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

50-237

November 21, 1991

CWS LTR #91-002

U.S. Nuclear Regulatory Commission
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Licensee Event Report #91-036, Docket #050237 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(iv).

L. J. Hermer for 11/24/91
Charles W. Schroeder
Station Manager
Dresden Nuclear Power Station

CWS/dwh

Enclosure

cc: A. Bert Davis, Regional Administrator, Region III
NRC Resident Inspector's Office
File/NRC
File/Numerical

254

(ZDVR/384)

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4 pp.

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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Dresden Nuclear Power Station, Unit 2 Docket Number (2) 0 10 15 10 10 12 13 17 Page (3) 1 of 0 3

Title (4) Primary Containment Isolation Valve Closure Due To Shutdown Cooling System Spurious Isolation

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)											
1	0	3	1	9	1	9	1	1	0	3	6	0	0	1	1	2	4	9	1	N/A	
																				N/A	

OPERATING MODE (9) N

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)

20.402(b)	20.405(c)	X	50.73(a)(2)(iv)	73.71(b)
20.405(a)(1)(i)	50.36(c)(1)		50.73(a)(2)(v)	73.71(c)
20.405(a)(1)(ii)	50.36(c)(2)		50.73(a)(2)(vii)	Other (Specify in Abstract below and in Text)
20.405(a)(1)(iii)	50.73(a)(2)(i)		50.73(a)(2)(viii)(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)(x)	

POWER LEVEL (10) 0 0 0

LICENSEE CONTACT FOR THIS LER (12)

Name: John Reid, Technical Staff System Engineer Ext. 2380

TELEPHONE NUMBER: AREA CODE 8 1 5 9 4 2 -12 19 12 10

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) Month Day Year

Yes (If yes, complete EXPECTED SUBMISSION DATE) X NO

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

On October 31, 1991, at 1418 hours, a Shutdown Cooling System isolation occurred resulting in Primary Containment Isolation Motor Operated Valves (MOVs) 1001-1A and 1B, 1001-2A and 2B, and 1001-5A and 5B fully closing. Unit 2 was in cold shutdown with the A and B Shutdown Cooling loops in service maintaining reactor water temperature between 110 and 130 degrees F. The B Reactor Recirculation loop temperature on Control Room Temperature Recorder 2-260-11 spiked high to approximately 350 degrees F (A loop remained normal). Control Room Panel 902-4 alarm H-8, Recic Loop B Water High Temp, was received and the Shutdown Cooling System automatically isolated. Approximately five minutes later the alarm cleared and SDC system was restarted. The cause of the system isolation was an unidentified spurious signal. Corrective actions were to restart the Shutdown Cooling System. This event had minimal safety significance because the Shutdown Cooling System was promptly restored to normal operation and reactor water temperature was maintained well below the 212F limit required for primary containment integrity. Spurious Shutdown Cooling System isolations of this type have not been a recurring adverse trend.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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Dresden Nuclear Power Station	0 0 5 0 0 2 3 7	9 1	- 0 3 6	- 0 0	0 2	0 F	0 3

TEXT Energy Industry Identification System (EIIS) 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:

Primary Containment Isolation [JM] Valve Closure Due To Shutdown Cooling [B0] System Spurious Isolation

A. CONDITIONS PRIOR TO EVENT:

Unit: 2	Event Date: October 31, 1991	Event Time: 1418 Hours
Reactor Mode: N	Mode Name: Shutdown	Power Level: 0%
Reactor Coolant System (RCS) Pressure: 0 psig		

