



Commonwealth Edison
Dresden Nuclear Power Station
R.R. #1
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June 19, 1987

EDE LTR #87-394

U.S. Nuclear Regulatory Commission
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Washington, D.C. 20555

Licensee Event Report #87-019-0, Docket #050237 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(i)(B).

E.D. Eenigenburg for
E.D. Eenigenburg
Station Manager
Dresden Nuclear Power Station

EDE/kjl

Enclosure

cc: A. Bert Davis, Regional Administrator, Region III
File/NRC
File/Numerical

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Dresden Nuclear Power Station, Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 2 3 7	PAGE (3) 1 OF 0 5
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TITLE (4) **Improperly Located Fire Break Near Cable Tray Routing Point 192B Due to Design Error.**

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)
06	04	87	87	019	00	06	19	87	Dresden Unit 3		0 5 0 0 0 2 4 9
									N/A		0 5 0 0 0

OPERATING MODE (9) N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)									
POWER LEVEL (10) 0 1 8 1 8	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.406(c)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)						
	<input type="checkbox"/> 20.406(a)(1)(i)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)						
	<input type="checkbox"/> 20.406(a)(1)(ii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 365A)						
	<input type="checkbox"/> 20.406(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(vii)(A)							
	<input type="checkbox"/> 20.406(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(vii)(B)							
<input type="checkbox"/> 20.406(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)								

LICENSEE CONTACT FOR THIS LER (12)		TELEPHONE NUMBER	
NAME Richard H. Johnson Technical Staff Engineer (X-610)	AREA CODE 8 1 5	NUMBER 9 4 2	EXTENSION 2 9 2 0

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)											
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)		
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)			<input checked="" type="checkbox"/> NO	MONTH	DAY	YEAR

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

On June 4, 1987, during a review of questions concerning a fire stop/break surveillance, architect-engineer personnel determined that the fire break installed between cable tray routing points 191B and 192B should instead be located between routing points 192B and 193B to provide separation of Division I and II cables. The NRC Safety Evaluation Report (SER) dated March 1978 included a requirement that additional fire stops (breaks) be installed to provide separation between divisions (SER item 3.1.14); completion of this and other listed modifications was required by Dresden Unit 2 License Condition 3.H and Dresden Unit 3 License Condition 3.G. The root cause of this discrepancy is that Division I was routed at point 192B rather than Division II as originally shown on revisions of drawing 12E-2052 dated prior to February 3, 1987. Although drawing 12E-2052 was corrected on February 3, 1987, the need to move the existing fire break was not recognized by the architect-engineer at that time.

The safety significance of this event is minimal because the Appendix R safe shutdown analysis does not take credit for a fire break near routing point 192B.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Dresden Nuclear Power Station, Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 2 3 7 8 7	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
			0 1 9	0 0	0 2	OF

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PLANT AND SYSTEM IDENTIFICATION:

General Electric - Boiling Water Reactor - 2527 Mwt rated core thermal power. Energy Industry Identification (EIIS) codes are identified in the text as [XX].

EVENT IDENTIFICATION:

Improperly Located Fire Break Near Cable Tray Routing Point 192B Due to Drawing 12E-2052 Being Incorrect Resulting From a Design Error.

A. PLANT CONDITIONS PRIOR TO EVENT:

Mode: Unit 2: N - Run Unit 3: N - Run
Reactor Power: Unit 2: 88% Unit 3: 80%

B. DESCRIPTION OF EVENT:

On June 4, 1987, during a review of questions concerning a fire stop/break surveillance, architect-engineer personnel determined that the fire break installed between cable tray [FA] routing points 191B and 192B should instead be located between routing points 192B and 193B to provide separation of Engineered Safety Systems Division I and II cables. The NRC Safety Evaluation Report (SER) dated March 1978 included a requirement that additional fire stops (breaks) be installed to provide separation between divisions (SER item 3.1.14); completion of this and other listed modifications was required by Dresden Unit 2 License Condition 3.H and Dresden Unit 3 License Condition 3.G.

C. CAUSE OF EVENT:

The root cause of this discrepancy is that revisions of drawing 12E-2052 dated prior to February 3, 1987, showed Division II rather than Division I cables routed at cable tray [FA] routing point 192B. Actually, no Division II cables were routed at point 192B. One Division I cable (the feed for Containment Cooling Service Water [BI] pump 2B) has been routed through point 192B (since 1969). Based on earlier revisions of drawing 12E-2052, the fire break between points 191B (Division I) and 192B were apparently in place before the modifications required by the March 1978 SER. It is concluded that this fire break was originally installed in the wrong location; the root cause is that drawing 12E-2052 was in error. Architect-engineer personnel discovered the drawing error in 1986 while designing new cable routings, and drawing 12E-2052 was corrected in a revision dated February 3, 1987; the need to move the existing fire break was not recognized by the architect-engineer at that time, however.

D. SAFETY ANALYSIS:

The safety significance of cable tray [FA] fire breaks is addressed in Appendix A of Branch Technical Position (BTP) 9.5.1, in the 1977 and 1986 Fire Hazards Analyses (FHA) for Dresden Nuclear Station, Units 2 and 3, and in

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Dresden Nuclear Power Station, Unit 2	DOCKET NUMBER (2) 05000237	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		87	019	00	03	OF	05

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the March 1978 Safety Evaluation Report issued by the U.S. Nuclear Regulatory Commission (NRC).

