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SPECIFICATION: **G-8003-16**

TITLE: **TRANSPORTATION, HANDLING AND STORAGE OF STEEL PIPE FOR GAS MAINS AND SERVICES**

VOLUME: **2 (Section 3.0)**

COURSE ID: **GAS6026**

★ **REQUIRED TRAINING GROUPS:** **Gas Construction, Per Diem, Gas Contractors, Facilities & Field Services and Construction (All)**

★ Each group listed is responsible for its own training which may be specific to a title/individual and not to the group in its entirety. Please check with your local training coordinator/department.

★ SUBSTANTATIVE REVISIONS: (See ★)

1) Cover Page
   - Removed “Core Group” and “Target Audience”, added “Required Training Groups”, and training responsibility statement to conform to new specification format.
   - Changed “Revisions” to “Substantative Revisions”.

2) Section 6.3
   - Added new section on reducing odor fade.

3) Section 7.4
   - Added new section on reducing odor fade.

4) Section 8.4
   - Added new section on reducing odor fade, renumbered subsequent sections.

5) Section 9.2
   - Added new heading: Corrective Actions.

Gas Operations Standards

TITLE: TRANSPORTATION, HANDLING AND STORAGE OF STEEL PIPE FOR GAS MAINS AND SERVICES

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	EH&S REVIEW BY: Craig Little		OPERATIONS REVIEW BY: R. McGrath (Const) & F. Stauss (GDS)		
	AUTHOR:	APPROVED BY:	DATE APPROVED:	VOLUME: 2 (Section 3.0)	PAGE 1 OF
	G. Fairweather	Nickolas Hellen Chief Engineer Gas Distribution Engineering	7/1/2022	Construction Standards	9 PAGES
	Paper copies of operating documents are uncontrolled and therefore may be outdated. Verify current version prior to use.				

1.0 SCOPE

1.1 This specification covers the transportation, handling and storage of bare and coated steel pipe used in the Con Edison gas distribution and gas transmission system.

1.2 Prior to starting a task, the Job Safety Analysis (JSA) library shall be reviewed to determine if there is a JSA for this task. Any relevant JSA found in the library shall be used in conjunction with the job briefing. This is applicable to Gas Operations Company employees only.

1.3 The requirements of this specification apply to company forces, contractors, transporting agencies, and manufacturers.

2.0 LEGAL REQUIREMENTS

Federal: 49 CFR Part 192, Sections 65, 307, 309, and 461.

New York State: 16 NYCRR Part 255, Sections 65, 307, 309, and 461.

3.0 DEFINITIONS

3.1 API - American Petroleum Institute

3.2 Coater - The party which applies coating on the bare steel pipe prior to delivery to the Company.

3.3 Company - Consolidated Edison Company of New York, Inc

3.4 Contractor - The party or parties, connected by contract with the Company, to do the specified work, or provide a specified service.

3.5 Engineer - The Chief Gas Distribution Engineer of the Gas Engineering Department or his duly authorized representative.

3.0 **DEFINITIONS** (Continued)

3.6 Manufacturer - The party which manufactures the steel pipe.

3.7 Vendor - The manufacturer, coater, or distributor that furnishes the steel pipe to the Company.

4.0 **TRANSPORTATION**

4.1 The vendor, or transporting agency, shall be responsible for transporting the steel pipe to the Company's warehouse/worksite or to the contractor's storage yard/worksite.

4.2 Any damage or loss incurred during the transportation and/or handling operations shall be repaired or replaced in accordance with Company specifications G-8107 and G-8062 at the vendor's or transporting agency's expense. The repair/replace decision is at the sole discretion of the Company.

4.3 In a pipeline to be operated at a hoop stress of 20 percent or more of SMYS, an operator may not use pipe having an outer diameter to wall thickness ratio of 70 to 1, or more, that is transported by railroad unless the transportation is performed in accordance with API RP5L1 as described in Section 10.3 of Title 16 NYCRR.

4.4 In a pipeline to be operated at a hoop stress of 20 percent or more of SMYS, an operator may not use pipe having an outer diameter to wall thickness ratio of 70 to 1, or more that is transported by ship or barge on both inland and marine waterways unless the transportation is performed in accordance with API Recommended Practice 5LW as described in Section 10.3 of Title 16 NYCRR.

4.5 In a pipeline to be operated at a hoop stress of 20 percent or more of SMYS, an operator may not use pipe having an outer diameter to wall thickness ratio of 70 to 1, or more that is transported by truck unless the transportation is performed in accordance with API RP 5LT as described in Section 10.3 of Title 16 NYCRR.