B. DESCRIPTION OF EVENT:

On October 31, 1991, at 1418 hours, with Unit 2 in cold shutdown, a Shutdown Cooling System isolation occurred as a result of a spurious high Reactor Recirculation [AD] loop temperature (350 degrees or above nominal setpoint) signal. The A and B Shutdown Cooling loops were in service maintaining reactor water temperature between 110 and 130 degrees F. The B recirculation loop indication on Control Room Recirculation Loop Temperature Recorder 2-260-11 spiked high to approximately 350 degrees and Control Room Panel 902-4 alarm H-8 [JL], Recirc Loop B Water High Temp, was received. Subsequently, the Shutdown Cooling System isolated and Primary Containment Isolation Motor Operated Valves (MOVs) 2-1001-1A and 1B, 2-1001-2A and 2B, 2-1001-5A and 5B closed. Temperature indication for the A recirculation loop, and other reactor water temperature indications remained normal. Approximately five minutes after the isolation, the alarm cleared and the Shutdown Cooling System was restarted.

C. APPARENT CAUSE OF EVENT:

This report is submitted in accordance with Title 10 of the Code of Federal Regulations Part 50 Section 73(a)(2)(iv), which states that any event that results in the manual or automatic actuation of any Engineered Safety Feature (ESF), including the Reactor Protection System (RPS) [JE], must be reported.

The root cause of the temperature spike could not be determined. A review of work being performed at the time of the isolation did not indicate any task that would have interfered with the temperature monitoring circuit. Work was in progress inside the primary containment structure where the temperature element is located. It is possible that a worker could have inadvertently struck the element causing the spike to occur.

A maintenance history review indicated that spiking has previously occurred due to poor connections at the temperature element and at the primary containment penetration. However, these types of indications are normally long in duration and occur repeatedly when there is a problem. The terminations at the temperature element were changed in December, 1989 and the spiking occurrences have decreased since then.

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

D. SAFETY ANALYSIS OF EVENT:

The primary purpose of the Shutdown Cooling System is to remove decay heat from the reactor coolant system during reactor shutdown. As designed, the system isolates as a result of the following conditions:

1. A high temperature condition on Recirculation loop "A" or "B" via recirculation loop temperature thermocouples (system protection trip only, not driven by ESF logic).
2. Low reactor water level condition (primary containment Group III isolation logic).

The purpose of the first condition is to protect the system pumps and other system components from extreme temperatures. The purpose of the second condition is to provide a means of ensuring primary containment integrity for conditions in which excessive reactor inventory leakage is occurring. Isolation of the system, when serving the purpose of maintaining coolant temperature, would result in increasing reactor water temperature, possibly to the boiling point (212 degrees F) or more. At no time did the reactor water temperature approach 212 degrees F; Control Room personnel were fully aware of reactor water temperature. The Operations Department was able to realign the Shutdown Cooling System shortly after the isolation, minimizing the reactor water temperature increase. For this reason, the safety significance of this event is considered to be minimal.

E. CORRECTIVE ACTIONS:

The immediate corrective action consisted of returning the Shutdown Cooling System to operation. A review of the Recirculation Loop Temperature Recorder chart since the isolation occurred has shown that the A and B recirculation loop temperatures have tracked normally and no further spiking has occurred. Therefore, no further actions are planned at this time.

F. PREVIOUS OCCURENCES:

Review of recent system history indicated one previous Deviation Report (DVR) involving a spurious Shutdown Cooling System isolation.

DVR Number Title

12-2-90-009 Shutdown Cooling System Isolation On High Recirculation Loop Temperature Due To Penetration Wiring Movement

During normal operation with Unit 2 Shutdown, an isolation of the Shutdown Cooling System on high suction temperature (350 degrees F or above) occurred. The second attempt to unisolate the system was successful and the system was returned to normal. Dresden Operating Surveillance (DOS) 1600-17, Periodic Monitoring of Electrical Penetration Nitrogen Inerting Pressures, was being performed on the electrical penetration (X-202F) that houses the thermocouple cables carrying the signal that can cause isolations of the Shutdown Cooling System. Corrective action was to initiate a modification request to install a new drywell penetration (237-200-90-00901).

G. COMPONENT FAILURE DATA:

Since no component failure occurred this section is not applicable.