



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

July 21, 1993

MEMORANDUM FOR: Elinor G. Adensam, Director, Project Directorate IV-2
Office of Nuclear Reactor Regulation (NRR)

FROM: Samuel J. Collins, Director
Division of Reactor Safety

SUBJECT: THERMO-LAG RADIANT ENERGY SHIELD - COOPER NUCLEAR STATION

The purpose of the memorandum is to request technical assistance to clarify the NRC staff position on Thermo-Lag installations that were the subject of exemptions from regulatory requirements. We are aware that some of the issues discussed below may already be included in the generic review of Thermo-Lag issues, and to the extent that these questions will be resolved as a part of the overall resolution of Thermo-Lag issues, no specific response is needed at this time.

During an inspection at Cooper Nuclear Station, it was noted that a radiant energy shield in the cable spreading room utilized Thermo-Lag 330-1 material, that had not been declared inoperable in accordance with our understanding of the guidance provided in the NRC Bulletin No. 92-01, Supplement 1. Region IV issued a violation dated March 12, 1993, after consulting with the NRR technical staff. Subsequently, the licensee provided a response to the violation and an engineering evaluation (Enclosure 1 & 2) which concluded that the subject cable enclosures were qualified as non-rated radiant energy shields, that the original design intent was met, and that the NPPD licensing commitments had been satisfied. On that basis, the licensee requested that the violation be reconsidered. This particular installation had been the subject of an exemption from requirements for a fire barrier in 10 CFR 50.48 and Appendix R which was issued on September 21, 1983.

Region IV staff has discussed this issue with NRR personnel and it appears that there are conflicting views on the acceptability of the Thermo-Lag in this application. For example, Region IV staff believes that the licensee's engineering evaluation demonstrates that there was no significant safety issue associated with this Thermo-Lag installation and that it created an unnecessary regulatory impact to require a continuous fire watch as is specified by the technical specifications at Cooper.

We understand the view of the NRR staff is that Thermo-Lag is by definition combustible and the regulations, as currently written, do not provide latitude to evaluate this issue on the basis of safety significance. In this case the licensee elected to replace the Thermo-Lag rather than continue to have a fire watch at that location (Enclosure 3).

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We believe the following issues are in need of clarification. We request that you consider the issues below and provide guidance for the inspection staff.

- 1 Can analysis alone be used as an acceptable approach to Thermo-Lag operability determinations for some uses of Thermo-Lag in fire areas?
- 2 How should Thermo-Lag combustibility be handled when conducting a safety evaluation of a particular application where the licensee has concluded that possible installation deficiencies are not a factor?
- 3 Should an inspector expect to find an operability determination for all Thermo-Lag installations that involve exemptions?
- 4 Does a licensee have the authority to modify an installation that is the subject of an exemption from regulatory requirements without NRC approval?
- 5 Does the presence of any Thermo-Lag in a fire area create the need for a documented operability determination, or are there some types of Thermo-Lag installations that would be exempt from operability determinations?
- 6 During the inspection, the licensee questioned the intended scope of NRC Bulletin 92-01 Supplement 1 because the installation was (in their view) a non-rated radiant energy shield and therefore was not included in the scope of the bulletin. Region IV staff concluded that this installation was within the scope of the bulletin because it was the subject of an exemption from the requirements of Appendix R. Does NRR support this conclusion?.

This actual example of a complex Thermo-Lag issue may help formulate NRC expectations for safety evaluations of Thermo-Lag installations similar to this application. Guidance for our inspectors in this area would be helpful, and depending on the answers to the above questions, additional guidance for the industry in a generic communication may be appropriate.

We will provide support, as needed, in this review effort.

If you have any questions regarding this matter, please contact Les Constable at (817) 860-8151 of my staff.

Samuel J. Collins

Samuel J. Collins, Director
Division of Reactor Safety

Enclosures: (see next page)

Enclosures:

Nebraska Public Power District

Ltr dated March 12, 1993 (NSD930340)

Ltr dated March 29, 1993

Ltr dated May 6, 1993 (NSD930585)

cc w/enclosure:

A. Thadani, NRR (MS: 8E2)

B. Grimes, NRR (MS: 11E4)

S. West, NRR (MS: 9A2)

P. Madden, NRR (MS: 17A3)

Director, DRS Region I

Director, DRS Region II

Director, DRS Region III

Director, DRS Region V

bcc w/enclosure:
S. Collins
A. Beach
A. Howell
J. Gagliardo
E. Collins
RIV Official File
RIV Reading File
L. Constable
H. Bundy
J. Singh, NRR (MS:8D1)

RIV:RI:PS*	C:PS*	DD:DRS	D:DRP	D:DRS
JSingh/cjg	LConstable	AHowell	ABBeach	SJCollins
5/12/93	5/12/93	7/13/93	7/15/93	7/21/93

*Previously Concurred