5.0 HANDLING OF COATED STEEL GAS PIPES

5.1 Coated pipe shall not be dropped, dragged, or rolled, or slid on the ground or pavement. It shall be lifted by means of nylon, fabric or leather web-type slings or using approved pipe end lifting devices specifically approved by the engineer. The pipe shall be set down on sandbags or equivalent padding adequate to prevent damage to the coating. The padding shall be equally spaced at a maximum distance of 10 feet apart.

5.2 Wire rope, hooks, chains, cables, tongs or other metallic equipment that can damage the coating, pipe wall, or pipe ends shall **not** be used for handling or lifting the coated pipe. The cautious use of a fork truck to handle/lift steel pipe is permissible for short lengths of pipe.

5.3 When lifting sections of the coated pipe using slings, the pipe ends shall not overhang the sling supports by more than thirty (30) percent of the pipe's length or thirty (30) feet, whichever is smaller.

5.4 When the two slings are used in an inverted "V" from one crane or lifting device, the slings shall be bridled and controlled so that minimum force will be exerted on the pipe coating.

5.5 When more than two slings are used with one or more cranes or lifting devices, each sling shall bear an equal share of the total load.

5.6 "Dumping", "dropping", "dragging", "rolling" or "sliding" of coated pipe shall not be permitted on any type of surface, under any circumstances. See Section 5.1.

5.7 Clamping of small diameter coated pipe in a vise or other similar clamping equipment shall be restricted as much as possible. However, when work requires clamping, the coating shall be removed at the point to be clamped. After the work is completed, the area shall be recoated in accordance Specification G-8062 and/or Specification G-8209.

5.8 When handling pipe, assure that beveled ends are protected from damage in addition to the pipe coating, and the pipe wall.

★ 6.0 NON-WORKSITE STORAGE OF BARE STEEL GAS PIPE

6.1 To protect the bare steel pipe from defects while in storage, it shall be nested as follows:

Nominal Pipe Size	Wall Thickness	Maximum Pipe Height (Tiers)	Minimum No of Wooden Lags
Up to 12”	various	12	2
16”	0.375	10	2
20”	0.375	7	2
24”	0.375	6	2
24”	0.500	7	2
26”	0.500	6	2
30”	0.375	3	2
30”	0.500	6	2
36”	0.375	2	2
36”	0.500	2	2
36”	0.562	2	2
36”	0.625	2	2

6.2 Protective end caps or plugs shall be placed on the ends of all steel pipe. They shall be designed and installed so that they do not fall off or get pushed into the pipe during transportation, handling and storage of the pipe.

★ 6.3 Whenever possible, bare steel pipes shall be stored in a moisture controlled or moisture free environment to help mitigate odor fade.

★ 7.0 NON-WORKSITE STORAGE OF COATED STEEL GAS PIPE

7.1 Only pipe up to and including 4” nominal diameter may be bundled. The bundles shall be separated by padding adequate to prevent damage to the pipe coating.

★ 7.0 **NON-WORKSITE STORAGE OF COATED STEEL GAS PIPE** (Continued)

7.2 When coated pipe is stacked, each layer of the pipe shall be separated using padding adequate to prevent damage to the coating. The padding shall be spaced equally along the length of the pipe and shall not be more than 10 feet apart. Stacking shall be as follows:

Nominal Pipe Size	Maximum Pipe Height (Tiers)
2” to 3”	7
4” to 6”	6
8” to 10”	4
12” to 24”	3
30” to 36”	2

7.3 Protective end caps or plugs shall be placed on the ends of all steel pipe. They shall be designed and installed so that they do not fall off or get pushed into the pipe during transportation, handling and storage of the pipe.

★ 7.4 Whenever possible, internally coated pipes shall be stored in a moisture controlled or moisture free environment to help mitigate odor fade.

★ 8.0 **STORAGE AT WORK SITE**

8.1 Coated pipe shall be stored at the construction site with the bottom tier of pipe resting on sandbags or equivalent padding placed at a maximum distance of 10 feet apart. When pipe is stacked, padding adequate to prevent damage to the coating shall be used between each tier of pipe spaced a maximum distance of 10 feet apart.

8.2 Coated pipe may be stacked:

A) five (5) tiers (maximum) for pipe 2 to 3 inches in diameter.

B) four (4) tiers (maximum) for pipe 4 to 6 inches in diameter.

★ 8.0 **STORAGE AT WORKSITE** (Continued)

8.2 Coated pipe may be stacked (Continued):

C) three (3) tiers (maximum) for pipe 8 to 10 inches in diameter.

D) two (2) tiers (maximum) for pipe 12 inches or larger in diameter.

8.3 All material and equipment shall be stored in a manner which does not interfere with access to fire hydrants, fire houses, utility manholes/service boxes/vaults, valve boxes, houses, buildings, driveways, etc.

