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**SPECIFICATION:** **G-11806-17**

**TITLE:** **GAS LEAK DETECTION SURVEY PROGRAM**

**VOLUME:** **1 and 10**

**REGISTRATION NO:** **GLS0505 & GLS0506**

**TARGET TRAINING GROUP:** **Leak Survey**

**REVISIONS:** (See ★)

- 1) Table of Contents - Added Section 14.0 "Attachment".
- 2) Section 1.0 - Added outside gas meters to the scope.
- 3) Section 5.5 - Added outside gas meters to the definition of distribution system.
- 4) Section 7.1 (B) - Deleted reference to specific DP-IR alarm settings for remote areas and heavy traffic areas.
- 5) Section 7.1 (E) - Added new section requiring the mark-up of the general mains maps in color for a mobile survey.
- 6) Section 7.2 (A) - Deleted reference to specific DP-IR alarm settings for remote areas and heavy traffic areas.
- 7) Section 7.2 (C)& (D) - Added new sections requiring the mark-up of the general mains maps in color for a walking survey.
- 8) Section 12.4 - Added new section describing the transmission main survey record process plan.
- 9) Section 13.0 - Updated title of G-11809.
- 10) Section 14.0 - Added "Attachments" Section.
- 11) Attachment 1 - Added Halloween Parade and Roosevelt Island.
- 12) Attachment 2 - Added "Leak Survey Special Survey Record."



G-11806-17

# Gas Operations Standards

## TITLE: GAS LEAK DETECTION SURVEY PROGRAM

EFFECTIVE DATE: April 7, 2014

### ★ TABLE OF CONTENTS

<u>SECTION</u>	<u>TITLE</u>	<u>PAGE</u>
1.0	SCOPE	2
2.0	LEGAL REQUIREMENTS	2
3.0	ORGANIZATIONS APPLICABLE	2
4.0	RESPONSIBILITY	2
5.0	DEFINITIONS	2
6.0	LEAK SURVEY INSTRUMENT SENSITIVITY	3
7.0	PROCEDURE FOR CONDUCTING SURVEYS	3
8.0	PERIODIC LEAK SURVEY REQUIREMENTS	4
9.0	SURVEYS BY CUSTOMERS	4
10.0	REPORTING LEAKS	5
11.0	HIGH-SPEED CAST IRON SURVEY CRITERIA – EXTREME WEATHER CONDITIONS	5
12.0	RECORDS	6
13.0	REFERENCES	7
★ 14.0	ATTACHMENTS	7

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# **TITLE: GAS LEAK DETECTION SURVEY PROGRAM**

## ★ 1.0 **SCOPE**

This procedure describes the requirements for leak detection surveys of the gas transmission and distribution systems, including service lines to building walls, outside meter sets only, and underground piping beyond the customer's meters.

## 2.0 **LEGAL REQUIREMENTS**

This procedure complies with requirements of:

2.1 Federal: DOT 192.706 and 192.723.

2.2 State: 16NYCRR 255.706, 723(a) and (b), and 261.17.

## 3.0 **ORGANIZATIONS APPLICABLE**

Leak Survey.

## 4.0 **RESPONSIBILITY**

4.1 The Leak Survey Section of Gas Engineering's Technical Operations Department is responsible for performing mobile and walking surveys of gas mains and gas services. They shall report all leaks found to the Gas Emergency Response Center (GERC).

4.2 Each Gas Operating Area shall provide frost line data to Leak Survey.

## 5.0 **DEFINITIONS**

5.1 Leak survey - A survey to detect gas leaks from gas pipelines, performed by trained and operator qualified personnel, using a gas detector, - Detecto Pak-Infrared (DP-IR).

5.2 Business district – An area that is predominantly commercial, including the following:

- Shopping Malls/Centers
- Streets where the majority (greater than 50%) of the buildings are stores, shops, factories, plants and/or office buildings

NUMBER:	DATE:	VOLUME: 1 and 10	PAGE 2
G-11806-17	3/7/14	Inspection and Maintenance, O&M Manual	OF 7 PAGES



# **TITLE: GAS LEAK DETECTION SURVEY PROGRAM**

## **5.0 DEFINITIONS (Continued)**

5.3 Annually – An interval not exceeding 15 months but at least once each calendar year.

5.4 Transmission system - Gas pipelines operated at pressures over 125 psig.

★ 5.5 Distribution system - Gas pipelines other than the transmission system including services up to building walls, outside gas meters only, and all known underground gas piping beyond the outlet of the customers meters, but excluding customers piping in industrial complexes.

