where the pipes are located.

Information sessions or seminars with regular updates

Integral steps on what to do when there is any sort of emergency.

Just for them continuously send me the information for safety a package

Just more information regarding volumes and issues noted that could become a hazard.

Just more information through training sessions

Just specific information about what's being transmitted

Just updated info

Just what kind of hazard pipelines are what we can do to stay safe

List of sign and leaks. Just a refresher on leaks and where to go to mitigate them. Hazards associated with them.

Local contact numbers for pipelines

Location time of the dig

(Continued)

Location of pipelines through my area; a listing of contacts.

Locations of gas lines materials used

Locations of gas lines in the area and the pressures involved.

Map where they run through our community distributed throughout to better understand the system to better understand and locate and isolate the problem faster

Mapping of pipelines

Maps and lines through the city

Maybe the size of the lines.

More information about how to tell if pipeline has burst or leaked

More information given out.

More information on the effects. What kind of pipeline is it

More information on the national mapping system education on pipelines I may be unaware of in my community.

More numbers

More specific contact information

MSDS; solutions if something were to happen; best method of response

Narrow down what product is going through, pressure, diameter of pipeline, and how much fluid in 6 inches line

Not sure

Nothing specific (2 responses)

Once a year do a 2 hour class for first responders. Give us some updated information.

Pipeline is still active emergency contacts normal contacts ability to contact us for training

Pipeline map system

Primarily review contact numbers get to know who is in charge before something happens.

Provide local contact information

Real information and not the cyan information

Representative give out information

Resources for training purposes online info

Right away locational contact info materials in pipes, emergency procedures, response times

Safety procedures

Safety procedures maybe pipeline sizes

Specific location of where the pipelines run through

Specific product.

That I don't know doesn't hurt to have more information

(Continued)

They should let them where they're located what type of chemical

Training locations within your jurisdiction

Training on how to handle situations

Training on their locations, how to get a hold of them, info on products

Training that I send people to when I get somebody new

Up to date changes to personnel (pipeline employees)

We used to have training with the DES coordinator on pipeline spills and it has been a couple years since we have had those and I would like to see them again

Well I like to send out mailers like in the past update training products for our workers even do site visits or personal contact at site stations

Well mainly what they are pumping at the time makes a lot of difference on how you respond

We'll take whatever they give us

What exactly is in it. How big of a hazard could it be if they nicked it

What lines are running through my community

What the pipeline is made of

What to do in case something happened like a pipeline burst.

What's available

What's in the area, notification numbers, contacts numbers, amount of storage and the hazardous materials, life safety issues, how to deal with them

Where the locations of pipelines are, what's transmitted, how to contact them in an emergency

Where the pipes are located and what they are carrying; contact information

Where their line is at, and to where it goes through town

Sources of Information Received in the Past Year

Over 9 in 10 respondents recall receiving information regarding hazardous liquids or natural gas pipeline safety through a variety of channels in the past year. Just 7% cannot recall receiving information in any of the ways tested.

TABLE 16

“In the past 12 months, have you personally received information regarding hazardous liquids or natural gas pipeline safety in any of the following ways?”

Response	Percent of Respondents			
	2007	2010	2014	2018
Through regular mail	66	77	62	70
Through pipeline safety classes at your place of work	48	50	48	35
Through e-mail communications	31	44	46	59
Through personal meetings with a representative of a pipeline company	49	48	44	30
At seminars	52	52	39	41
On internet safety sites	31	35	39	27
No to all	12	10	13	7

Preferred Means of Receiving Information

Respondents are most interested in receiving pipeline safety information by email (36%), direct mail (29%), through seminars (18%) and classes at work (13%). This hierarchy is consistent with that found in 2014.

TABLE 17

“Thanks. Next, I would like to read you a list of ways in which up to date pipeline safety information could be made available to you. After I read the list, please just tell me from which two you prefer to receive pipeline safety information.”

Communication Channel	Percent of Respondents			
	2007	2010	2014	2018
Email/internet	23	29	32	36
Direct mail	25	23	21	29
Seminars	17	21	14	18
Classes at work	16	14	14	13
ER trade publications	10	8	10	2
TV	5	2	5	1
Newspapers	2	2	2	1
Radio	2	1	2	*

*Indicates less than half of 1%

Suggestions for Improved Communications

Over 8 in 10 (86%) have no suggestions for improving the communication between pipeline companies and emergency responders, indicating that pipeline companies are for the most part already providing the information they need. Verbatim responses of those who did offer suggestions in this study are provided below.

TABLE 18

“Now, and considering all the things we have just been talking about, are there any suggestions you would make about how to improve future communications to people such as yourself about pipeline safety and response to incidents?”

