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SPECIFICATION
FOR

EXTERNAL SURFACE TREATMENT OF
UNDERGROUND METALLIC PIPE

FOR

UNIT NO. 1

PILGRIM STATION NO. 600

BOSTON EDISON COMPANY

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U.S. NUCLEAR REGULATORY COMMISSION

In the Matter of Entergy (Pilgrim Nuclear Power Station)

Docket No. 50-293-LR Official Exhibit No. 60

OFFERED by: Applicant/ licensee Intervenor: Entergy Exh. 3

IDENTIFIED on 4-10-08

Action Taken: ADMITTED REJECTED ~~WITHDRAWN~~

Reporter/Clerk: Thibault

Prepared by: [Signature] Date 6/16/68

Approved by: R. ROBERTA Date 6/17/68

Bechtel Corporation
San Francisco, California

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Table of Contents

<u>Section</u>		<u>Page No.</u>
1.0	SCOPE	1
2.0	MATERIALS	1
3.0	PROCEDURES	2
4.0	TESTING	4
5.0	HANDLING OF COATED PIPE	4

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1.0 SCOPE

1.1 General

This Specification covers the materials for and procedure to be followed in the shop and field application of protective coating to underground steel pipe lines. Methods of application, materials, and inspection shall be in accordance with AWWA Specification C-203.-62 for double wrapping.

2.0 MATERIALS

The following materials or their approved equal shall be used:

2.1 Shop Coating:

Primer: Koppers Co. "Jet Set"
Enamel: Koppers Co. "70B"

(Primer and enamel shall be obtained from same manufacturer to assure compatibility)



Wrapping Mat'l.: EITHER Owens Corning "Cormat" type 20 reinforced fiberglass 18 Mill Pipe Wrapping.
Johns-Manville "Blue Flag" fiberglass 20 Mill Pipe Wrapping.
WITH No. 15 Carey Coal Tar Saturated Felt.
AND Heavy Kraft Paper.

2.2 Field Coating:

Primer: Tapecoat Co. "TC Cold Prime"
Wrapping: Tapecoat Co. "CT Tape Coat"

3.0 PROCEDURES

3.1 Shop Coating

3.1.1 Cleaning and Priming. In preparation for the application of primer, pipe shall be cleaned until free from all loose mill scale, rust, scale corrosion products, dirt, grease, moisture, or other foreign material. Grease or heavy oil shall be removed with a volatile solvent. Loose rust, mill scale, dirt, etc., shall be removed by mechanical cleaning machine, using impact wheels or knives and wire brushing sufficiently to remove all materials other than tightly adhering mill scale. All pipe shall be cleaned with a minimum of one operation of the mechanical cleaning machine and primed with a regular coat of primer specified in paragraph 2.1.

Note: Shop wrapping shall stop 6 inches from the ends of the pipe. This bare pipe shall be clean and free of any priming or coating.

3.1.2 Application of Enamel and Wrappers. Following application of primer, one 3/32" ± 1/32" coating of enamel shall be applied by the machine method to the clean dry surface of the primed pipe at a temperature which produces best results, and not below the minimum temperature at which the enamel will fuse with the primer, over the entire surface of the pipe to form a coating which cannot be peeled from the pipe. Thickness and uniformity of the film shall be determined by visual inspection.

△ Immediately following application of the enamel and before the enamel is cold, fiber-△ glass pipe wrapping shall be applied over the enamel in a uniform spiral wrap with a spiral wrapping machine in such a manner that the wrapper is in contact with the entire outside surface of the enamel.

Thereafter, an additional layer of 1/16" enamel shall be applied.

The second layer of enamel shall be followed by an outerwrap of No. 15 saturated asbestos felt and finished with a spiral wrap of heavy Kraft paper. Cut back on ends for welding shall be a min. of 6".

The overlap at the edges of the wrappers shall not be less than 1/2 inch and not more than 1 inch. The wrappers shall be free of wrinkles and all end laps shall be cemented down with hot enamel to secure a firm wrapping. All torn, abraded, or mutilated spots in the pipe coating shall be repaired by cleaning and priming the damaged area per Par. 3.1.1 and applying of enamel and wrappers as described in Paragraph 3.1.2.

3.2 Field Wrapping

3.2.1 General Application

- A. Surface Preparation and Priming. The surfaces to be protected shall be cleaned by wire brushing to remove any rust, scale, dust, or dirt. Oil or grease shall be removed with a suitable solvent. Primer shall be applied to clean dry bare metal and shall be allowed to dry to a tacky consistency.
- B. Wrapping. Coal tar tape shall be applied spirally to primed surfaces, with a 1" minimum overlap.

3.2.2 Field Pipe Joints. After the separate pipe lengths have been welded together in the Field and hydrostatic testing is complete, the bare pipe sections shall be cleaned per Paragraph 3.2.1A and Kraft paper shall be removed from the shop coating a distance of 3" back from either end of the coating. Primer shall be applied per Paragraph 3.2.1A but shall also cover the portions of the shop coating that are to be covered with coal tar tape. Wrapping shall be applied per Paragraph 3.2.1B, extending at least 3 inches over the shop coating.

3.2.3 Field Repairs of Shop Coatings. If shop coatings require repair, the Kraft paper shall be removed from the shop coating a distance of 3 inches back from the area to be repaired. The pipe shall then be cleaned and primed per Paragraph 3.2.1A, but shall also cover the portion of the shop coating that is to be covered with coal tar tape. Wrapping shall be applied per Paragraph 3.2.1B, extending at least 3 inches from damaged area over sound shop coating.

4.0 TESTING

- 4.1 Shop applied coatings shall be inspected in accordance with Specification AWWA C-203 before shipment.
- 4.2 After application in the Field, all coatings (shop and Field) shall be inspected for voids, employing a high voltage type holiday detector at minimum 10,000 volt output. Necessary repairs shall be made as described in Paragraph 3.2.3.

5.0 HANDLING OF COATED PIPE

Coated pipe shall be handled at all times with wide non-abrasive canvas or leather belts, or other equipment designed to prevent damage to coating. All such equipment shall be kept in repair so as to prevent injury to the coating. The use of tongs, bare pinchbars, chain slings, rope slings without canvas or composition belt-slings with protruding rivets, pipe hooks without proper padding, or any other handling equipment found to be injurious to the coating, shall not be permitted. All skids used to support coated pipe shall be padded. Walking on the pipe shall not be permitted.