## **6.0 LEAK SURVEY INSTRUMENT SENSITIVITY**

Maintenance and testing of the DP-IR will be performed in accordance with gas specification G-11861.

## **7.0 PROCEDURE FOR CONDUCTING SURVEYS**

### **7.1 Mobile Survey**

A) Prior to conducting mobile surveys, personnel will obtain the most up to date maps (i.e. general mains maps; M&S Plates) indicating the location of the facilities to be surveyed. Mobile surveys are conducted by driving a vehicle equipped with a DPIR over the gas main (or as close as possible) at a speed of 8 -10 mph.

Gas mains located behind the curb or edge of the road, or on sidewalks must be surveyed by walking (See Section 7.2).

★ B) Mobile Leak surveys will be conducted with the DP-IR alarm level set between 3 and 5 PPM. No scale adjustment is required.

C) Under normal conditions, the sample cones or funnels on the vehicle should be approximately 2" from the street on level ground. The sample cones may be shortened when winter ground cover (snow, slush or ice) could interfere with the sampling system of the vehicle.

D) Leak surveys will not normally be conducted during inclement weather, however during declared system emergencies special surveys can be being conducted upon request



## TITLE: GAS LEAK DETECTION SURVEY PROGRAM

### 7.0 PROCEDURE FOR CONDUCTING SURVEYS (Continued)

- ★ E) As each mobile survey is completed, the applicable general mains map must be outlined with a color pencil, assigned for that day. Also the color must be dated, identifying when the survey was completed. Accordingly, the back of the general mains map must indicate the following: date, type of survey, color code, miles surveyed, name, BD services and/or NBD services. The color marking may not obliterate the other colors or details of the map.

#### 7.2 Walking Surveys of Services

- ★ A) Prior to performing the walking surveys Leak Survey Technicians will obtain the most up to date maps (i.e. M&S plates) indicating service locations. Using the maps and other visible references (i.e. curb valves), technicians will walk the path of the service from the curb (or edge of the road) to the building with the DP-IR alarm level set between 3 and 5 PPM. No scale adjustment is required.
- B) If a service is in an area which can be surveyed by driving a vehicle over it, it will be surveyed by a mobile survey instead of a walking survey (See Section 7.1).
- ★ C) As each walking survey is completed, the applicable general mains map must be highlighted yellow for business district (BD) and highlighted red for non-business district (NBD) and must be dated by the Technician.
- ★ D) Prior to walking a NBD survey, the Supervisor must denote all BD areas with a yellow highlighter.

### 8.0 PERIODIC LEAK SURVEY REQUIREMENTS

- 8.1 A leak survey of the transmission system shall be conducted **three times per calendar year**.
- 8.2 A leak survey of distribution mains in business districts shall be conducted **annually**.
- 8.3 A leak survey of distribution mains in non-business districts shall be conducted **annually**.

NUMBER:	DATE:	VOLUME: 1 and 10	PAGE 4
G-11806-17	3/7/14	Inspection and Maintenance, O&M Manual	OF 7 PAGES



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## TITLE: GAS LEAK DETECTION SURVEY PROGRAM

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### 8.0 **PERIODIC LEAK SURVEY REQUIREMENTS** (Continued)

- 8.4 A leak survey of the distribution services located in business districts shall be conducted **annually**.
- 8.5 A leak survey of distribution services in areas other than business districts shall be done on a **three-year** cycle.

### 9.0 **SURVEYS BY CUSTOMERS**

A non-residential customer may accept responsibility for a required leak survey; however, Con Edison must maintain appropriate records and verify that the leak survey was completed.

