



**Commonwealth Edison**  
Dresden Nuclear Power Station  
R.R. #1  
Morris, Illinois 60450  
Telephone 815/942-2920

December 13, 1989

EDE LTR #89-923

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

Licensee Event Report #89-010-0, Docket #050249 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(i)(B).

E.D. Eenigenburg  
Station Manager  
Dresden Nuclear Power Station

EDE/jt

Enclosure

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

0718k

8912190387 891213  
PIR ADOCK 05000249  
S FDC

IE 22  
1/1

LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Dresden Nuclear Power Station, Unit 3 Docket Number (2) 0 15 10 10 10 12 14 19 Page (3) 1 of 0 4

Title (4) Improper Stationing of Fire Inspections Due to Personnel 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)	
11	16	89	89	010	00	12	13	89	N/A	015101010	
									N/A	015101010	

OPERATING MODE (9) N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)				
POWER LEVEL (10) 091	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)	
	<input type="checkbox"/> 20.405(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"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> Other (Specify in Abstract below and in Text)	
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)		
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)		
	<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(x)		

LICENSEE CONTACT FOR THIS LER (12)  
Name: Eric J. Skowron, Technical Staff System Engineer Ext. 2353  
TELEPHONE NUMBER: AREA CODE 815 942-2920

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

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS
X	I C	D E T	X X X X	N					

SUPPLEMENTAL REPORT EXPECTED (14)  
 Yes (If yes, complete EXPECTED SUBMISSION DATE)  NO  
Expected Submission Date (15)

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

On November 16, 1989, while investigating a failure of a linear heat detection fire protection system installed in the pressure suppression chamber and Low Pressure Coolant Injection pump rooms, it was discovered that a fire inspection had not been stationed properly. Due to misinterpretation of an administrative Limiting Condition for Operation, the fire inspections were initiated 14 days after the time frame required by the Dresden Administrative Technical Requirements (DATRs). The cause was attributed to personnel error on the part of a Technical Staff Engineer and the Station Fire Marshal in that they provided incorrect direction to Operations Shift Supervision. Safety significance was minimal because the area involved was regularly inspected as part of operator rounds and smoke from a fire in these areas would be detected by smoke detectors located above the passageways to these rooms. A previous event involving a fire watch problem was reported by LER 89-30/050237.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)						Page (3)		
		Year	///	Sequential Number	///	Revision Number				
Dresden Nuclear Power Station	0   5   0   0   0   2   4   9	8   9	-	0   1   0	-	0   0	0   2	OF	0   4	

TEXT Energy Industry Identification System (EIIIS) codes are identified in the text as [XX]

PLANT AND SYSTEM IDENTIFICATION:

General Electric - Boiling Water Reactor - 2527 MWt rated core thermal power.

Nuclear Tracking System (NTS) tracking code numbers are identified in the text as (XXX-XXX-XX-XXXXX).

EVENT IDENTIFICATION:

Improper Stationing of Fire Inspections Due to Personnel Error

A. CONDITIONS PRIOR TO EVENT:

Unit: 3    Event Date: November 16, 1989    Event Time: 1400 hours  
 Reactor Mode: N    Mode Name: Run    Power Level: 91%  
 Reactor Coolant System (RCS) Pressure: 1004 psig

B. DESCRIPTION OF EVENT:

On November 16, 1989, while investigating a failure of a linear heat detection fire protection [IC] system installed in the pressure suppression chamber and Low Pressure Coolant Injection (LPCI) [B0] pump rooms, it was discovered that fire inspections had not been stationed properly. Due to misinterpretation of an administrative Limiting Condition for Operation (LCO), the fire inspections were initiated 14 days after the time frame required by the Dresden Administrative Technical Requirement (DATR) 3.1.1.1.a. This LCO required that once per hour fire inspections be stationed in the affected areas within one hour.

Generic Letters 86-10 and 88-10 provided guidance for the removal of fire protection requirements from the Technical Specifications. The fire protection requirements were relocated to the DATRs, an administrative document specifically designed to control and track commitments with the same emphasis and attention of the Technical Specifications. The development of the DATRs involved extracting fire protection commitments out of the Technical Specifications, and incorporating certain other fire protection systems and elements that were previously not addressed by the Technical Specifications. The added requirements pertain primarily to fire protection features and controls which were added to maintain compliance with 10 CFR 50 Appendix R.

