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## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9105070211 DOC.DATE: 91/04/28 NOTARIZED: NO DOCKET #  
 FACIL:50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe 05000397  
 AUTH.NAME AUTHOR AFFILIATION  
 REIS,M.P. Washington Public Power Supply System  
 BAKER,J.W. Washington Public Power Supply System  
 RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 91-004-00: on 910328, two deficiencies noted in Thermolog application on critical cable tray running through Div 1 area. Caused by inadequate installation of Thermolog. Fire tour of cable spreading room retained. W/910426 ltr.

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EXTERNAL:	EG&G BRYCE, J.H.		3	3		L ST LOBBY WARD		1	1
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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

P.O. Box 968 • 3000 George Washington Way • Richland, Washington 99352

G02-91-084

Docket No. 50-397

April 26, 1991

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

Subject: NUCLEAR PLANT NO. 2  
LICENSEE EVENT REPORT NO. 91-004

Dear Sir:

Transmitted herewith is Licensee Event Report No. 91-004 for the WNP-2 Plant. This report is submitted in response to the report requirements of 10CFR50.73 and discusses the items of reportability, corrective action taken, and action taken to preclude recurrence.

Very truly yours,

*J. W. Baker*

J. W. Baker (M/D 927M)  
WNP-2 Plant Manager

JWB:lr

Enclosure:

Licensee Event Report No. 91-004

cc: Mr. John B. Martin, NRC - Region V  
Mr. C. Sorensen, NRC Resident Inspector (M/D 901A)  
INPO Records Center - Atlanta, GA  
Ms. Dottie Sherman, ANI  
Mr. D. L. Williams, BPA (M/D 399)  
NRC Resident Inspector - walk over copy

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EXPIRES: 4/30/92

## LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 60.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

Washington Nuclear Plant - Unit 2

DOCKET NUMBER (2)

0 5 0 0 0 3 9 7 1 OF 0 4

PAGE (3)

TITLE (4) INADEQUATE FIRE PROTECTION (THERMOLAG) OF DIVISION II SAFE SHUTDOWN CABLES  
DUE TO INADEQUATE INSTALLATION AND INSPECTION

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER(S)
0	3	2	8	9	1	0	0	4	0	0	0
0	3	2	8	9	1	0	0	4	2	8	9
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)								
POWER LEVEL (10)			20.402(b)			20.405(c)			50.73(a)(2)(iv)		
1, 0, 0			20.405(a)(1)(i)			50.38(c)(1)			50.73(a)(2)(v)		
			20.405(a)(1)(ii)			50.38(c)(2)			50.73(a)(2)(vi)		
			20.405(a)(1)(iii)			50.73(a)(2)(i)			50.73(a)(2)(vii)(A)		
			20.405(a)(1)(iv)			50.73(a)(2)(ii)			50.73(a)(2)(viii)(B)		
			20.405(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(ix)		
									73.71(b)		
									73.71(c)		
									OTHER (Specify in Abstract below and in Text, NRC Form 366A)		
									10CFR50.72(b)(1)(ii)(A)		

LICENSEE CONTACT FOR THIS LER (12)

NAME

M. P. Reis, Lead Compliance Engineer

TELEPHONE NUMBER

AREA CODE

5 0 1 9 3 7 1 7 - 1 2 3 8 1 5

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)

X NO

EXPECTED SUBMISSION DATE (15)

MONTH DAY YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On March 28, 1991, as part of a scheduled annual inspection, two deficiencies in the Thermolag application on a critical Division II cable tray running through a Division I area were discovered. (Thermolag is a fire protective coating.) At 1615 hours on March 29, 1991, after evaluation of the location and nature of the defects, the deficiencies were determined to be reportable as conditions which are outside of plant design basis. It was determined that a Design Basis Fire in the Division I area could potentially also compromise critical Division II equipment due to insufficient fire protection of the cable tray. The NRC Operations Center was notified at 1640 hours on March 29, 1991, within the required one hour notification time.

Immediately after discovery, the deficiencies were added to the Cable Spreading Room fire impairment list and included as part of the fire tour.

The defects, though on the same cable tray section, are distinct and independent. The root causes for the defects is inadequate installation of the Thermolag and inadequate work practices relating to inspection techniques. The defects will be repaired and inspection personnel will be instructed regarding the importance of checking all cable tray surfaces for degradation of Thermolag protection.

This particular event had no safety significance.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Washington Nuclear Plant - Unit 2	0 5 0 0 0 3 9 7	9 1	0 0 4	0 0	0 2	OF	0 4

TEXT (If more space is required, use additional NRC Form 366A's) (17)

Plant Conditions

- a) Plant Mode - 1 (Power Operation)
- b) Power Level - 100%

Event Description

On March 28, 1991, two deficiencies were found in the Thermolag fire protective coating for a critical cable tray. The deficiencies (between tray nodes 7915 and 7916 C-Div 2) were discovered by a Supply System inspector who was trained and qualified to perform the annual 100% inspection of trays required to be Thermolagged. (The same inspector performed the 1990 inspection). The cable tray is critical since it carries wiring necessary to satisfy WNP-2 commitments with respect to 10CFR50, Appendix R "Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979". In particular, the tray carries wiring necessary for the control of the Division II Diesel Generator and of Division II critical Bus SM-8 breakers through a Division I fire area in the Cable Spreading Room. The Division II wiring is required to be protected in the Division I area. After evaluation of the nature and location of the defects, it was determined on March 29, 1991 that a condition outside the plant design basis existed and should be reported under the provisions of 10CFR50.72(b)(1)(ii)(A). The NRC Operations Center was called at 1640 hours on March 29, 1991. This report is submitted pursuant to 10CFR50.73(a)(2)(ii)(B).

