

**LAST REVIEW DATE:**  
**1/24/14**

**REVIEW CYCLE:**  
**5 Years**

**SPECIFICATION:** **G-11839-9**

**TITLE:** **REPLACEMENT AND MAINTENANCE OF  
CAST IRON PIPE LOCATED IN  
CONSTRUCTION AREAS**

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

**REGISTRATION NO.:** **GAS0426**

**TARGET TRAINING  
GROUPS:** **GDS, Gas Construction, Gas Distribution  
Engineering**

**REVISIONS:** (See ★ )

- |    |                   |   |
|----|-------------------|---|
| 1) | Table of Contents | - Revised title of Section 8.0. Added Section 11.0.   |
| 2) | Section 1.0       | - Expanded the scope of this procedure.   |
| 3) | Section 8.0       | - Revised the section title to add earth movement and future excavations to reflect expanded scope of the section. Added sub-section numbering. |
| 4) | Section 8.1       | - Deleted reference to CIPS and added reference to DPIR.  |
| 5) | Section 8.2       | - Added new section covering future excavations.  |
| 6) | Section 8.3       | - Added new section requiring protection of cast iron mains from various damage sources.  |
| 7) | Section 11.0      | - Added "Attachments" Section.  |



G-11839-9

# Gas Operations Standards

## TITLE: REPLACEMENT AND MAINTENANCE OF CAST IRON PIPE LOCATED IN CONSTRUCTION AREAS

**EFFECTIVE DATE:** February 24, 2014

### ★ TABLE OF CONTENTS

<b><u>SECTION</u></b>	<b><u>TITLE</u></b>	<b><u>PAGE</u></b>
1.0	SCOPE	2
2.0	LEGAL REQUIREMENTS	2
3.0	DEFINITIONS	2
4.0	EXCAVATION EXPOSING AND UNDERMINING PIPES	3
5.0	EXCAVATION PARALLEL TO PIPES	3
6.0	ALTERNATE PROCEDURE – PSC WAIVER AND ORDER DATED DECEMBER 3, 1986 EXCAVATION PARALLEL TO PIPE	4
7.0	ALTERNATE PROCEDURE-PSC WAIVER AND ORDER DATED JUNE 3, 2004 - RETENTION OF CURED-IN- PLACE LINED PIPES (PILOT PROGRAM)	5
★ 8.0	PROTECTING CAST IRON FROM VIBRATIONS DUE TO HEAVY EQUIPMENT, IMPACT FORCES, EARTH MOVEMENT, BLASTING, AND FUTURE EXCAVATIONS	8
9.0	REPORTING AND PAPER FLOW	9
10	RECORD-KEEPING FOR RETAINING CAST IRON MAINS	10
★ 11.0	ATTACHMENTS	11

ENVIRONMENTAL REVIEW BY: N. Giraldi		SAFETY REVIEW BY: N. Giraldi		
PREPARED BY:	APPROVED BY:	DATE:	VOLUME: 1 and 10	PAGE OF 1
M. Baldovin	Leonard P. Singh Chief Gas Engineer Gas Distribution Engineering	1/24/14	Inspection and Maintenance, O&M Manual	11 PAGES



---

---

**TITLE: REPLACEMENT AND MAINTENANCE OF CAST  
IRON PIPE LOCATED IN CONSTRUCTION  
AREAS**

---

---

★ 1.0 **SCOPE**

This procedure provides requirements for the replacement of 8 inch and smaller cast iron gas mains parallel to excavations not adequately protected by structural sheeting and for the timely replacement of cast iron piping that is exposed and undermined. This procedure also provides requirements for protecting all sizes of cast iron that has been disturbed from vibrations due to heavy equipment, trains, trucks, buses, blasting, impact forces by vehicles, earth movement, apparent future excavations near the pipeline, or other foreseeable outside forces which may subject that segment of the pipeline to bending stress. .

2.0 **LEGAL REQUIREMENTS**

State of New York Department of Public Service Report on Natural Gas Explosion 48-19 41st, Queens November 21, 2007 Case 08-G-0415, June 18, 2008. (Noted in this specification as PSC Case 08-G-0415)

This procedure complies with the requirements of:

- 16 NYCRR Part 255.755, 756, 757
- September 24, 1980 letter from Joseph Hydok to John Zekoll, New York State Public Service Commission.
- PSC Waiver and Order dated December 3, 1986.
- PSC Waiver and Order dated June 3, 2004-Pilot program for Cured-in-Place Liners.

