Stephen B. Bram
Vice President

Consolidated Edison Company of New York, Inc.
Indian Point Station
Broadway & Bleakley Avenue
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Telephone (914) 737-8116

April 16, 1993

Re: Indian Point Unit No. 2
Docket No. 50-247

Document Control Desk
US Nuclear Regulatory Commission
Mail Station P1-137
Washington, DC 20555

SUBJECT: Response to Generic Letter 92-08, "Thermo-Lag 330-1 Fire Barriers"

The Attachment to this letter contains our response to the subject generic letter, and is provided pursuant to Section 182a, Atomic Energy Act of 1954, as amended, and 10 CFR 50.54(f).

Should you have any questions regarding this matter, please contact Mr. Charles W. Jackson, Manager, Nuclear Safety and Licensing.

Very truly yours,

Subscribed and sworn to
before me this 16th day
of April, 1993.

Karen L. Lancaster
Notary

KAREN L. LANCASTER
Notary Public, State of New York
No. 60-4643659
Qualified In Westchester County
Term Expires 9/30/93

Attachment

A029

cc: Mr. Thomas T. Martin
Regional Administrator - Region I
US Nuclear Regulatory Commission
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Mr. Francis J. Williams, Jr., Project Manager
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ATTACHMENT

RESPONSE TO GENERIC LETTER 92-08

"Thermo-Lag 330-1 Fire Barriers"

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
APRIL, 1993

RESPONSE TO GENERIC LETTER 92-08

"All addressees are required ... to submit a written report within 120 days from the date of this generic letter. In this written report, the licensee shall address the following items...":

REPORTING REQUIREMENT 1

"State whether Thermo-Lag 330-1 barriers are relied upon (a) to meet 10 CFR 50.48, to achieve physical independence of electrical systems, (b) to meet a condition of a plant's operating license, or (c) to satisfy a licensing commitment."

Response to 1

Our July 24, 1992 and September 30, 1992 responses to Bulletin 92-01 and Supplement 1, respectively, indicated that there were two areas of Indian Point Unit No. 2 which had Thermo-Lag fire barrier material installed to protect components required for safe shutdown capability. In one location, a fire barrier configuration was constructed in 1984 around containment penetration H20 to protect the cables for Alternate Safe Shutdown System (ASSS) instruments that monitor source range indication and reactor coolant system hot leg and cold leg temperatures. A second Thermo-Lag fire barrier configuration was constructed in 1987 to protect the conduit that contains the normal power supply cables for residual heat removal pump (RHR) Pump No. 22, and which passes through the room housing RHR Pump No. 21. At the times of their installations, both fire barrier configurations were relied upon to meet the requirements of 10 CFR 50.48. Thermo-Lag barriers are not used at Indian Point Unit No. 2 to achieve physical independence of electrical systems, to meet a condition of the plant's operating license or to satisfy a licensing commitment.

The RHR pumps are required to achieve and maintain cold shutdown conditions. Repairs for cold shutdown systems are allowed by Section III.L.5 of Appendix R. An engineering evaluation has determined that a repair action, consisting of the proceduralized use of a pre-lugged cable, can be performed which is acceptable to meet the requirements of Appendix R for fires in RHR Pump No 21 room. Therefore, the Thermo-Lag fire barrier is no longer necessary for the protection of the portion of the normal power supply for RHR Pump No. 22 that is located within RHR Pump No. 21 room.

REPORTING REQUIREMENT 2

"If Thermo-Lag 330-1 barriers are used at the facility,

(a) State whether or not the licensee has qualified the Thermo-Lag 330-1 fire barriers by conducting fire endurance tests in accordance with the NRC's requirements and guidance or licensing commitments.

(b) State (1) whether or not the fire barrier configurations installed in the plant represent the materials, workmanship, methods of assembly,

dimensions, and configurations of the qualification test assembly configurations; and (2) whether or not the licensee has evaluated any deviations from the tested configurations.

(c) State (1) whether or not the as-built Thermo-Lag 330-1 barrier configurations are consistent with the barrier configurations used during the ampacity derating tests relied upon by the licensee for the ampacity derating factors used for all raceways protected by Thermo-Lag 330-1 (for fire protection of safe shutdown capability or to achieve physical independence of electrical systems) and (2) whether or not the ampacity derating test results relied upon by the licensee are correct and applicable to the plant design."