★ 8.4 Whenever possible, protective end caps or plugs shall be placed on the ends of all steel pipes when stored on a worksite to help reduce moisture and mitigate odor fade.

8.5 The contractor, if any, shall be held responsible for all materials stored at the storage site. Any losses or damages which are sustained for any reason shall be replaced at the contractor's expense. Replacements shall be in accordance with Company specifications.

8.6 All scrap steel pipe that cannot be reused, shall be brought back to the Con Edison workout location for proper disposal.

8.7 Pipe stored on private property requires permission from the owner. Any damage to private or public property shall be repaired at the expense of the responsible party.

9.0 **INSPECTION AND REPAIRS**

9.1 Bare steel pipe stored by the vendor awaiting the application of coating must be visually inspected by the vendor for defects such as dents, gouges, grooves, and arc burns as per Purchase and Test specification G-8107. Any defects found shall be reported to the Company's Central Field Services department and the defective pipe length in question shall not be coated. Central Field Services shall determine whether to repair or replace the defective pipe length.

★ 9.0 **INSPECTION AND REPAIRS** (Continued)

★ 9.2 Corrective Actions

A) For Grade B (standard distribution) pipe, all dents, gouges, grooves. or arc burns to the steel pipe which have a depth greater than 12-1/2% of the wall thickness (See Appendix A) of the steel pipe shall either be repaired or replaced (see G-8005 and G-8100) solely at the Company's discretion.

B) For higher grades of pipe such as X42, the allowable depth of defects shall be as per the negative tolerances specified in API Specification 5L/ISO 3183 "Specification for Line Pipe" (46th edition, November 1, 2018).

C) If the decision is to repair, the defective section of steel pipe shall be cut out as a cylinder. The minimum cylinder length to be cut out shall be one pipe diameter or 12 inches, whichever is greater.

9.3 Company Inspector or on-site contractor shall inspect and witness the unloading of all pipe at the construction site or at the Company warehouse so as to determine whether or not any pipe sections were damaged during the transportation and/or unloading operations. All damaged lengths shall be immediately reported to the transporting agency or coater, who shall bear the cost of repair or replacement (The repair/replacement decision is solely at the discretion of the Company.)

9.4 Pipe stored by a vendor is the responsibility of the coater. Any damage to the coating during this time shall be repaired at the coater's expense. The coater shall furnish the Company's Purchasing department with certification that the coating has been tested, inspected and is free of defects.

9.5 If coated pipe is stored by the vendor/coater for a period *exceeding one year*, then Central Field Services (at their discretion) may require an electrical spark inspection test (as per G-8201) to be performed by the vendor/coater just prior to shipment.

10.0 RECORDS RETENTION

Any records generated in the course of performing work in accordance with this specification shall be maintained as required by Corporate Instruction CI-870-1 "Records Management". Guidance on the retention of Company Gas Operations records can also be found on the Records Management intranet site.

11.0 REFERENCES

CI-870-1	Records Management
G-8005	General Specification for the Installation of Gas Distribution Mains
G-8062	Extruded Polyolefin Coating on Steel Gas Pipe
G-8100	General Specification for the Installation of Gas Distribution Services
G-8107	Steel Pipe for Gas Mains and Services
G-8201	Electrical Spark Inspection of Coating on Steel Pipe
G-8209	Field Coating of Steel Pipe and Fittings Installed Underground and in Subsurface Structures

12.0 ATTACHMENTS

Appendix A Steel Pipe Chart Maximum Permissible Defect, Grade B Only

APPENDIX A

STEEL PIPE CHART
MAXIMUM PERMISSIBLE DEFECT
GRADE B ONLY

Nominal Size	Outside Diameter	Minimum Wall Thickness	Maximum Permissible Defect
1”	1.315”	0.133"	0.017”
1 1/2"	1.900”	0.145"	0.018”
2”	2.375”	0.154"	0.019”
3”	3.500”	0.216"	0.027”
4”	4.500”	0.237"	0.030”
6”	6.625”	0.280"	0.035”
8”	8.625”	0.322"	0.040”
10”	10.750”	0.365"	0.046”
12”	12.750”	0.375"	0.047”
16”	16.000”	0.375"	0.047”
20"	20.000"	0.375"	0.047"
24"	24.000"	0.375"	0.047"
24"	24.000"	0.500"	0.063"
26"	26.000"	0.500"	0.063"
30"	30.000"	0.375"	0.047"
30"	30.000"	0.500"	0.063"
36"	36.000"	0.375"	0.047
36"	36.000"	0.500"	0.063"
36"	36.000"	0.562"	0.070"
36"	36.000"	0.625"	0.078"