Response	Percent of Respondents			
	2007	2010	2014	2018
No suggestions	68	71	74	86

Verbatim Responses

Additional training

Advertise seminars and host more classes.

Classes where we're able to engage in the how tops of important situations like leaks

Have more classes as we only have them once a year and I would love a representative

Come to our office and speak to us about what's in our lines here because we have so many lines

Have more training in the area on pipe line training

Have representatives visit sites more often just to ensure training is up to date

Hold more training sessions

Host more seminars or information sessions at convenient locations and times

I think we need more seminars on training on where they bring the pipeline, how we react what they do

I'd suggest more training classes and programs

Just keep hosting seminars and keep information available

Just more seminars

Just more training

Maybe more seminars in the workplace

Maybe some more classes available in general (at place of work or not)

More classes and seminars to first responders

More classes at the workplace on safety issues

(Continued)

More informative seminars

More seminars at the workplace

More training opportunities for local first responders to learn the hazards gas and the dangers

More training.

Rather have guys come to our department. Provided training. Not just mail literature. Asking us to fill out cards.

Seminars.

Would love to have more information through seminars

Any more relevant information would be nice.

Before accidents happen be proactive about it

Continue current use of mail and website information

Continue education or updates.

Direct mail

Eliminate these surveys

Further routine updates and pipeline guidelines

Get this information to residential homes and offer in-service training to businesses.

Have everything covered

Have individuals from the companies visit responders occasionally reach out

Having company come out to fire department

I guess I would turn that question back to the pipeline company and let them teach us about pipelines

I think it would be great if individuals come around and visit with the fire department at least once per year

I think pipeline companies are doing good job in reaching out and just for them to continue to do this

I would just suggest continuing to provide additional contact information on top of what they already give sometimes the contacts aren't local.

I would like to see more training for communications personnel and dispatch centers, they don't receive the training because they are sitting in an office

If the pipelines could have regularly updated information posted on a website

It would be nice if the pipeline owners maintained a database that is up to date/notification system on contact information.

It would be nice if they had a local contact number at valve stations and facilities instead of a "1-800" number.

Just mail out more information.

Just need for you to reach out

(Continued)

Keep us informed on any work done to the pipes, maintenance or otherwise

Mail out which includes gas lines and pressures in this area. Contact information. Supplier. Pamphlet or booklet.

Make people more aware by having an ad campaign

Maybe do more public forums.

Maybe in our local area have more meetings about these issues.

Maybe more collaborative efforts between fire departments and companies—such as drills.

More direct communication with representatives.

More information available online on mapping systems and different types of pipelines in my area.

More representative to come to our department to talk to us

More workplace safety meetings

More written materials.

Occasionally emails about changes or anything new. Pipeline safety class. Speak with an expert.

Our providers are proactive; I get a lot from the pipeline companies but I would like more information from bulk storage and transfer facilities.

Pipeline representatives need to go to emergency service and set up a meeting so they can go through everything.

Probably email.

Probably increase the frequency of mail out of information.

Provide a little pamphlet guideline to keep near your communications area.

Provide access to the information

Public education and awareness.

Random paper mail

Reach out to us more

Send out information on a regular basis to refresh us

Send out information to locals regularly

Send out something letting locals know when they tested it. When the pipes were checked.

Sending something in writing that can be hung for everyone to see.

Some kind of guideline we can keep with us

Something annual or semi-annual through email.

Surveys like this one would be more effective via email.

The mailings and doing ad campaigns to reach out to fire stations lack of information training info

(Continued)

There is a group working in this area used to put together a dinner and invite the leadership little bit of film and table top exercises using the general area here in our place we bring the firefighters and bring them alone in rotation

They already do a good job

They should go further into the community and get with the other fire department if there is ever a major need

Through continuing outreach to communities - community council meetings are held monthly where information is shared (for example run volumes and safety information general fire safety information where resources are located 8-1-1 etc.)—continue these

Applicability of Safety Information Nationally

9 in 10 (90%) respondents feel the information they have received on pipeline safety would be relevant and applicable in any other part of the country.

TABLE 19

“In general, do you feel the information on pipeline safety you have received would be relevant and applicable if you relocated to another part of the country for the same kind of work?”