Response to 2(a), 2(b)

Plant-specific fire endurance tests were not conducted for the two installed fire barrier configurations. The decision to use the Thermo-Lag material in both applications was based on reviews of generic fire endurance tests and technical information supplied by the vendor (Thermal Science, Inc.), and industry and NRC acceptance of the product. The RHR Pump No. 22 configuration was constructed and the penetration H20 configuration was designed and constructed on the basis that their constituent Thermo-Lag materials had met the requirements of ASTM E-119 fire endurance testing as reported by the vendor and as accepted by American Nuclear Insurers. There was no reason to question the integrity of the installation because both fire barriers were installed in accordance with the vendor's "Installation Procedures Manual" by a vendor-certified installer under the supervision of a vendor representative and contract Quality Assurance personnel responsible to Con Edison.

The fire barrier configuration for the conduit for RHR Pump No. 22 consisted of a straightforward use of pre-formed conduit shapes, panels and trowel grade material. The vendor supplied Certificates of Conformance for each Thermo-Lag product used which certified that the materials "...meet TSI's [Thermal Science, Inc.] manufacturing and written Quality Control Specifications and are identical to those materials which were tested by Industrial Testing Labs. [ITL], In TSI's sponsored ASTM E119 One Hour and Three Hour tests as reported in the ITL Report No. 82-11-80."

Penetration H20 has a box shaped fire barrier configuration that consists of a seismically secured structural steel frame enclosed with Thermo-Lag pre-formed panels. Cables for the ASSS instruments exit the enclosure in a conduit at the top that is protected with Thermo-Lag pre-formed conduit shapes. Exposed cables not required for the ASSS exit from a smaller box on the side of the configuration which is filled with 12" of Dow Corning 3-6548 RTV silicone foam. The vendor documented in a letter that the Thermo-Lag system had been installed according to the TSI published application procedure, including minor field changes made by Con Ed engineering. The selection of the silicone foam by Con Edison engineering was based on generic ASTM E-119 tests conducted by Dow

Corning Corporation which demonstrated the 3 hour fire rating of the silicone foam.

Response to 2(c)

Ampacity derating factors used for the RHR Pump 22 power cables were supplied by the vendor (TSI) as determined in generic ampacity testing. A plant-specific ampacity derating test was not conducted. The TSI generic test results were accepted and used as the basis for the product selection. Since the barrier included pre-formed conduit sections and trowel grade material over the straight section of 5 inch diameter conduit that contains the RHR Pump No. 22 power cables, and since the barrier was constructed in accordance with vendor instructions under the supervision of a vendor representative and contract Quality Assurance personnel responsible to Con Edison, there was no reason to believe that the as-built configuration was not consistent with the configurations used during ampacity derating tests performed by the vendor.

Until determined otherwise by the industry program being coordinated by the Nuclear Management Resources Council (NUMARC), it cannot be concluded at this time that the ampacity derating test results supplied by the vendor were not correct and applicable to the plant design. However, ampacity derating is no longer an issue for the RHR Pump No. 22 Thermo-Lag fire barrier configuration for the reason explained in the response to Reporting Requirement 3(a). Penetration H20 contains instrument cables, thus, ampacity derating is not a concern for that configuration.

REPORTING REQUIREMENT 3

"With respect to any answer to items 2(a), 2(b), or 2(c) above in the negative, (a) describe all corrective actions needed and include a schedule by which such actions shall be completed and (b) describe all compensatory measures taken in accordance with the technical specifications or administrative controls. When corrective actions have been completed, confirm in writing their completion."

Response to 3(a)

As stated in the response to Reporting Requirement 1, the Thermo-Lag fire barrier associated with RHR Pump No. 22 can be removed as justified by engineering evaluation. During the current refueling outage, the Thermo-Lag fire barrier assembly was removed to facilitate inspection for seismic issues. The material will not be reinstalled. A modification to the ASSS which justifies a repair action is being developed to allow the permanent removal of the Thermo-Lag without the need to continue the compensatory measures currently in effect. The modification, associated procedure changes and training will be implemented as soon as possible.

Corrective actions for the barrier at penetration H20 were reported in our September 30, 1992 response to Bulletin 92-01, Supplement 1. Con

Edison Civil Engineering is evaluating the possibility of using a replacement fire barrier material. Additionally, the results of an industry test program on Thermo-Lag 330-1 being coordinated by NUMARC will be applied, as applicable and when completed.

Response to 3(b)

The compensatory measures taken for both locations were described in our September 30, 1992 submittal and consist of a one hour fire watch tour using remote television surveillance in conjunction with existing fire detection instruments. The compensatory measures at each location will remain in effect until the respective actions described in the response to Reporting Requirement 3(a) are completed.

REPORTING REQUIREMENT 4

"List all Thermo-Lag 330-1 barriers for which answers to item 2 cannot be provided in the response due within 120 days from the date of this generic letter, and include a schedule by which such answers shall be provided."

Response to 4

Not applicable.