### 10.0 **REPORTING LEAKS**

Gas leaks detected during surveys shall be classified and reported in accordance with G-11809. Source codes to be used by the Leak Survey Section are as follows:

- 12 - Business area service survey
- 33 - Non-business area service survey
- 41 - Low pressure mains survey
- 47 - New York Facility mains survey
- 48 - Pre-paving survey
- 51 - Medium and high pressure mains survey
- 55 - Cast iron encroachment related survey
- 56 - Reconstruction areas, special surveys etc.
- 57 - Pre-paving surveys
- 61 - Special surveys - hospitals
- 61 - Special surveys - colleges and universities
- 61 - Special survey - marathon routes
- 61 - Special surveys - parade routes
- 61 - Type 3 gas leak surveillances - (New leaks use code 63)
- 61 - Other special surveys not listed anywhere else
- 65 - High-speed cast iron main patrols (broken main survey)



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**TITLE: GAS LEAK DETECTION SURVEY  
PROGRAM**

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**11.0 HIGH-SPEED CAST IRON SURVEY CRITERIA – EXTREME WEATHER  
CONDITIONS**

- 11.1 A High-Speed Cast Iron Survey may be deployed when any one of the following criteria are met.
- A) Significant variations in temperature oscillating above and below 32 degrees Fahrenheit. Example: Temperatures below 32 degrees rising to 40 degrees or more, then dropping below 32 degrees followed by a rise in temperature to 40 degrees or more and falling below 32 degrees or
  - B) When the ambient temperature is forecasted to remain at 32 degrees Fahrenheit or lower for 7 or more consecutive days and the system experiences three breaks or more per day over 2 successive days or
  - C) When the temperature falls below 20 degrees Fahrenheit and field verified frost depth conditions of 24 inches or greater exist.
- 11.2 When deployed, the High Speed Cast Iron survey will concentrate on:
- A) 4", 6", and 8" cast iron mains and
  - B) Areas with historical cast iron breaks

**12.0 RECORDS**

- 12.1 All records of transmission system leak surveys shall be retained for as long as the segment of main involved remains in service.
- 12.2 Records of distribution system leak surveys shall be retained for six years, including verification of completed surveys of piping by non-residential customers (see Section 9.0).
- 12.3 Gas leak records shall be prepared in accordance with G-11834.



## **TITLE: GAS LEAK DETECTION SURVEY PROGRAM**

### 12.0 **RECORDS** (Continued)

#### ★ 12.4 **Transmission Main Survey Record Process Plan**

- A) Supervisor highlights transmission main segments (M1, X2, W3, Q2). Three distinct colors will be utilized for each dedicated survey. Also, the color must be dated identifying when the survey was completed. At the end of the year, three dedicated surveys must be properly identified. The color of the marking may not obliterate the other colors or details of the map.
- B) The back of the general main maps used for the dedicated transmission survey must show the date, survey type, miles of main, color used, set name and number of leaks found.
- C) The supervisor will fill out the heading of the special survey record (Attachment 2)
- D) The employee fills out the date, results, name and supervisor's name. Once the supervisor confirms that maps are marked as in steps per the steps above, he/she will initial the special survey record.

#### ★ 13.0 **REFERENCES**

G-11809 – Outside Gas Leak Reporting, Classification, Surveillance, Repair and Follow-Up Inspection

G-11834 – Procedure for Recording and Monitoring an Outside Gas Leak and Repair History

G-11861 – Procedure for the Inspection, Maintenance and Operation of Gas Measurement Instruments

#### ★ 14.0 **ATTACHMENTS**

- Attachment 1 - Leak Survey Annual Specials
- Attachment 2 - Leak Survey Special Survey Record

NUMBER:	DATE:	VOLUME: 1 and 10	PAGE 7
G-11806-17	3/7/14	Inspection and Maintenance, O&M Manual	OF 7 PAGES



