

GreatBlue Research

Northeast Gas Association

Consolidated Edison

Executive Summary
(PHMSA Form 21 Notes Edition)



2014

1 INTRODUCTION

In 2014 the Northeast Gas Association Public Awareness Working Group, of which Consolidated Edison is a member, engaged the services of GreatBlue Research, Inc. (PHMSA FORM 21 – 4.01) (GreatBlue) to conduct its *Pipeline Public Awareness Program Evaluations Study*. This survey acts as the second tracking study to the surveys conducted in both 2006 and 2010 by The Center for Research (now GreatBlue Research, Inc.).

In this Executive Summary, GreatBlue is pleased to present the results of the *Pipeline Public Awareness Program Evaluations Study* conducted within **Region Five (New York Southeast)** on behalf of the Northeast Gas Association. The study included four comprehensive surveys of 500 General Public respondents (customers and non-customers), 100 Public Officials, 100 Emergency Management (EMS) Officials and 100 Excavators within **Region Five** towns served by **Central Hudson Gas & Electric, Consolidated Edison, National Grid (DS NY), New York State Electric & Gas, Orange & Rockland Utilities.** (PHMSA FORM 21 – 4.02)

In accordance with API 1162, GreatBlue performed this evaluation within the four (4) year timeframe established by the policy. All study deliverables, including reporting, were to be completed within four years of the prior completed study in 2010. GreatBlue Research hereby acknowledges that all deliverables in 2014 were in fact met within the required timing. (PHMSA FORM 21 – 4.01).

Study Year	Survey Fielding Dates	Report/Data Delivery	Formal Presentation Date
2010	6/2/10 – 8/2/10	August 2010	October 2010
2014	12/1/14 – 3/5/14	March 2014	March 2014

The survey was designed to provide resident, Public Official, EMS Official and Excavator input on gas pipeline safety, including overall gas pipeline awareness, perceptions, attitudes, knowledge, understanding, behavior and gas safety program awareness. GreatBlue, working together with NGA officials, designed the survey instruments to be used when calling respondents within each of eight regions.

The survey instruments employed in the *Pipeline Public Awareness Program Evaluations Study* included the following areas of investigation:

- Overall awareness of natural gas pipelines;
- Perceptions of, and concerns over pipeline safety;
- Knowledge and understanding of pipeline leaks;
- Behavior in reaction to detected gas leaks;
- Awareness of the NGA natural gas pipeline safety campaign;
- Sources for information regarding pipeline safety; and
- Demographics.

Section II of this report discusses the Methodology used in the study, and is followed by four charts that compares the Consolidated Edison data from 2010 to 2014 as well to the 2014 Region 5 data and 2014 NGA Composite data.

METHODOLOGY

Consolidated Edison, in accordance with API 1162, elected to perform its *Pipeline Public Awareness Program Evaluations Study* in partnership with the Northeast Gas Association. This industry trade association conducted a survey and segmented results by both operator and Region to allow application of results to each operator. (PHMSA FORM 21 – 4.01)

Prior to the benchmark 2006 study, GreatBlue pre-tested safety materials in a series of two in-depth focus (one among natural gas customers and a second among non-customers). As part of the Northeast Gas Association Public Awareness Working Group, initial communications messaging and materials for the original Public Awareness bill insert, brochure, newspaper advertising, radio public service announcements and website were all tested during these focus groups. These focus groups took place on September 20, 2006 in Stamford, CT. (PHMSA FORM 21 – 4.04)

Additionally the Southern Gas Association media materials, used by the Northeast Gas Association in its gas safety media campaign, had been pre-tested by the Southern Gas Association. (PHMSA FORM 21 – 4.04)

Using a quantitative research design, GreatBlue completed 500 interviews among **Region Five (New York Southeast)** residents. Residents qualified for the survey if they confirmed they were heads of household, at least eighteen years of age and were current residents of the service territory included. Public Officials included Mayors, Councilmen and Council Members. Emergency Management Officials qualified to take the survey if they reported working within a Fire, Police or Sheriff's Department, in Local Emergency Planning, Emergency Management Services, Planning/Zoning/Licensing/Permitting/Building Departments, Enforcement Departments, Engineering Departments/DPW or within a Governing Council. Excavators qualified to complete the survey if they were one of the owners, managers, operators or individuals responsible for assigning excavation projects. (PHMSA FORM 21 – 4.02)

