

# CATEGORY 1

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SUBJECT: Submits update response to RAI for GL 92-08, "Thermo-Lag  
Fire Barriers." Discussion of Thermo-Lag fire barrier matl  
included in attachment to ltr.

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October 8, 1998

AEP:NRC:0692DQ

Docket Nos.: 50-315  
50-316

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
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Gentlemen:

Donald C. Cook Nuclear Plant Units 1 and 2  
UPDATE OF RESPONSE TO GENERIC LETTER (GL) 92-08,  
THERMOLAG 330-1 FIRE BARRIERS,  
CONCERNING THE HOT SHUTDOWN PANEL (HSDP) ENCLOSURES

Our submittal AEP:NRC:0692DB, dated December 27, 1996, informed you that the corrective actions identified in response to NRC GL 92-08 and subsequent requests for additional information had been addressed at Cook Nuclear Plant. Supplemental information and clarifications specifically supporting the resolution of the thermo-lag fire barrier material issue were included in the attachment to AEP:NRC:0692DB.

As a result of continuing fire protection reviews, we are updating the information provided in our submittal AEP:NRC:0692DB concerning our use of thermo-lag in the HSDP enclosures, in particular regarding section III.G.3 of 10 CFR 50 Appendix R. This discussion of the thermo-lag fire barrier material is included in the attachment to this letter.

Sincerely,

A handwritten signature in dark ink, appearing to read 'R. P. Powers', followed by a horizontal line.

R. P. Powers  
Vice President

/jmc

Attachment

130049

c: J. A. Abramson  
J. L. Caldwell, w/attachment  
MDEQ - DW & RPD  
NRC Resident Inspector, w/attachment  
J. R. Sampson, w/attachment

1/1  
A029

bc: T. P. Beilman - w/attachment  
J. J. Euto  
E. R. Eckstein/D. R. Hafer/K. R. Baker  
FOLIO, - w/attachment  
J. B. Kingseed/G. P. Arent/M. J. Gumms  
J. F. Stang, Jr., - NRC Washington, DC, w/attachment

ATTACHMENT TO AEP:NRC:0692DQ

CONTINUED RELIANCE ON THERMO-LAG IN THE  
HOT SHUTDOWN PANEL (HSDP) ENCLOSURES

### Introduction

Our submittal AEP:NRC:0692E, dated March 31, 1983, requested an exemption from Section III.G.3 of 10 CFR 50 Appendix R for unit 1 and 2 control rooms (fire zones 53 and 54, respectively). The bases for this exemption request were contained in a report entitled "Safe-Shutdown Capability Assessment and Proposed Modifications, 10 CFR 50 Appendix R, Section III.G, Units 1 and 2, Donald C. Cook Nuclear Plant" (hereafter referred to as the report). In the report, one of the bases listed for our exemption request was that the hot shutdown panel (HSDP) enclosure in the opposite unit's control room would be provided with the equivalent of a three-hour fire barrier.

By letter dated December 23, 1983, the NRC granted an exemption from the requirements of Appendix R to 10 CFR 50, Section III.G and III.O. Item 10.0 of the safety evaluation report (SER) concerns the "Unit 1 and Unit 2 Control Rooms (fire areas 53 and 54)", where an exemption was requested from III.G to the extent it requires a fixed suppression system in an area where alternate shutdown capability has been provided (Section III.G.3).

The SER notes that the unit 2 HSDP is in the unit 1 control room and vice versa. It also states, "...the control room area is protected from other fire zones by three-hour rated floors, ceilings and walls except for 2 ceiling and 2 floor hatches, both of which have two-hour ratings. ... The licensee proposes to upgrade the two floor hatches and the common connecting door [between the two control room complexes] to a 3-hour rating."