The Cable Spreading Room at WNP-2 is divided into three fire areas, RC-IIA, RC-IIC, and RC-IIB, from North to South, respectively. (See attached sketch). RC-IIA contains primarily critical Division I equipment and cabling that is not fire protected in this zone. However, in this zone, there are Appendix R Division II Safe Shutdown components and cabling which do require one hour fire protection.

Two deficiencies were noted. One concerned inadequate Thermolag thickness on the side rail of the cable tray. The second deficiency was an incomplete transition between Thermolag board and Thermolag spray application, which resulted in a rectangular opening of approximately 6 square inches. Both deficiencies are located within fire area RC-IIA. Either defect could allow a fire in RC-IIA (Division I fire area) to compromise Division II Safe Shutdown equipment.

Immediate Corrective Actions

1. The Cable Spreading Room was placed on a one hour fire tour at 1430 hours on March 28, 1991, immediately after the deficiencies were discovered. The fire tour will remain in effect until the deficiencies are repaired.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Washington Nuclear Plant - Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 3 9 7 9 1	LER NUMBER (8) YEAR SEQUENTIAL NUMBER REVISION NUMBER 0 0 4 0 0	PAGE (3) 3 OF 4
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

Further Evaluation and Corrective ActionA. Further Evaluation

1. 10CFR50, Appendix R requires that a Design Basis Fire in any fire area does not result in the loss of safe shutdown capability. After evaluation of the nature and location of the defects, it was determined that a Design Basis Fire in RC-IIA (the Division I fire area) could also compromise controls for circuit breakers associated with the Division II Diesel Generator and critical Bus SM-8. This is considered to be a condition outside the plant design basis and is reportable under the provisions of 10CFR50.72(b)(1)(ii)(A). The determination of reportability was made at 1615 hours on March 29, 1991. The NRC Operations Center was called at 1640 hours. This report is submitted as required by 10CFR50.73(a)(2)(ii)(B).
2. There were no structures, systems or components that were inoperable prior to the start of this event which contributed to the event.
3. The root causes of these conditions are installation error and inspection practices less than adequate.

The insufficient Thermolag spray coating on the cable tray side rail has existed since the original application. Most probably, the deficiency at the transition has also existed since original Thermolag application. (A cable was pulled through the nodes in 1989. However the work package does not document any violation of a fire barrier. The new cable was properly covered with Thermolag up to the transition and inspection requirements did not require inspection of the transition.) Both deficiencies are in locations which are difficult to access and cannot both be seen readily from the same vantage point.

Inspection practices are less than adequate since there have been several previous inspections of these nodes which could have detected the deficiencies. The inspection procedure, PPM 15.4.6 - Fire Rated Assembly/Inspection and Operational Verification, has been evaluated and determined adequate.

B. Further Corrective Action

1. Thermolag deficiencies will be repaired. Retain fire tour of Cable Spreading Room until deficiencies are repaired.
2. Instruct personnel involved in inspection of Thermolagged components in the importance of checking all cable tray surfaces for any degradation.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 60.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (6)

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YEAR SEQUENTIAL NUMBER REVISION NUMBER

Washington Nuclear Plant - Unit 2

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

Safety Significance

This condition is of no safety significance. There was no actual fire to challenge the integrity of the cabling or equipment in fire area RC-IIA. There is low probability of a fire in RC-IIA due to administrative controls on moving combustible materials into the area and on potentially hazardous activities (cutting, grinding, welding, etc). Any incipient fire in the Cable Spreading Room would be quickly detected and suppressed by automatic systems, with backup protection provided by the plant Fire Brigade. (There is a sprinkler head approximately three feet above the Thermolag deficiencies). The Cable Spreading Room has been on regular fire watch tours since September, 1989 for other reasons. This condition posed no threat to the safety of plant personnel or the public.

Similar Events

LER 88-022-00 Technical Specification Violation of Cable Spreading Room Fire Barrier Caused by Missing Thermolag Insulation due to Personnel Error.

LER 88-026-00 Technical Specification Appendix R, Division II Instrument Sensing Lines Support Hangers Require Modification/Protection due to Inadequate Design by the Architect Engineer. (55 hangers needed Thermolag.)

LER 84-031 10CFR50 Appendix R Cable Fire Protection. (This LER and six supplements identified 14 Safe Shutdown cables needing Thermolag protection and other issues.)

## EIIIS INFORMATION

EIIS Reference

<u>Test Reference</u>	<u>System Code</u>	<u>Component Code</u>
Diesel Generator	EB	DG
Critical Bus SM-8	EB	BU
Cable Tray	FA	TY