Survey input was provided by GreatBlue officials. Four survey instruments were used to elicit information from all respondents. Survey design at GreatBlue is a careful, deliberative process to ensure fair, objective and balanced surveys. Staff members, with years of survey design experience, edit out any bias. Further, all scales used by GreatBlue (either numeric, such as one through ten, or wording such as strongly agree, somewhat agree, somewhat disagree or strongly disagree) are balanced evenly. And, placement of questions is carefully accomplished so that order has minimal impact. (PHMSA FORM 21 – 4.02)

All population-based surveys conducted by GreatBlue are proportional to population contributions within states, towns, and known census tract, group blocks and blocks. This distribution ensures truly representative results without significant under or over representation of various geographic or demographic groups within a sampling frame.

In order to determine sample sizes for each of the audience segments, GreatBlue Research developed a proportionate-to-population sample plan for each Region being surveyed. Consolidated Edison's service territory in Region 5 (New York Southeast) was determined to make up approximately 33.8% of the total population. The raw number of surveys were based on these percentages and allocated according to the chart below. (PHMSA FORM 21 – 4.01)

REGION	Utility	Total # Customers	% of Region Sample	# of Utility CM's – Res	# of Utility CM's – PO	# of Utility CM's – EMS	# of Utility CM's – Exc.
5	Consolidated Edison	1,038,976	~33.8%	156	35	42	35

(PHMSA FORM 21 – 4.03)

GreatBlue utilized a “super random digit” sampling procedure for residential interviews, which derives a working telephone sample of both listed and unlisted telephone numbers. This method of sample selection eliminates any bias towards only listed telephone numbers. Additionally, this process allows randomization of numbers, which equalizes the probability of qualified respondents being included in the sampling frame.

Telephone researchers were trained on all survey instruments and a pre-test was conducted before full fielding began. All facets of the study were completed by GreatBlue's senior staff and researchers. These aspects include: survey design, pre-test, computer programming, fielding, coding, editing, data analysis, verification, validation and logic checks, analysis and report writing.

Statistically, a sample of 500 surveys (General Public) represents a margin for error of +/- 4.5% at a 95% confidence level and a sample of roughly 100 (Public Officials, EMS Officials and Excavators per region) represents a margin for error of +/- 10.0% at a 95 % confidence level. (PHMSA FORM 21 – 4.03)

In theory, a sample of **Region Five** residents will differ no more than +/- 4.5% than if all **Region Five** residents were contacted and included in the survey. That is, if random probability sampling procedures were reiterated over and over again, sample results may be expected to approximate the larger population values within plus or minus 4.5% -- 95 out of 100 times. (PHMSA FORM 21 – 4.03)

And, a sample of **Region Five** Public Officials, EMS Officials or Excavators will differ no more than +/-10.0% than if all of said officials in **Region Five** were contacted and included in the survey. That is, if random probability sampling procedures were reiterated over and over again, sample results may be expected to approximate the larger population values within plus or minus 10.0% -- 95 out of 100 times.

Readers of this report should note that any survey is analogous to a snapshot in time and results are only reflective of the time period in which the survey was undertaken. Should concerted public relations or information campaigns be undertaken during or shortly after the fielding of the survey, the results contained herein may be expected to change and should be, therefore, carefully interpreted and extrapolated.

Furthermore, it is important to note that all surveys contain some component of “sampling error.” Error that is attributed to systematic bias has been significantly reduced by utilizing strict random probability procedures. This sample was strictly random in that selection of each potential respondent was an independent event, based on known probabilities.

Each qualified household within **Region Five** had an equal chance for participating in the study. Statistical random error, however, can never be eliminated but may be significantly reduced by increasing sample size.

Throughout a twelve week time frame, GreatBlue surveyed within eight regions for the Northeast Gas Association. The table below presents an overview of the regions.