Response	Percent of Respondents
Yes	90
No	9
Not sure	1

APPENDIX

- Respondent Profile
- Questionnaire

Respondent Profile

Specialty	Number of Respondents
Fire service	344
Law enforcement	159
Hazmat	73
Medical	69
Total	645

Total exceeds 500 due to multiple specialties

Years in Emergency Response	Number of Respondents
Less than one year	3
1–2 years	4
3–5 years	36
6–10 years	113
11 years or more	344
Total	500

Environment	Number of Respondents
Rural	303
Suburban	159
Large city	38
Total	500

Paid or Volunteer	Number of Respondents
Paid	461
Volunteer	38
Refused	1
Total	500

Questionnaire

CULVER COMPANY
(602) 614-2331

PROJECT 11124

EMERGENCY RESPONDERS STUDY Pipeline Association for Public Awareness 2018

Hello: my name is _____ and I am conducting a survey on pipeline safety issues and information needs among first responders and emergency officials who may have to deal with pipeline incidents. The study is a part of the ongoing effort by the Pipeline Association for Public Awareness to better provide safety information to emergency responders such as yourself.

For this study, I need to speak with one of the persons in your group who would be a team member if there were a need to respond to a hazardous liquids or natural gas pipeline incident such as a leak.

A. Would that include you?

YES – CONTINUE

NO – ASK TO SPEAK WITH THE PERSON WHO WOULD HAVE THAT RESPONSIBILITY AND ARRANGE FOR A CALL BACK.

Let me begin with some general questions.

1. When you hear the word “pipeline,” what kinds of facilities come to mind? (DO NOT READ LIST)
- Large diameter pipes...1
 - Pipes that carry liquid products (oil/gasoline)...2
 - Pipes that carry natural gas...3
 - The Alaskan Pipeline...4
 - Below ground pipes...5
 - Above ground pipes...6
 - Small pipes...7
 - Other (SPECIFY) _____...8
 - Nothing/Don't know...9

- 1a. What is the smallest diameter pipe, in inches, that you would consider to be a pipeline? (____)
2. As an “Emergency Responder,” when you hear the word “pipeline,” what types of products do you believe the pipelines carry? (DO NOT READ LIST)

- Local natural gas distribution pipelines...1
- Natural gas transmission pipelines...2
- Petroleum products, etc ...3
- Other(Specify) _____...4
- Nothing/Don't know...5

3. As far as you know, do you have any of the following kinds of facilities located in your community?

	Yes	No	Not Sure
A. Natural gas pipelines, compressor stations, processing or storage facilities.....	1	2	3
B. Other hazardous liquid pipelines, natural gas receiving, transmission, distribution or storage facilities.....	1	2	3
C. Local pipelines distributing natural gas to residential and business users.....	1	2	3

4. If you wanted to know where hazardous liquids or natural gas pipelines were located in your area of responsibility, where do you think would be the best place to go for that information. (DO NOT READ LIST - RECORD ALL MENTIONS)
- National Pipeline Mapping System (NPMS)...1
 US Department of Transportation (USDOT)...2
 Phone book, library...3
 Call gas company in my area...4
 Other (SPECIFY _____)...5
 Don't know ...6
- 4a. (IF DOES NOT MENTION NPMS OR USDOT IN Q4 ASK:) Are you aware of the National Pipeline Mapping System operated by The US Department of Transportation? It is sometimes referred to as the NPMS.
- Yes...1
 No...2
 Not sure...3
5. If you needed to find out how to contact the companies that are operating pipelines in your area, how would you do that? (DO NOT READ LIST - CHECK ALL MENTIONED)
- Call local gas company...1
 Supervisor... someone in the department ...2
 The national pipeline mapping system known as "NPMS"...3
 "The Government" ...4
 Phone book, call dispatcher...5
 Other (SPECIFY) _____ ... 6
 Not sure...7
6. If your department received a report of a pipeline leak, do you know what number to call to alert the pipeline company or do you know where to get their number?
- Know the number...1
 No, but I can get number...2
 Not sure/Don't know...3
7. As you may know, the pipeline industry uses markers or signs to identify the location of buried pipelines. As best as you can recall, what information is contained on pipeline markers? (DO NOT READ ANSWERS; RECORD ALL ANSWERS BELOW)
- Name of the pipeline company...1
 What material is in the pipe...2
 Emergency number to call...3
 Others (SPECIFY) _____...4
 Not sure...5
8. From your training to date or your personal experience, do the following conditions definitely, probably or probably not indicate a hazardous liquids or natural gas pipeline leak? (READ LIST; ROTATE SEQUENCE)

	Def.	Prob	Prob Not	Not Sure
A. An odor like rotten eggs or a burnt match.....	1	2	3	4
B. A loud roaring sound like a jet engine.....	1	2	3	4
C. A white vapor cloud that may look like smoke.....	1	2	3	4
D. A hissing or whistling noise.....	1	2	3	4
E. The pooling of liquid on the ground.....	1	2	3	4
F. An odor like petroleum liquids or gasoline.....	1	2	3	4
G. Fire coming out of or on top of the ground.....	1	2	3	4
H. Dirt blowing from a hole in the ground.....	1	2	3	4
I. A sheen on the surface of water.....	1	2	3	4
J. An area of frozen ground in the summer.....	1	2	3	4
K. An unusual area of melted snow in the winter.....	1	2	3	4
L. An area of dead vegetation.....	1	2	3	4
M. Bubbling in pools of water.....	1	2	3	4
N. An irritating and pungent odor.....	1	2	3	4

