TSI

10/5/91

APPENDIX III

TO THERMAL SCIENCE, INC.'S RESPONSE TO THE

UNITED STATES NUCLEAR REGULATORY COMMISSION'S

LETTER DATED 10 SEPTEMBER 1991

Enclosure 28

TSI Technical Note 51187

Procedures For Repairing Prefabricated Panel and Preshaped Conduit Section Fire Barriers Installed At The Turkey Point Nuclear Plant

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TSI TECHNICAL NOTE 51187

PROCEDURES FOR REPAIRING PREFABRICATED PANEL

AND PRESHAPED CONDUIT SECTION

FIRE BARRIERS INSTALLED AT THE TURKEY POINT NUCLEAR PLANT

DATE OF ISSUE: 7 MAY 1987

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PROCEDURES FOR REPAIRING PREFABRICATED PANEL

AND PRESHAPED CONDUIT SECTION

FIRE BARRIERS INSTALLED AT THE TURKEY POINT NUCLEAR PLANT

INTRODUCTION

These repair procedures set forth the sequential steps involved in making required sealing and drainage corrections to the THERMO-LAG 330 Fire Barrier System Materials installed at Florida Power and Light Corporation's Turkey Point Nuclear Power Generating Plant. These corrections are required to enhance the stability of the system when exposed to intensive rain, followed by direct exposure to heat by the sun.

The program of corrective action is fourfold. It involves removing water damaged fire barrier sections and replacing them with new sections. It involves 1) removing all defective caulking material and then resealing the seams and joints with the THERMO-LAG 260 Sealistic Rapid Curing Elastomeric Caulk, 2) installing drainage holes everywhere that an inverse change occurs in the fire barrier system and where ponding water is apt to occur, and 3) the removal of cracked, pinholed or otherwise damaged topcoat , and then applying a dual topcoat system comprised of an initial coat of the THERMO-LAG 350-2000 Topcoat, followed by a second coat of the THERMO-LAG 350-5000-10 Topcoat.

The following paragraphs highlight the detailed procedural steps involved in implementing these corrections to the fire barriers previously installed at Turkey Point Nuclear Power Generating Plant.

1.0 REMOVAL AND REPLACEMENT OF WATER DAMAGED FIRE BARRIER SECTIONS

1.1 Procedure Description

The repair of damaged sections of THERMO-LAG 330 Fire Barrier System Materials is accomplished by identifying and removing the damaged prefabricated panels and preshaped conduit sections, replacing them with new material, caulking the edges and joints, and applying a dual topcoat which is impermeable to water vapor.

1.2 Procedure Steps

1.2.1 Identify all fire barrier sections which show any abnormalities such as soft and spongy material, leaching, or other visual evidence of weathering effects. Use an indentation measurement of 150 mils obtained with a Chatillon Push Gauge set at 25 pounds to identify fire barrier sections which need to be removed.

1.2.2 Cut the tie wires or steel bands fastening the water damaged fire barrier sections together and remove the damaged material back to solid dry material.

1.2.3 Removal all foreign matter from the exposed substrate surfaces resulting from removing the damaged material.

1.2.4 Cut or form replacement sections from prefabricated panels or preshaped conduit sections.

1.2.5 Mount the replacement sections in the spaces created by the removal of the water damaged material, using approved stainless steel tie wire or stainless steel banding material. The recommended maximum spacing between the tire wires or steel banding should not exceed 12 inches.

1.2.6 Fill in all edges and joints with a bead of THERMO-LAG 269 Sealistic Rapid Curing Elastomeric Caulk. The minimum cross-sectional thickness of the bead shall be 0.500 inches for a one hour fire barrier and 1.00 inches for a three hour fire barrier.

1.2.7 After the elastomeric caulk has hardened to touch, apply the THERMO-LAG 350-2000 Topcoat by brush or roller in multiple passes or criss-cross techniques, at a spread rate of 50 square feet per gallon.

1.2.8 After the THERMO-LAG 350-2000 Topcoat has hardened to touch, apply the THERMO-LAG 350-5000-10 Topcoat by brush or roller in multiple passes or criss-cross techniques, at a spread rate of 50 square feet per gallon.

2.0 REMOVAL AND REPLACEMENT OF DEFECTIVE CAULKING MATERIAL

2.1 Procedure Description

The removal and replacement of defective caulking material is accomplished by removing all caulking material that has cracked or receded from the edges or joints of the fire barriers and then resealing these edges and joints, using the THERMO-LAG 269 Sealistic Rapid Curing Elastomeric Caulk.

2.2 Procedure Steps

2.2.1 Remove all cracked or receding caulking material from the edges and joints of the fire barriers by means of cutting, scraping, and grinding methods.

2.2.2 Brush all foreign matter from the edges and joints.

3.2.2 Cut the tie wires and steel bands fastening the prefabricated panels or preshaped conduit sections together and remove the fire barrier from the raceway or structural steel entity.

3.2.3 Drill 1/2 inch holes at three (3) inch spacing along the bottom of all sections of the barrier where water may accumulate and pond.

3.2.4 Select the required number of 1/4 inch plastic tubes and butter them with the THERMO-LAG 330-1 Subliming Catalyzed Material - Trowel Grade.

3.2.5 Insert the plastic tubes in the drilled holes and tap them into place.

3.2.6 Reassemble the fire barrier sections using approved stainless steel tie wire or stainless steel banding material. The recommended maximum spacing between the tie wire or steel banding should not exceed 12 inches.

3.2.7 Fill in the edges and joints with a bead of the THERMO-LAG 269 Sealistic Rapid Curing Elastomeric Caulk. The minimum cross-sectional thickness of the beam shall be 0.500 inches for a one hour fire barrier and 1.00 inches for a three hour fire barrier.

3.2.8 After the elastomeric caulk has hardened to touch, apply the THERMO-LAG 350-2000 Topcoat by brush or roller in multiple passes or criss-cross techniques, at a spread rate of 50 square feet per gallon.

3.2.9 After the THERMO-LAG 350-2000 Topcoat has hardened to touch, apply the THERMO-LAG 350-5000-10 Topcoat by brush or roller in multiple passes or criss-cross techniques, at a spread rate of 50 square feet per gallon.

4.0 REMOVAL AND REPLACEMENT OF CRACKED OR OTHERWISE DAMAGED TOPCOAT

4.1 Procedure Description

The removal and replacement of cracked or otherwise damaged topcoat is accomplished by removing all defective topcoat by wire brushes or sanding, and then apply a dual topcoat system which is impermeable to water vapor.

4.2 Procedure Steps

4.2.1 Visually inspect the existing topcoat for cracking, peeling and/or pinholes.

4.2.2 Remove any damaged topcoat by wire brushing or sanding methods.

4.2.3 Brush away all foreign matter.

4.2.4 Apply a coating of the THERMO-LAG 350-2000 Topcoat by brush or roller in multiple passes or criss-cross techniques, to replace the topcoat removed in Step 4.2.2, at a spread rate of 50 square feet per gallon.

4.2.5 After the THERMO-LAG 350-2000 Topcoat has hardened to touch, apply the THERMO-LAG 350-5000-10 Topcoat by brush or roller in multiple passes or criss-cross techniques, at a spread rate of 50 square feet per gallon.