### Subsequent Internal Review

The attachment to AEP:NRC:0692DB states that:

"Thermo-Lag will no longer be relied upon as a fire barrier to provide separation of redundant equipment within the same fire area per the requirements of Section III.G.2 of 10 CFR 50, Appendix R. The only Thermo-Lag material that will be relied upon at Cook Nuclear Plant as a fire protection feature is in the unit 1 and unit 2 hot shutdown panel enclosures. This Thermo-Lag installation is used as part of a fire area boundary to separate fire areas. A technical evaluation, supported by fire testing, has been performed to assess the adequacy of the fire barrier as a fire area boundary per the guidance in Sections D.1(j), F.2, and F.3 of Appendix A to branch technical position (BTP) auxiliary power conversion systems branch (APCSB) 9.5-1. This technical evaluation is

contained in Section 11.36 of the FPPM [Fire Protection Program Manual], revision 1. Technical evaluation 11.36 of the FPPM was reviewed in accordance with our 10 CFR 50.59 program."

While AEP:NRC:0692DB was written to describe the resolution of the thermo-lag fire barrier issues, it does not explicitly address Section III.G.3 relative to the use of thermo-lag in the HSDPs. AEP:NRC:0692DB states that thermo-lag is used as a "fire barrier to provide separation", and this was found to be acceptable as a result of a technical evaluation (TE) 11.36, revision 3, and a 10 CFR 50.59 safety review. The details of the derated HSDP fire barrier were discussed in TE 11.36, revision 3.

Our continuing internal review noted that although AEP:NRC:0692DB had indicated that TE 11.36, revision 3, was completed, the reason TE 11.36, revision 3, was developed was not stated. TE 11.36, revision 3, was developed because of a deviation in the 3-hour fire barrier in the HSDP.

As noted above, TE 11.36, revision 3, and the safety review performed in support of AEP:NRC:0692DB, concluded that the fire protection provided by the derated thermo-lag installed in the HSDP was acceptable. Subsequent to AEP:NRC:0692DB, we revised TE 11.36 to revision 4 and updated our 10 CFR 50.59 safety review, and our conclusion remained the same.

TE 11.36, revision 4, provided a more rigorous discussion of the fire resistance time provided by the thermo-lag in the HSDP (by test), and the equivalent fire severity time (with the thermo-lag contributing to the fire loading).

Generic letter (GL) 86-10 states that fire area boundaries need not be completely sealed floor-to-ceiling or wall-to-wall. However, all unsealed openings should be identified and considered in evaluating the effectiveness of the overall barrier. Where fire area boundaries are not complete barriers with all penetrations sealed, licensees must perform an evaluation to assess the adequacy of the boundaries to determine if the boundaries will withstand the hazards associated with the area. Licensees are not required to submit their evaluations for staff review and concurrence.

As discussed above, TE 11.36, revisions 3 and 4, have assessed the adequacy of the boundaries to withstand the fire hazards associated with the area.

A SER was issued on June 17, 1988, in response to letters dated March 8, 1984, and June 15, 1984, AEP:NRC:0692L and AEP:NRC:0692O

respectively, concerning "Unrated Fire Hatches in Fire Boundaries". In this SER, the NRC staff's evaluation concluded that "...the acceptance criteria for fire area boundaries are set forth in Appendix A to BTP APCS 9.5-1, not in Appendix R to 10 CFR 50. Because deviations from the Appendix A guidelines do not require exemptions, the staff reviewed the fire area boundary penetrations as deviations, rather than exemptions." This SER is consistent with GL 86-10 and provides the NRC's reasoning concerning the acceptance criteria for fire area boundaries.

#### Conclusion

The HSDP thermo-lag is part of the fire barrier assembly between fire areas. The use of the derated thermo-lag in the HSDP is a deviation from Appendix A to BTP APCS 9.5-1. Therefore, a revised exemption is not required.

TE 11.36, revisions 3 and 4, both conclude that there is reasonable assurance that the deviation from our prior commitment to provide a 3-hour rated enclosure for each of the HSDPs will not impair the safe shutdown capabilities of the plant or increase the potential for spread of fire between the HSDP enclosures and the control rooms in which they are located. Therefore, the thermo-lag installed in the HSDP meets the intent of 10 CFR 50 Appendix R, Section III G, "Fire Protection of Safe Shutdown Capability".

This letter is the result of our continuing evaluation of fire protection issues and is provided as an update of our response to GL 92-08 concerning the HSDP enclosures.