3.0 **DEFINITIONS**

Immediately - Defined as the first regular work day that the Company can get access to its facilities.

Third Party Excavation - Excavation which purpose is for work other than normal gas operation and maintenance work being performed on the encroached cast iron pipe.

Composite Pipe - Any section of gas main in which a cured-in-place liner has been installed.

Type A Soil - Defined as clay, clay mixes or cemented soils.

Type B Soil - Defined as silt, granular soils or crushed rock.



---

---

**TITLE: REPLACEMENT AND MAINTENANCE OF CAST  
IRON PIPE LOCATED IN CONSTRUCTION  
AREAS**

---

---

3.0 **DEFINITIONS** (Continued)

Type C Soil - Defined as sand and/or gravel mixed soils or submerged soils from which water is freely seeping.

4.0 **EXCAVATION EXPOSING AND UNDERMINING PIPES**

Cast iron gas pipes, 8 inches or less in diameter, that have been exposed or will be exposed and undermined by an excavation 36 inches or greater during third party excavations will be replaced by steel or plastic pipe in accordance with EO-15447-B (attached).

**NOTE:** For replacements of cast iron mains in close proximity to electric manholes, consideration shall be given to replace additional footage of main as needed. (Added as per PSC Case 08-G-0415)

The following actions will be taken in listed order of preference:

- A) The cast iron pipe will be replaced prior to planned third party construction activity.
- B) The cast iron pipe will be surveilled daily, will not be backfilled or will have an open vent hole, and will be replaced as soon as practical after the third party contractor allows access to the excavation site.

5.0 **EXCAVATION PARALLEL TO PIPES**

5.1 Cast iron gas pipes, 8 inches or less in diameter, parallel to excavations not adequately shored with structural sheeting to protect the pipe against movement, shall be replaced in accordance with EO-15447-B. A 4-inch cast iron pipe within the angle of repose for less than 8 feet and a 6 inch or 8 inch cast iron pipe within the angle of repose for less than 10 feet need not be replaced, if the depth of cover on the pipe is greater than 2.5 feet.

**NOTE:** For replacements of cast iron mains in close proximity to electric manholes, consideration shall be given to replace additional footage of main as needed. (Added as per PSC Case 08-G-0415)



---

---

**TITLE: REPLACEMENT AND MAINTENANCE OF CAST  
IRON PIPE LOCATED IN CONSTRUCTION  
AREAS**

---

---

**5.0 EXCAVATION PARALLEL TO PIPES (Continued)**

- 5.2 Cast iron gas pipe, 8 inch and smaller, not exposed by excavations parallel to the gas pipe but required to be replaced, shall be replaced in the following listed order of preference:
- A) The cast iron pipe will be replaced prior to planned construction activity.
  - B) The cast iron pipe will be surveilled daily and be replaced immediately when the replacement work will not interfere with third party construction or when safety conditions dictate immediate replacement.
- 5.3 Construction Management Field Inspectors and Gas Engineering personnel responsible for analysis and evaluation of cast iron mains near parallel trench construction shall be retrained by The Learning Center annually.

**6.0 ALTERNATE PROCEDURE - PSC WAIVER AND ORDER DATED  
DECEMBER 3, 1986 EXCAVATION PARALLEL TO PIPE**

- 6.1 Under PSC Waiver and Order dated December 3, 1986, the Gas Engineering Interference Section will determine the applicability of this waiver versus the conventional criteria regarding the need to replace cast iron pipe within a 45-degree angle of any excavation trench bottom in accordance with Drawing EO-15447-B. This Waiver applies only to low-pressure cast iron pipe, 8 inches or smaller in diameter, and trenches less than 20 feet in depth. Only trenches using conventional timber sheeting are acceptable under this waiver.
- 6.2 Construction Management Field Inspectors will monitor construction to confirm that actual conditions encountered in the field are consistent with those determined by the Gas Engineering Interference Section. The Field Inspector or Mark Out Vendors will fill-out the Gas Line Clearance Report (Exhibit A) on a block-by-block basis (or shorter if conditions warrant) and send, upon completion, to the Gas Engineering Interference Section for re-evaluation. The Field Inspector will also fill-out the Cast Iron Main Information Sheet (Exhibit B) when requested to do so by Gas Engineering.