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 50-316 Donald C. Cook Nuclear Power Plant, Unit 2, Indiana M 05000316  
 AUTH. NAME AUTHOR AFFILIATION  
 FITZPATRICK, E. Indiana Michigan Power Co. (formerly Indiana & Michigan Ele  
 RECIP. NAME RECIPIENT AFFILIATION  
 MURLEY Region 3 (Post 820201)

SUBJECT: Provides response to NRC Bulletin 92-001, "Fire Endurance  
 Test Failures of Thermo-Lag 330 Fire Barrier Matl."

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AEP:NRC:1176

Donald C. Cook Nuclear Plant Units 1 and 2  
License Nos. DPR-58 and DPR-74  
Docket Nos. 50-315 and 50-316  
RESPONSE TO NRC BULLETIN 92-01, "FAILURE OF  
THERMO-LAG 330 FIRE BARRIER SYSTEM TO MAINTAIN  
CABLING IN WIDE CABLE TRAYS AND SMALL CONDUITS  
FREE FROM FIRE DAMAGE"

Attn: T. E. Murley

July 24, 1992

Dear Dr. Murley:

This letter provides our response to NRC Bulletin 92-01 as it applies to Cook Nuclear Plant. The bulletin addresses fire endurance test failures of Thermo-Lag 330 fire barrier material. The specific information requested in the bulletin is provided in the attachment to this letter.

In summary, Cook Nuclear Plant does utilize Thermo-Lag 330 to protect cables and conduits that are necessary for safe shutdown from fire damage. Although we have not declared the Thermo-Lag barriers inoperable, fire watches have been posted consistent with our technical specifications for an inoperable fire barrier. Finally, with respect to long-term corrective actions, we will consider application of the results of NUMARC's efforts, when completed, to Cook Nuclear Plant as appropriate.

Our response to NRC Bulletin 92-01 was requested to be made under oath or affirmation according to the provisions of Section 182a of the Atomic Energy Act of 1954, as amended, and 10 CFR 50.54(f). As such, an oath is included with this letter.

Sincerely,

A handwritten signature in cursive script, appearing to read "E. E. Fitzpatrick".

E. E. Fitzpatrick  
Vice President

dag

Attachment

9207300133 920724  
PDR \* ADCK 05000315  
G PDR

Handwritten initials, possibly "JEH", with a vertical line extending downwards from the right side.

Dr. T. E. Murley

-2-

AEP:NRC:1176

cc: D. H. Williams, Jr.  
A. A. Blind - Bridgman  
J. R. Padgett  
G. Charnoff  
NFEM Section Chief  
A. B. Davis - Region III  
NRC Resident Inspector - Bridgman

STATE OF OHIO)  
COUNTY OF FRANKLIN)

E. E. Fitzpatrick, being duly sworn, deposes and says that he is the Vice President of licensee Indiana Michigan Power Company, that he has read the forgoing Response to NRC Bulletin 92-01, "Failure of Thermo-Lag 330 Fire Barrier System to Maintain Cabling in Wide Cable Trays and Small Conduits Free From Fire Damage," and knows the contents thereof; and that said contents are true to the best of his knowledge and belief.

E E Fitzpatrick

Subscribed and sworn to before me this 24th  
day of July, 199 2.

Rita D. Hill  
NOTARY PUBLIC

NOTARY D. HILL  
NOTARY PUBLIC, STATE OF OHIO  
MY COMMISSION EXPIRES 6-28-94



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ATTACHMENT TO AEP:NRC:1176

INFORMATION REQUESTED IN NRC BULLETIN 92-01





In NRC Bulletin 92-01, the NRC requests licensees of nuclear power reactors to immediately take three actions. This attachment provides a summary of the actions we have taken to address these three requests. The responses provided are applicable to Units 1 and 2 of Cook Nuclear Plant.

1. NRC Request

"For those plants that use either 1- or 3-hour pre-formed Thermo-Lag 330 panels and conduit shapes, identify the areas of the plant which have Thermo-Lag 330 fire barrier material installed and determine the plant areas which use this material for protecting either small diameter conduit or wide trays (widths greater than 14 inches) that provide safe shutdown capability."

Response

Thermo-Lag 330 fire barrier material is used around conduits, trays, tray supports, panels, and walls as a one-hour and three-hour fire barrier system for compliance with 10 CFR 50 Appendix R at Cook Nuclear Plant. Upon receipt of the bulletin, the areas in the plant containing Thermo-Lag 330 were identified as follows:

<u>Plant Location</u>	<u>Fire Zone(s)</u>
573' Elevation, Auxiliary Building	1, 1D, 1H
587' Elevation, Auxiliary Building	5, 6M, 6N, 6S
609' Elevation, Auxiliary Building	44N, 44S
591' Elevation, Turbine Building	17C, 79, 85
Unit 2 Quadrant 2 Piping Tunnel, 591' elevation	22
ESW Pump Rooms, Basement Area	29G
Diesel Generator Rooms	15, 19
Reactor Cable Tunnels	23, 24, 25, 26, 27
Hot Shutdown Panels	144, 145

In addition, a small amount of Thermo-Lag material was also used on the structural supports of a thermal radiant energy shield for instrumentation located in Fire Zones 122 and 123 inside containment. However, the application of this material inside of containment is not related to Appendix R one-hour or three-hour barrier compliance. To the best of our knowledge, it was applied as an engineering conservatism. As such, compensatory actions in this area are not necessary.