Region	State(s)	Gas Utilities Represented
Region One	Connecticut	Connecticut Natural Gas, Norwich Public Utilities, Southern Connecticut Gas, Yankee Gas
Region Two	Maine New Hampshire Vermont	Maine Natural Gas, Bangor Gas, Liberty Utilities, Unitil, Vermont Gas Systems, Inc.
Region Three	New York (Northeast)	National Grid (US NY), New York State Electric & Gas, St. Lawrence Gas
Region Four	New York (West)	Corning Natural Gas, National Fuel Gas Distribution, New York State Electric & Gas, Rochester Gas & Electric
Region Five	New York (Southeast)	Central Hudson Gas & Electric, Consolidated Edison, National Grid (DS NY), New York State Electric & Gas, Orange & Rockland Utilities
Region Six	Massachusetts Rhode Island (Northwest)	Columbia Gas, Berkshire Gas Company, Holyoke Gas & Electric Department, National Grid (NE), NSTAR Electric & Gas, Unitil, Westfield Gas & Electric Light Department, Wakefield Gas
Region Seven	Massachusetts Rhode Island (Southeast)	Columbia Gas, Middleboro Gas & Electric Department, National Grid (RI/Cape Cod), NSTAR Electric & Gas, Liberty Utilities
Region Eight	New Jersey	New Jersey Natural Gas, Public Service Electric & Gas Company, South Jersey Gas

STATISTICAL ANALYSIS

A Z test was performed to determine if statistically significant differences occurred between two population proportions. In this survey analysis, the two population proportions were the responses to key questions from the 2010 NGA survey and 2014 NGA survey. Even though it appears that differences were evident from the 2010 data to the 2014 data, statistical testing was performed to determine if these differences were due to chance alone or were due to some underlying issues or factors present.

One of the many assumptions in performing the Z test relies on the following fact: the questions to be statistically compared from one study to the next data have to be identical with absolutely no variation or modification in wording or format from 2010 to 2014. Any variation or modification in the wording or format of the question will violate this underlying assumption and will greatly affect the statistical reliability and validity. Statistical testing, therefore, should not be done.

Thus, only the questions that did not violate the underlying assumptions were tested using the Z test. Statistically significant changes at the error rate of 0.05 were reported with one star (*). This star indicates that the change from 2010 to 2014 was a statistically significant increase or a statistically significant decrease as appropriate, and not due to chance alone.

Further analysis might assist in determining what factors were primary contributors or determinants for this statistically significant increase or decrease between the 2010 data and the 2014 data. *(Readers should note that the following sentence represents an example to demonstrate the statistical analysis and is not reflective of actual data within this report).* For example, if it was determined that general public's awareness of natural gas pipelines running underground in their neighborhood statistically significantly decreased from 82.8% in 2010 to 74.5% in 2014, some of the key contributory factors involved might include the gender, education, or ethnicity of the respondent. The list of key contributors leading to this statistically significant increase or decrease between the 2010 data and the 2014 would be region specific, depending upon the region's own unique demographic make-up of its sample.

NORTHEAST GAS ASSOCIATION – GENERAL PUBLIC CONSOLIDATED EDISON

Core Questions	2014 NGA Composite	2010 Region 5	2014 Region 5	2010 Con Ed	2014 Con Ed
Number of respondents	4,402	403	512	143	156
Margin for error	+/-1.3%	+/-4.8%	+/-4.3%	+/-8.2%	+/-7.8%
1. Aware that natural gas pipelines run underground in many areas in and around your community (very/somewhat aware) (PHMSA FORM 21 – 4.05)	86.0%	83.6	86.3	80.4	84.0
2. How familiar with smell of natural gas (very/somewhat familiar) (PHMSA FORM 21 – 4.05)	85.9	84.9	82.4	81.8	78.2
3. Does a natural gas pipeline run through your town? (yes)	74.2	74.4	68.8*	70.6	64.1
8. How you might detect a gas leak (correct: smell, hear, see damaged pipe/line/see effects of damaged line) (PHMSA FORM 21 – 4.05)	118.2	96.0	129.0	97.2	169.3
18. Over last year, read, seen or heard any info (yes)	28.6	23.8	28.5	24.5	39.7*
19. How aware of Consolidated Edison and NGA's safety education efforts (very/somewhat aware) (PHMSA FORM 21 – 4.04)	33.1	26.3	31.4	27.3	40.4*
22. How important you believe Pipeline Safety Public Education is (very/somewhat important)	94.2	95.8	93.6	94.4	91.7
23. Recalled message: Dig Safe/Dig Safely, etc. (very/somewhat familiar) (PHMSA FORM 21 – 4.04)	74.9	55.1	53.3	53.8	46.2
24. Recalled message: 811 – Call Before You Dig (very/somewhat familiar) (PHMSA FORM 21 – 4.04)	64.5	35.5	44.5*	34.3	36.5
30. Preferred way to receive information (TV news)	36.5	49.1	39.5	53.8	49.4
TV advertising	26.8	18.9	26.4	26.6	27.6
Mailings/Direct mail	24.1	18.4	29.5	14.0	21.8
Bill inserts	23.2	15.6	19.9	16.1	29.5
Utility company – direct mail	17.7	5.7	24.4	6.3	42.3

