

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)										DOCKET NUMBER (2)										PAGE (3)																			
Dresden Nuclear Power Station, Unit 2										0 5 0 0 0 2 3 7										1 OF 0 3																			
TITLE (4)																																							
Auxiliary Electric Equipment Room Fire Suppression System Found Inoperative																																							
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)											
																		Dresden Unit 3										0 5 0 0 0 2 4 9											
0 6		2 6		8 5		8 5		- 0 8 4		-		0 0		0 7		2 5		8 5		N/A										0 5 0 0 0									
OPERATING MODE (9)					THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)																																		
N					20.402(b)					20.406(a)					60.73(a)(2)(iv)					73.71(b)																			
POWER LEVEL (10)					20.406(a)(1)(i)					60.36(a)(1)					60.73(a)(2)(v)					73.71(c)																			
Q 9 8					20.406(a)(1)(ii)					60.36(a)(2)					60.73(a)(2)(vii)					OTHER (Specify in Abstract below and in Text, NRC Form 366A)																			
					20.406(a)(1)(iii)					X 60.73(a)(2)(i)					60.73(a)(2)(viii)(A)																								
					20.406(a)(1)(iv)					60.73(a)(2)(ii)					60.73(a)(2)(viii)(B)																								
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LICENSEE CONTACT FOR THIS LER (12)																																							
NAME																				TELEPHONE NUMBER																			
Jerry F. Lizalek																				(X-421)																			
																				AREA CODE																			
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																																							
CAUSE		SYSTEM		COMPONENT		MANUFACTURER		REPORTABLE TO NPDOS				CAUSE		SYSTEM		COMPONENT		MANUFACTURER		REPORTABLE TO NPDOS																			
X		K Q		D M P		I 2 0 6		N																															
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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)

During normal unit operation, while performing Manual/Auto Initiation Logic Test of the Auxiliary Electric Equipment Room (AEER) Halon System, Electrical Maintenance personnel discovered that 5 out of 6 motor operated ventilation dampers failed to operate properly. The Electrical Maintenance personnel notified the station Fire Marshal on 6/26/85 at approximately 1200 hours. The Shift Engineer was notified of the discrepancy on 7/1/85 by 0900 hours, and approximately five days after the Halon System had been discovered inoperative, the continuous fire watch was established. This is contrary to Technical Specification 3.12.H.2 which requires a continuous fire watch be established within 1 hour after the AEER Halon System is discovered to be inoperative. The cause of the event is personnel error. All failed dampers were repaired except for one. This damper was isolated in a fail closed position until repair parts can be procured. The Halon System was functionally tested again and proven to be operable on 7/9/85 at 1430 hours.

Although several of the AEER isolation dampers would have failed to close during a Halon System initiation, the safety significance of this event is considered minimal. The smoke detector and gas injection portions of the Halon Systems were operable. Also the failed open dampers could have been manually closed by Operating personnel. Additionally, the station fire brigade would have been able to suppress any fire with portable chemical or carbon dioxide extinguishers. This is a first occurrence of this type.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

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

During normal unit operation, while performing Manual/Auto Initiation Logic Test of the Auxiliary Electric Equipment Room (AEER) Halon System (special procedure 85-8-88), Electrical Maintenance personnel discovered that 5 out of 6 motor operated ventilation dampers necessary to isolate the AEER during a Halon or Carbon dioxide system initiation failed to operate properly. As stated in the special procedure, the Electrical Maintenance personnel notified the station Fire Marshal of the discrepancy shortly after the damper problems had been identified. The Fire Marshal was notified on 6/26/85 at approximately 1200 hours. Technical Specification 3.12.H.2 requires that a continuous fire watch with backup fire suppression equipment be established within 1 hour after the AEER Halon System is discovered to be inoperative. Failure of the AEER ventilation dampers would render the system inoperative since any halon gas discharged into the room would be lost through the ventilation ductwork. On 7/1/85, at 0800 hours, the Fire Marshall notified the Technical Staff of the problem. The Shift Engineer was notified immediately and by 0900 hours on 7/1/85, five days after the Halon system had been discovered inoperative, a continuous fire watch was posted with backup fire suppression equipment. Personnel error has been determined to be the cause of the missed fire watch. The station Fire Marshall was reminded of the importance of establishing a continuous fire watch in a timely manner as required by the Technical Specifications.