9. To the best of your knowledge, do the following hazards definitely, probably or probably not result from a pipeline leak? (READ EACH)

	<u>Def.</u>	<u>Prob</u>	<u>Prob Not</u>	<u>Not Sure</u>
A. Escaping gasses or liquids can ignite and burn.....	1	2	3	4
B. Oxygen can be displaced.....	1	2	3	4
C. Serious skin irritations are possible	1	2	3	4
D. Water supplies can become contaminated.....	1	2	3	4

10. For this question, please use a scale of zero to ten where ten means you feel totally confident and zero means you do not feel confident. Here is the question: Should a hazardous liquids or natural gas incident occur in your community, how confident on the zero to ten scale do you feel about your ability to respond to such an incident?

Number on scale _____

11. To the best of your knowledge, what things do pipeline companies do to minimize hazards or damage to their pipelines? (DO NOT READ LIST; CHECK ALL MENTIONED)

- Bury them...1
- Fence them off from the public...2
- Patrol the pipelines...3
- Belong to the "One Call"
- System (call before digging)4
- Test pie integrity with internal testing devices...5
- Post signs so public knows where they are (yellow markers)...6
- Provide safety sheet information...7
- Other (SPECIFY)_____... 8
- Not sure, do not know...9
- They do nothing...10

12. There is also a free information system called "One Call" or 8-1-1 that anyone who plans to do an excavation is required to call before digging. Someone will then come and mark the location of underground utilities, including hazardous liquids and natural gas pipelines, prior to the start of an excavation. Before I read this to you just now, were you aware of the "One Call" system and the service provided?

- Yes...1
- No...2
- Unsure...3

13. Do you feel that you need additional information from pipeline companies?

- Yes...1
- No...2
- Unsure...3

13a. (IF YES IN Q13, ASK) What specific information do you need?

14. In the past twelve months, have you personally received information regarding hazardous liquids or natural gas pipeline safety in any of the following ways? (READ LIST)

	<u>YES</u>	<u>NO</u>	<u>NOT SURE</u>
A. Through regular mail.....	1	2	3
B. Through pipeline safety classes at your place of work	1	2	3
C. At seminars	1	2	3
D. Through personal meetings with a representative of a pipeline company	1	2	3
E. Through e-mail communications.....	1	2	3
F. On internet safety sites	1	2	3

15. Thanks. Next I would like to read you a list of ways in which up to date pipeline safety information could be made available to you. After I read the list, please just tell me from which two you prefer to receive pipeline safety information. (READ ENTIRE LIST, RECORD FIRST TWO RESPONSES IN THE ORDER THEY ARE MENTIONED; ROTATE SEQUENCE)

	FIRST MENTION	SECOND MENTION
a. Television	1	1
b. Radio	2	2
c. Newspapers	3	3
d. Emergency Response trade publications.....	4	4
e. Internet or E-mail.....	5	5
f. Direct Mail	6	6
g. Classes at your place of work	7	7
h. Seminars	8	8

16. In general, do you feel the information on pipeline safety you have received would be relevant and applicable if you relocated to another part of the country for the same kind of work? Yes...1
No...2
Don't know/Refused...3

17. Now, and considering all the things we have just been talking about, are there any suggestions you would make about how to improve future communications to people such as yourself about pipeline safety and response to incidents?

DEMOGRAPHICS

A. And finally, a few pieces of information about yourself. In which of the following specialties do you work: (READ LIST; CHECK ALL MENTIONED) Fire Service...1
Law Enforcement...2
Hazardous Materials...3
Medical...4

B. For how many years have you been involved with emergency response, either full time or as a volunteer? (READ CATEGORIES; CHECK ONLY ONE) Less than one year...1
one to 2 years...2
3 to five years...3
6 to 10 years...4
11 or more years...5

C. Do you work in a rural, suburban or a large city environment? Rural...1
Suburban...2
Large city...3

D. In your position as an emergency responder, are you paid or are you a volunteer? Paid...1
Volunteer...2
Refused...3

Thank you very much, that completes this interview. My supervisor may want to call you to verify that I conducted this interview so may I have your first name so that they may do so? (VERIFY PHONE NUMBER)

NAME: _____ PHONE #: _____

TIME END: _____ TOTAL TIME: _____