NORTHEAST GAS ASSOCIATION – PUBLIC OFFICIALS CONSOLIDATED EDISON

Core Questions	2014 NGA Composite	2010 Region 5	2014 Region 5	2010 Con Ed	2014 Con Ed
Number of respondents	887	113	102	39	35
Margin for error	+/-3.2%	+/-9.2%	+/-9.7%	+/-15.7%	+/-16.6%
2. Aware that natural gas pipelines run underground in many areas in and around your community (very/somewhat aware) (PHMSA FORM 21 – 4.05)	90.6%	79.6	86.3	74.4	77.1
5. Your own community's Emergency Response Plan for natural gas pipeline breaks (very/somewhat aware) (PHMSA FORM 21 – 4.05)	66.5	47.8	60.8	28.2	48.6
7. How concerned had you been about natural gas pipeline safety in your area (very/somewhat concerned)	56.4	52.2	58.8	59.0	71.4
11. How you might detect a gas leak (correct: smell, hear, see damaged pipe/line/see effects of damaged line) (PHMSA FORM 21 – 4.05)	109.6	101.8	102.0	92.4	97.1
13. Have number handy to call Consolidated Edison regarding leak or pipeline damage (yes) (PHMSA FORM 21 – 4.04)	68.0	60.2	71.6	51.3	65.7
20. Talked to residents/professionals about natural gas pipeline safety precautions (yes)	20.1	18.6	20.6	12.8	17.1
26. Natural gas leak emergency training (very well prepared/somewhat prepared)	75.9	65.5	74.5	53.8	68.6
31. How aware of Consolidated Edison and NGA's safety education efforts (very/somewhat aware) (PHMSA FORM 21 – 4.04)	41.4	45.1	41.2	35.9	40.0
34. How important is Pipeline Safety Public Education (very/somewhat important)	97.9	92.9	97.1	87.2	94.3
35. Recalled message: Dig Safe/Dig Safely, etc. (very/somewhat familiar) (PHMSA FORM 21 – 4.04)	92.4	73.5	79.4	64.1	60.0
36. Recalled message: 811 – Call Before You Dig (very/somewhat familiar) (PHMSA FORM 21 – 4.04)	87.7	67.3	76.5	51.3	60.0
43. Preferred way to receive information Mailings/Direct mail	35.1	32.7	38.2	15.4	28.6
Email	25.5	10.6	22.5	17.9	28.6
TV news	22.8	30.1	26.5	28.2	25.7
TV advertising	16.9	31.0	16.7	53.8	11.4
Bill inserts	9.4	5.3	7.8	5.1	5.7