Cable tray [FA] fire breaks are discussed in the above documents as an issue separate from that of cable and cable tray [FA] penetration of fire barriers. Nevertheless, cable tray [FA] fire breaks were included in Revision 0 of both Dresden Fire Protection Procedure (DFPP) 4175-2, Operating Fire Stop/Break Surveillance, and 4175-3, Shutdown Fire Stop Surveillance; therefore, it appears that Technical Specification 3.12.F/4.12.F, Penetration Fire Barriers, was judged to apply to cable tray [FA] fire breaks.

Paragraph D.3.e of Appendix A of BTP 9.5-1 states the following position:

Fire breaks should be provided as deemed necessary by the fire hazards analysis. Flame or flame retardant coatings may be used as a fire break for grouped electrical cables to limit spread of fire in cable ventings. (Possible cable derating owing to use of such coating materials must be considered during design.)

The response of the 1977 FHA to this position follows:

Comply:

Fire stops separating redundant safety-related cable systems in communicating cable trays are provided or are being installed, in accordance with the fire hazards analysis.

Credit was later taken for separation of cable divisions in the Safe Shutdown Analysis submitted to the NRC in June, 1978.

A new safe shutdown analysis was performed following publication of Appendix R of 10 CFR 50, and the 1986 FHA response to paragraph D.3.e of Appendix A of BTP 9.5-1 follows:

Comply with intent:

The Appendix R analysis demonstrates safe shutdown capability using alternate shutdown equipment. It has been shown in this analysis that for a fire involving redundant cable trains in a fire area, an alternate shutdown path will be available outside of the affected fire area. (See Appendix R Analysis which identifies the method to ensure separation of alternate shutdown paths.) Therefore, the fire stops identified in the 1978 SER Section 3.1.14 and the 12/1/77 letter do not have the significance for safe shutdown they did at the time of the SER. These fire stops no longer need to be maintained in the manner of other SER commitments except for those located on the first and second floor of the Unit 2 and 3 Reactor Building which provide separation between redundant instrumentation divisions.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Dresden Nuclear Power Station, Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 2 3 7	LER NUMBER (8)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 7	- 0 1 9	- 0 0	0 4	OF	0 5

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The fire break involved in this event is not among those located on the first and second floor of the Unit 2 and 3 Reactor Building. Dresden Safe Shutdown Procedures were issued for use as of January 16, 1987. Because these procedures are based on the Appendix R safe shutdown analysis that does not take credit for the fire break involved in this event, the safety significance of this event is minimal.

E. CORRECTIVE ACTIONS:

1. The existing fire break between cable tray [FA] routing points 191B (Division I) and 192B (Division I) was moved to a location between routing points 192B (Division I) and 193B (Division II) and below an existing fire break between routing points 192T and 193T. The work was done under Work Request #D65701. A continuous fire watch was maintained until completion and inspection of the work at 1405 hours on June 11, 1987, thus satisfying the fire watch requirements of Technical Specification 3.12.F.2.
2. The Station Nuclear Engineering Department (SNED) is being requested (by means of Action Item Record Number 12-87-16) to provide a review of the Division I/II designation of cable routing points shown on cable routing drawings. If additional errors are found, SNED is being requested to review the impact on cable tray [FA] fire break locations.
3. SNED is revising SNED procedure Q.6 Exhibit J (Fire Protection Review Checklist) to include a question on fire breaks. SNED procedure Q.6 Exhibit E (Systems Interaction Checklist) already includes a question on cable separation.
4. Dresden Administrative Procedure (DAP) 5-1, Plant Modification Program, was revised on May 1, 1987, and now includes a checklist item requiring review of new modifications to determine if new fire stops or fire breaks are required.
5. Dresden Fire Protection Procedure (DFPP) 4175-2, Operating Fire Stop/Break Surveillance will be revised to include the correct fire break locations.
6. A Drawing Change Request is being submitted to correct drawing 12E-2052.
7. Work is in progress to obtain operating license amendments as requested by NRC Generic Letter 86-10, Section F. NRC review of the fire protection program is in progress and a new fire protection Safety Evaluation Report is expected. The operating license amendments requested by NRC Generic Letter 86-10, Section F, would delete the existing fire protection Technical Specifications and would replace the existing fire protection license conditions with the following standard condition:

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Dresden Nuclear Power Station, Unit 2	DOCKET NUMBER (2) 05000237	LER NUMBER (3)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		87	019	000	5	OF	05

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Fire Protection

(Name of Licensee) shall implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report for the facility (or as described in submittals dated _____) and as approved in the SER dated _____ (and Supplements dated _____) subject to the following provision:

The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

F. PREVIOUS OCCURRENCES:

<u>LER Number</u>	<u>Title</u>
85-040-0 Docket #050237	Potential Fire Protection License Condition Violations

G. COMPONENT FAILURE DATA:

Not applicable as no component failure occurred.