Generally, cable trays at Cook Nuclear Plant are 12" wide. However, due to the close proximity of some adjacent cable trays, there exists several instances where we have enclosed either two or three cable trays in one Thermo-Lag fire barrier configuration.

2. NRC Request

"In those plant areas in which Thermo-Lag fire barriers are used to protect wide cable trays, small conduits, or both, the licensee should implement, in accordance with plant procedures, the appropriate compensatory measures, such as fire watches, consistent with those which would be implemented by either the plant technical specifications or the operating license for an inoperable fire barrier."

Response

As a result of Bulletin 92-01, three stationary fire watches and two roving watches have been posted. This is consistent with the required actions specified in Cook Nuclear Plant Technical Specifications (3/4 7.9.1 for Unit 1 and 3/4 7.10 for Unit 2) for inoperable fire barriers. However, as previously stated, we have not declared our Thermo-Lag fire barriers inoperable. The stationary watches are located in the Unit 1 CD diesel generator room (Zone 15), the Unit 2 AB diesel generator room (Zone 19), and in the Unit 2 Quadrant 2 piping tunnel, elevation 591' (Zone 22). The roving watches cover the remaining Fire Zones listed in our response to NRC Request (1) above.

3. NRC Request

"Each licensee, within 30 days of receiving this bulletin, is required to provide a written notification stating whether it has or does not have Thermo-Lag 330 fire barrier systems installed in its facilities. Each licensee who has installed Thermo-Lag 330 fire barriers is required to inform the NRC, in writing, whether it has taken the above actions and is required to describe the measures being taken to ensure or restore fire barrier operability."

Response

This submittal provides our written notification as requested. The locations of Thermo-Lag 330 fire barrier material are specified in the response to NRC Request (1) of this attachment, while our compensatory measures are



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outlined in our response to NRC Request (2). Appropriate actions to restore fire barrier integrity are being developed through an industry program being coordinated by NUMARC. This program will include establishment of a test database, development of guidance for applicability of tests, development of generic installation guidance, and consideration and coordination of additional testing as appropriate. We will consider applying the results of these efforts, when completed, to the Thermo-Lag installations at Cook Nuclear Plant within the scope of Bulletin 92-01.

Bulletin 92-01 also requests an estimate of staff time and costs associated with complying with this bulletin. In addition to the 5 fire watches that we have posted at all times, which totals 15 individuals over three shifts, we are devoting approximately the equivalent of three professional employees full-time to the resolution of various aspects of the Thermo-Lag issue. Until a final resolution of the NRC's concerns about this material is reached, we cannot predict the resources we will expend on this issue.



Country	1950	1960	1970	1980	1990	2000	2010	2020	2030	2040	2050
Japan	7	8	10	12	14	16	18	20	22	24	26
Germany	10	11	12	13	14	15	16	17	18	19	20
France	11	12	13	14	15	16	17	18	19	20	21
Italy	12	13	14	15	16	17	18	19	20	21	22
Spain	13	14	15	16	17	18	19	20	21	22	23
Sweden	14	15	16	17	18	19	20	21	22	23	24
Belgium	15	16	17	18	19	20	21	22	23	24	25
United Kingdom	16	17	18	19	20	21	22	23	24	25	26
Canada	17	18	19	20	21	22	23	24	25	26	27
United States	18	19	20	21	22	23	24	25	26	27	28
China	19	20	21	22	23	24	25	26	27	28	29
India	20	21	22	23	24	25	26	27	28	29	30
South Africa	21	22	23	24	25	26	27	28	29	30	31
South Korea	22	23	24	25	26	27	28	29	30	31	32
Poland	23	24	25	26	27	28	29	30	31	32	33
Portugal	24	25	26	27	28	29	30	31	32	33	34
Finland	25	26	27	28	29	30	31	32	33	34	35
Switzerland	26	27	28	29	30	31	32	33	34	35	36
Australia	27	28	29	30	31	32	33	34	35	36	37
Israel	28	29	30	31	32	33	34	35	36	37	38
Spain	29	30	31	32	33	34	35	36	37	38	39
Belgium	30	31	32	33	34	35	36	37	38	39	40
France	31	32	33	34	35	36	37	38	39	40	41
Germany	32	33	34	35	36	37	38	39	40	41	42
Italy	33	34	35	36	37	38	39	40	41	42	43
Japan	34	35	36	37	38	39	40	41	42	43	44
United States	35	36	37	38	39	40	41	42	43	44	45
Canada	36	37	38	39	40	41	42	43	44	45	46
China	37	38	39	40	41	42	43	44	45	46	47
India	38	39	40	41	42	43	44	45	46	47	48
South Africa	39	40	41	42	43	44	45	46	47	48	49
South Korea	40	41	42	43	44	45	46	47	48	49	50
Poland	41	42	43	44	45	46	47	48	49	50	51
Portugal	42	43	44	45	46	47	48	49	50	51	52
Finland	43	44	45	46	47	48	49	50	51	52	53
Switzerland	44	45	46	47	48	49	50	51	52	53	54
Australia	45	46	47	48	49	50	51	52	53	54	55
Israel	46	47	48	49	50	5					