★ **Attachment 1 – Leak Survey Annual Specials**

NAME OF SPECIAL		BOROUGH / COUNTY / MUNICIPALITY	
All Facility Mains		All Boroughs	
N.Y.C. Marathon Route		Manhattan-Bronx-Queens	
Margaret Chapman School		Westchester / Mt. Pleasant	
Westchester Community College		Westchester / Greenburgh	
Yonkers Sewer Treatment Plant		Westchester / Yonkers	
Hawthorne County Day School		Westchester / Hawthorne	
S.U.N.Y. Campus		Westchester / Harrison	
Westchester Medical Center		Westchester / Mt. Pleasant	
Pleasantville Cottage School		Westchester / Pleasantville	
F.D.R. Veterans Hospital		Westchester / Cortlandt	
Manhattanville College / Japanese H.S.		Westchester / Harrison	
Burke Foundation		Westchester / White Plains	
Masters School		Westchester / Dobbs Ferry	
Cornell Med. Center		Westchester / White Plains	
Pace University		Westchester / Mt. Pleasant	
Hackley School		Westchester / Tarrytown	
Church of Devine and Passion / Pace Law		Westchester / White Plains	
Rye Yard CNG Station		Westchester / Rye	
Iona College		Westchester / New Rochelle	
Osborn Memorial Home		Westchester / Rye	
Eastview Yard CNG Station		Westchester / Eastview	
Leake & Watts Home & School		Westchester / Yonkers	
Wartburg Home		Westchester / Mt. Vernon	
Graham School		Westchester / Hastings	
Julia Dyckman Foundation		Westchester / Hastings	
Veterans Hospital		Bronx	
St. Josephs Institute		Bronx	
Msgr. Scanlon High School		Bronx	
Mt. Saint Vincent College		Bronx	
Bronx Zoo		Bronx	
N.Y. Botanical Gardens		Bronx	
Calvary Hospital		Bronx	

★ **Attachment 1 – Leak Survey Annual Specials** (Continued)

NAME OF SPECIAL		BOROUGH / COUNTY / MUNICIPALITY	
Jacobi Hospital		Bronx	
Manhattan College		Bronx	
Fordham University		Bronx	
Bronx State Hospital		Bronx	
Lehman College		Bronx	
Mt. Saint Michael School		Bronx	
Horace Mann School		Bronx	
Montefiore Hospital		Bronx	
St. Barnabas Hospital		Bronx	
Albert Einstein Hospital		Bronx	
Bronx Community College		Bronx	
NYC Transit Bus Depot		Bronx	
Villa Maria Academy		Bronx	
Riverdale Country Day School		Bronx	
Van Nest Yard CNG Station		Bronx	
City Island		Bronx	
Hunts Point Station		Bronx	
Hellgate (NYPA)		Bronx	
United Cerebral Palsy Institute		Queens	
Creedmore Hospital		Queens	
Queens General Hospital		Queens	
Long Island Jewish Hospital		Queens	
Hillside Hospital		Queens	
St. Johns University		Queens	
Queensborough Community Col.		Queens	
Queens College		Queens	
Newtown Creek Station		Queens	
Ravenswood Plant		Queens	
U.S. Armory		Queens	
Astoria Plant		Queens	
Riker's Island Correction Facility		Queens	
L.N.G. Plant		Queens	
Astoria Yard CNG Station		Queens	
College Point CNG Station		Queens	
Times Square		Manhattan	

★ **Attachment 1 – Leak Survey Annual Specials**

NAME OF SPECIAL		BOROUGH / COUNTY / MUNICIPALITY	
Rockefeller Center Tree Lighting		Manhattan	
Pulaski Day Parade		Manhattan	
Columbus Day Parade		Manhattan	
Veterans Day Parade		Manhattan	
★ Halloween Parade		Manhattan	
Macy's Thanksgiving Day Parade		Manhattan	
Governors Island		Manhattan	
16th Street Yard CNG Station		Manhattan	
28th Street Yard CNG Station		Manhattan	
★ Roosevelt Island		Manhattan	
Visy Paper Company		Staten Island	

**Parades in Manhattan indicating responsible group and due date.**

St. Patrick's Day Parade	17-Mar	Manhattan GDS
Salute to Israel Parade	20-Mar	Manhattan GDS
Puerto Rican Day Parade	7-Jun	Manhattan GDS
Labor Day Parade	1-Sep	Manhattan GDS
Pulaski Day Parade	5-Oct	Manhattan GDS
Columbus Day Parade	13-Oct	Leak Survey
Veterans Day Parade	11-Nov	Leak Survey
Macy's Thanksgiving Day Parade	27-Nov	Leak Survey
Times Square	31-Dec	Leak Survey

★ **Attachment 2**

**LEAK SURVEY  
SPECIAL SURVEY RECORD**

DIVISION \_\_\_\_\_

SURVEY LOCATION \_\_\_\_\_

SOURCE CODE \_\_\_\_\_

SURVEY REQUESTED BY \_\_\_\_\_

SURVEY INTERVAL \_\_\_\_\_

ACCOUNT # \_\_\_\_\_

REMARKS \_\_\_\_\_

DATE	RESULTS	TECHNICIAN	SUPERVISOR	HRS on JOB	SUPV INITIAL