The motor operated dampers necessary to isolate the AEER in the event of a Halon System initiation are 2/3-9472-001, 002, 003, 004, 005 and 006. Damper 2/3-9472-004 was the only damper found to operate properly. Initial investigation found dampers 2/3-9472-001, 005 and 006 in a failed open position unable to isolate during Halon System initiation. Additionally, dampers 2/3-9472-002 and 003 were found in a failed closed position unable to open after the Halon System initiation signal was cleared and the system reset. The opening of damper 2/3-9472-003 would have been necessary to purge the AEER of any Halon and smoke if an actual fire had occurred and been suppressed.

The subsequent investigation revealed that dampers 2/3-9472-005 and 006 had failed open because the local manual damper operators were found in a position forcing the dampers full open. All of the AEER isolation dampers have local manual operators that when engaged override any electrical signal to close the damper. The local manual operators were disengaged to a neutral position and the dampers were cycled to demonstrate operability. A review of the out-of-service log did not show when the system had last been operated.

Investigation of damper 2/3-9472-003 discovered a ground in the damper operator motor. Also, an electrical lead in the damper control panel was found lifted. The wire was lifted to protect the damper circuitry from the grounded motor. The lifted lead was not tagged with a caution card and had not been listed in the control room jumper logs. No work request could be found requesting motor repair for the damper. Work Request #45929 was issued for motor repair, the lifted lead was properly tagged and necessary entries were made in the jumper log. Damper 2/3-9472-003 has been left in the failed closed position until a replacement motor can be received and the work request completed.

The failure of dampers 2/3-9472-001 and 002 has been attributed to the sticking of a motor control limit switch on the damper operators. These control limit switches provide an interlock function within each damper circuitry. In the case of damper 2/3-9472-001, the control limit switch was stuck in a position that sealed the damper circuitry in the open position. On damper 2/3-9472-002, the control limit switch was stuck in the opposite position sealing the damper circuit in the closed position. In both cases, a relaxed spring on the limit switch actuating arm return mechanism was (Continued)

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

determined to be the actual cause of failure. The control switches were repaired and the dampers were cycled to demonstrate operability.

After dampers 2/3-9472-001, 002, 005 and 006 had been demonstrated operable and damper 2/3-9472-003 had been isolated fail closed, the AEER Halon System was functionally tested under special procedure 35-7-127. The Halon System circuitry and damper isolation circuitry functioned properly. The system was declared operable on 7/9/85 at 1430 hours and the continuous fire watch was terminated.

Although three of the six AEER isolation dampers would have failed to close during a Halon System initiation, the safety significance of this event is considered minimal. The smoke detector and gas injection portions of the Halon Systems were operable. Any Halon System initiation would have annunciated an alarm in the control room. The annunciator alarm procedure instructs the center desk control room Operator to dispatch an Equipment Attendant to the AEER area to investigate any fire or source of smoke. Any of the failed open dampers could have been manually closed by Operating personnel. Additionally, the station fire brigade would have been able to suppress any fire with portable chemical or carbon dioxide extinguishers. This is a first occurrence of this type.

In addition to the immediate corrective actions that have been performed, the following corrective actions will be taken:

1. The special procedure used to functionally test the AEER Halon System will be incorporated into a permanent Dresden Fire Protection Procedure (DFPP). This procedure will be included in the Dresden surveillance monitoring program. Included with limitations and actions found in the new DFPP, will be an instruction to immediately inform the Shift Engineer when any system discrepancy is found to ensure that a continuous fire watch is established if necessary. Additionally, a separate instruction will be included to inform the station Fire Marshal of the discrepancy to ensure that action is taken.
2. The local manual operators on the AEER isolation dampers will be locked in a neutral position. Additionally, signs will be posted by each local control operator warning personnel of proper operation.
3. A second Dresden Fire Protection Procedure (DFPP) will be written to demonstrate operability of all AEER isolation dampers on a quarterly basis. A locked damper checklist will be included with the procedure and the procedure will be included in the Dresden surveillance monitoring program.
4. All Operating personnel will be given additional training during their respective six week training schedule. This training will include a review of the Halon System and proper local manual operation of the system isolation dampers.
5. All station personnel will be informed of this event during a station tailgate session. Included in the tailgate will be a review of DAP 7-4, Control of Jumpers or Lifted Leads and DAP 15-1, Work Requests.



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July 25, 1985

DJS Ltr #85-773

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

Licensee Event Report #85-029-0, Docket #050237 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73 (a)(2)(i)(B).

D.J. Scott
Station Manager

DJS/kjl

Enclosure

cc: J.G. Keppler, Regional Administrator, Region III
File/NRC
File/Numerical

IE22
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