



**CENTERIOR  
ENERGY**

**PERRY NUCLEAR POWER PLANT**

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**Robert A. Stratman**  
VICE PRESIDENT - NUCLEAR

April 16, 1993  
PY-CEI/NRR-1638 L

U. S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, D. C. 20555

Perry Nuclear Power Plant  
Docket No. 50-440  
Response to Generic Letter 92-08:  
Thermo-Lag 330-1 Fire Barriers

Gentlemen:

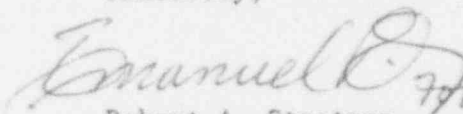
On January 6, 1993, the Perry Nuclear Power Plant (PNPP) received Generic Letter 92-08 concerning Thermo-Lag 330-1 Fire Barriers. The subject Generic Letter requests that licensees provide additional information deemed necessary to verify that Thermo-Lag 330-1 fire barrier systems, if installed, comply with the NRC's requirements.

The Perry response to GL 92-08 is enclosed herein. A portion of the requested information was previously submitted in response to NRC Bulletin 92-01 by letters dated July 24, 1992, and September 30, 1992 (PY-CEI/NRR-1526L and PY-CEI/NRR-1555L respectively).

The PNPP response to NRC Bulletin 92-01 outlined compensatory measures which were initiated in late 1991 for all plant areas protected by Thermo-Lag fire barrier systems as a result of identified installation deficiencies. The response also described the suspension of activities required to restore affected cable raceways and conduits to operable status, pending the results of an industry test program being coordinated by the Nuclear Management and Resources Council (NUMARC). The compensatory measures will remain in effect until PNPP completes the evaluation of the NUMARC results and implements applicable recommendations.

If you have any questions regarding this correspondence, please call.

Sincerely,

  
Robert A. Stratman

RAS:RWG:ss

Enclosure

cc: NRC Project Manager  
NRC Resident Inspector Office  
NRC Region III Administrator  
Operating Companies  
Cleveland Electric Illuminating  
Toledo Edison

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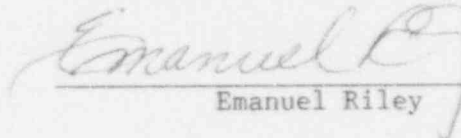
RESPONSE TO GENERIC LETTER 92-08

FOR

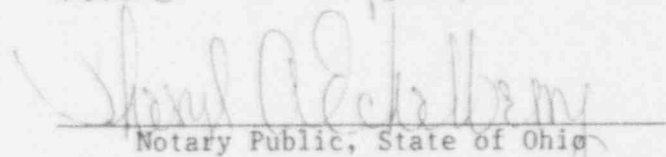
PERRY NUCLEAR POWER PLANT

UNIT NUMBER 1

In accordance with the oath and affirmation requirements of Section 182a of the Atomic Energy Act of 1954 as amended, and 10 CFR 50.54(f), I, Emanuel Riley being duly sworn and deposed, state that (1) I am Director Nuclear Assurance Department of the Cleveland Electric Illuminating Company, (2) I am duly authorized to execute and file this certification on behalf of The Cleveland Electric Illuminating Company and Toledo Edison Company, and as the duly authorized agent for Duquesne Light Company, Ohio Edison Company, and Pennsylvania Power Company, and (3) the statements set forth herein are true and correct to the best of my knowledge, information and belief.

  
Emanuel Riley

Sworn to and subscribed before me, this 11th day of April, 1993.

  
Notary Public, State of Ohio

SHERYL A. ECHELBERRY  
Notary Public, STATE OF OHIO  
My commission expires 5-9-1994  
Recorded in Lake County

## RESPONSE TO GENERIC LETTER 92-08

The NRC Reporting Requirements and associated Perry Nuclear Power Plant (PNPP) Response to each item are included below:

### NRC 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. If applicable, state that Thermo-Lag 330-1 is not used at the facility. This generic letter applies to all 1-hour and all 3-hour Thermo-Lag 330-1 materials and barrier systems assembled by any assembly method such as by assembling preformed panels and conduit shapes, as well as spray, trowel and brush-on applications.

### PNPP Response

1. Perry utilizes Thermo-Lag 330-1 barriers to meet the 10 CFR 50.48 requirements for both protection and separation of safe shutdown equipment as described in Appendix R of Part 50. Thermo-Lag fire barriers are also used in non-fire rated applications to meet Regulatory Guide 1.75 criteria for physical independence of electrical systems.

### NRC 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 material, 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.

### PNPP Response

- 2(a) Perry has not performed any independent fire endurance qualification testing of Thermo-Lag 330-1 fire barriers. PNPP relied on vendor supplied test results from Thermal Science, Incorporated (TSI) and associated Certificates of Compliance to establish qualification of the

subject materials. Perry is participating in the Nuclear Management and Resources Council (NUMARC) Thermo-Lag 330-1 Test Program which will include the testing of various representative installation configurations. PNPP provided information to NUMARC through a survey request detailing plant specific design configurations. PNPP will evaluate the results of the NUMARC testing to verify the applicability to Perry specific configurations.

- 2(b) Installation deficiencies involving Thermo-Lag 330-1 fire barrier systems were identified in October and December of 1991. As a result, cable raceways and conduits were declared to be impaired and compensatory actions for inoperable fire barriers were initiated. This information was initially reported to the NRC in License Event Reports 91-020 and 91-020-01 and subsequently restated in the previously referenced PNPP responses to NRC Bulletin 92-01. Except as noted above, Thermo-Lag barriers were installed in accordance with TSI recommended practices by properly trained personnel. Any minor deviations from TSI approved configuration standards were appropriately evaluated by Perry engineering personnel.
- 2(c) As stated in the Perry Response to Item 2(b) above Thermo-Lag fire barriers were installed in accordance with TSI recommended practices by properly trained personnel with the exceptions noted previously. These installed configurations are believed to be representative of the qualification test assembly configurations.

PNPP ampacity derating factors for conduit and cable trays using Thermo-Lag 330-1 are based on information supplied by TSI. PNPP did not perform any additional testing to verify the ampacity derating values provided. PNPP is participating in the NUMARC program for testing Thermo-Lag 330-1 to determine appropriate ampacity derating values. PNPP will implement any necessary changes pending the results of the NUMARC Test Program. In the interim, Perry engineering personnel are evaluating the potential effects of applying more conservative ampacity derating factors.

#### NRC 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.

#### PNPP Response

3. As stated previously, PNPP is participating in the NUMARC Test Programs which were initiated to resolve NRC concerns regarding the fire endurance capabilities and ampacity derating factors for Thermo-Lag 330-1 fire barrier systems. PNPP will evaluate the results of the NUMARC Test Program to determine long term corrective actions necessary to resolve Thermo-Lag operability concerns. Schedules for the fire and ampacity testing programs will be provided to the NRC by NUMARC. PNPP will provide the NRC a schedule detailing any required corrective actions and their corresponding completion dates within 180 days after evaluating the NUMARC results.

The Perry response to NRC Bulletin 92-01 outlined compensatory measures which were initiated in late 1991 for all plant areas protected by Thermo-Lag fire barrier systems. These compensatory measures involved the establishment of hourly fire watches in conjunction with operable fire detectors in the affected zones. The compensatory measures will remain in effect until the referenced corrective actions have been implemented.

NRC 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.

PNPP Response

4. Answers have been provided to address all aspects of NRC Reporting Requirement, Item 2.