NORTHEAST GAS ASSOCIATION – EMS OFFICIALS CONSOLIDATED EDISON

Core Questions	2014 NGA Composite	2010 Region 5	2014 Region 5	2010 Con Ed	2014 Con Ed
Number of respondents	895	103	107	35	42
Margin for error	+/-3.2%	+/-9.6%	+/-9.5%	+/-16.6%	+/-15.1%
2. Aware that natural gas pipelines run underground in many areas in and around your community (very/somewhat aware) (PHMSA FORM 21 – 4.05)	94.9%	92.2	90.7	88.6	92.9
5. Your own community's Emergency Response Plan for natural gas pipeline breaks (very/somewhat aware) (PHMSA FORM 21 – 4.05)	82.2	80.6	76.6	74.3	90.5
7. How concerned had you been about natural gas pipeline safety in your area (very/somewhat concerned)	59.6	53.4	62.6	45.7	73.8*
11. How you might detect a gas leak (correct: smell, hear, see damaged pipe/line/see effects of damaged line) (PHMSA FORM 21 – 4.05)	109.4	98.1	115.9	94.3	157.2
14. Have number handy to call Consolidated Edison regarding leak or pipeline damage (yes) (PHMSA FORM 21 – 4.04)	78.9	89.3	71.0*	88.6	83.3
21. Talked to residents/professionals about natural gas pipeline safety precautions (yes)	37.4	39.8	22.4*	40.0	33.3
28. Natural gas leak emergency training (very well prepared/somewhat prepared)	84.8	82.5	74.8	77.1	83.3
33. How aware of Consolidated Edison and NGA's safety education efforts (very/somewhat aware) (PHMSA FORM 21 – 4.04)	52.2	58.3	34.6*	62.9	52.4
36. How important is Pipeline Safety Public Education (very/somewhat important)	97.9	97.1	96.3	100.0	97.6
37. Recalled message: Dig Safe/Dig Safely, etc. (very/somewhat familiar) (PHMSA FORM 21 – 4.04)	93.4	85.4	74.8	85.7	83.3
38. Recalled message: 811 – Call Before You Dig (very/somewhat familiar) (PHMSA FORM 21 – 4.04)	88.8	85.4	70.1*	82.9	83.3
44. Preferred way to receive information Mailings/Direct mail	32.8	38.8	37.4	25.7	26.2
TV news	27.2	35.9	30.8	51.4	40.5
Email	25.6	10.7	25.2	11.4	23.8
TV advertising	17.4	22.3	23.4	22.9	35.7
Utility company – direct mail	8.4	4.9	11.2	25.7	23.8

NORTHEAST GAS ASSOCIATION – EXCAVATORS CONSOLIDATED EDISON

Core Questions	2014 NGA Composite	2010 Region 5	2014 Region 5	2010 Con Ed	2014 Con Ed
Number of respondents	830	104	100	36	35
Margin for error	+/-3.3%	+/-9.6%	+/-9.8%	+/-16.3%	+/-16.6
1. Awareness of precautions required when digging in general (very/somewhat aware) (PHMSA FORM 21 – 4.05)	96.3%	99.1	95.0	97.2	88.6
9. How frequently do you contact the One Call Center (always/most of the time)	90.6	92.3	84.0	94.4	77.1*
13. Provide utility damage prevention and natural gas pipeline safety training to other operators? (yes)	64.3	90.2	62.1*	92.9	66.7*
20. How concerned had you been about natural gas pipeline safety (very/somewhat concerned)	84.5	90.4	82.0	86.1	85.7
23. How you might detect a gas leak (correct: smell, hear, see damaged pipe/line/see effects of damaged line) (PHMSA FORM 21 – 4.05)	123.3	118.7	114.0	102.9	105.7
28. Passed natural gas pipeline safety information on to others besides employees (yes)	24.5	24.0	21.0	16.7	22.9
29. Talked to employees about natural gas pipeline safety precautions (yes)	53.6	57.7	39.0	69.4	40.0*
30. How aware of Consolidated Edison and NGA's safety education efforts (very/somewhat aware) (PHMSA FORM 21 – 4.04)	46.9	65.4	31.0*	61.1	25.7*
33. How important is Pipeline Safety Public Education (very/somewhat important)	98.2	98.1	97.0	100.0	100.0
34. Recalled message: Dig Safe/Dig Safely, etc. (very/somewhat familiar) (PHMSA FORM 21 – 4.04)	98.2	97.1	96.0	94.4	91.4
35. Recalled message: 811 – Call Before You Dig (very/somewhat familiar) (PHMSA FORM 21 – 4.04)	96.4	96.2	93.0	94.4	85.7
41. Preferred way to receive information Mailings/Direct mail	42.3	51.0	38.0	44.4	34.3
Email	29.8	13.2	36.0	16.7	48.6
TV news	19.3	17.3	11.0	22.2	2.9
TV advertising	13.0	4.8	9.0	2.8	8.6
Internet/web	7.3	3.8	10.0	5.6	2.9