The Station fire protection group was cognizant of the fact that due to the expanded scope of the DATRs over the Technical Specifications, conditions existed (pre-dating the issuance of the DATRs) that exceeded DATR LCOs. To avoid entering these LCOs upon formal issue of the DATRs, the Station Fire Marshal along with a Technical Staff Engineer performed a review of all outstanding fire protection work requests. A list of the work tasks that would fall under the control of the new DATR LCOs was generated. The work was then prioritized in an effort to eliminate or minimize the number of LCOs entered upon issuance of the DATRs. Moreover, the Technical Staff Engineer maintained a current list of DATR LCOs that would be entered. Once the DATRs were issued, the Fire Marshal then used the DATR LCO list to inform Operations Department Shift Supervision of the LCOs to be entered.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)						Page (3)		
		Year	///	Sequential Number	///	Revision Number				
Dresden Nuclear Power Station	0   5   0   0   0   2   4   9	8   9	-	0   1   0	-	0   0	0   3	OF	0   4	

TEXT Energy Industry Identification System (EIIS) codes are identified in the text as [XX]

The fire protection requirements were removed from the Technical Specifications and the DATRs went into effect on August 30, 1989 at 1200 hours. The Unit 3 pressure suppression chamber/LPCI room heat detection system, previously not addressed in the Technical Specifications, was now subject to the DATRs and was inoperable at that time. The detection system was in an alarm condition as indicated by both the control room fire protection computer, XL-3 device number 34-29, and at local fire protection panel 2223-114. Work Request 82074 had been issued on July 26, 1989 to investigate and repair the problem.

C. APPARENT CAUSE OF EVENT:

At the time the DATRs were issued, the Operations Department was incorrectly informed by the Technical Staff Engineer and the Station Fire Marshal that there was an entry into the DATR LCOs that would require stationing of a fire inspection upon expiration of a 14 day time clock if the detection system could not be made operable within that time. DATR LCO 3.1.1.1.a actually requires that the fire inspection be stationed within one hour. These requirements were apparently confused with DATR LCO 3.1.1.1.b which requires that in addition to maintaining a fire inspection, a Deviation Report must be filed in accordance with Dresden Administrative Procedure (DAP) 2-8 in the event the detection system remained inoperable for more than 14 days. On September 12, 1989 at 1200 hours, 14 days after issuance of the DATRs, Operations Department Shift Supervision directed stationing of a fire inspection in the affected areas and Deviation Report 12-3-89-87 was filed.

The pressure suppression chamber/LPCI pump room detection system is composed of a single detection element commonly known as Protectowire heat sensitive cable. The Protectowire system is designed to accommodate up to 2500 feet of the heat sensitive cable. The system is designed such that a short in the cable caused by a fire anywhere along its length will activate a fire alarm. Upon investigation of the heat detection alarm condition, the Electrical Maintenance Department discovered that the heat detection system was alarming due to a hidden short in the Protectowire cable. The short was located and repairs were completed on September 16, 1989. The cause of the short was determined to be draping of the Protectowire cabling to close to an adjacent run of hot piping. A segment of the cable was replaced, and the cable was fastened adjacent to the cable tray per the heat detection system design in order to prevent future failures. The fire inspections were terminated upon completion of these repairs.

The root cause of this event was attributed to personnel error on the part of the Technical Staff Engineer and the Station Fire Marshal in that incorrect guidance was provided to Operations Staff Supervision concerning appropriate stationing of the fire inspections. Contributing factors to this event included a need for clarification statements in the DATRs concerning detection components which by design are single channel loops. This was significant because the majority of the detection components are multiple loop in nature and as such the immediate posting of fire inspections is usually not required. An additional contributing factor was that a significant backlog of fire protection work requests had accumulated prior to implementation of the DATRs; this backlog has been effectively reduced. Also, as described in section B above, implementation of the DATRs was unique in that it involved a significant widening in scope of the fire protection LCOs.

D. SAFETY ANALYSIS OF EVENT:

The linear thermal detection system in the pressure suppression chamber/LPCI pump rooms was a part of modifications installed in order to comply with the requirements of 10 CFR 50 Appendix R. Protectowire cabling was installed in and under the cable trays in the pressure suppression chamber area, and at the intermediate grating and ceiling elevations of the LPCI corner rooms. Both the LPCI pump rooms and the pressure suppression chamber area have minimal in situ combustibles, 1760 Btu per square foot in the LPCI corner rooms and 860 Btu per square foot in the pressure suppression chamber area. These combustible loads are very low by comparison to the ASTM E119 Standard Time/Temperature Curve which defines a combustible load of 80,000 Btu per square foot for a one hour fire. Cabling in the cable