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10 CFR 50.73

December 14, 2001

PSLTR: #01-0126

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Dresden Nuclear Power Station, Unit 2
Facility Operating License No. DPR-19
NRC Docket No. 50-237

Subject: Licensee Event Report 2000-005-01, "Recirculation Loop Temperature Failure Causes Shutdown Cooling Inoperability"

Enclosed is a Supplemental Licensee Event Report 2000-005-01, "Recirculation Loop Temperature Failure Causes Shutdown Cooling Inoperability," for the Dresden Nuclear Power Station (DNPS) Unit 2. This LER is being submitted pursuant to 10 CFR 50.73 (a)(2)(v)(B), which requires the reporting of any event or condition that alone could have prevented the fulfillment of the safety function required to remove residual heat.

The following actions were taken:

Troubleshooting was performed on the millivolt to current signal convertor and it was replaced.

Completed repairs/replacement of the thermocouples, connectors and cabling.

Replaced drywell instrument cable penetration (X202F).

Any other actions described in the submittal represent intended or planned actions by DNPS. They are described for the NRC's information and are not regulatory commitments.

IE22

If you have any questions, please contact D. F. Ambler, Regulatory Assurance Manager at (815) 416-2800.

Respectfully,

Preston Swafford

Preston Swafford
Site Vice President
Dresden Nuclear Power Station

Enclosure

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Dresden Nuclear Power Station

NRC FORM 366 (7-2001) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 EXPIRES 7-31-2004

Estimated burden per response to comply with this mandatory information collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE EVENT REPORT (LER)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Dresden Nuclear Power Station Unit 2	050002337	1 OF 3

4. TITLE Recirculation Loop Temperature Failure Causes Shutdown Cooling Inoperability

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
									N/A	N/A
12	01	2000	2000	– 005	– 01	12	14	2001	FACILITY NAME N/A	DOCKET NUMBER N/A

9. OPERATING MODE	3
10. POWER LEVEL	000

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)

20.2201(b)	20.2203(a)(3)(ii)	50.73(a)(2)(ii)(B)	50.73(a)(2)(ix)(A)	
20.2201(d)	20.2203(a)(4)	50.73(a)(2)(iii)	50.73(a)(2)(x)	
20.2203(a)(1)	50.36(c)(1)(i)(A)	50.73(a)(2)(iv)(A)	73.71(a)(4)	
20.2203(a)(2)(i)	50.36(c)(1)(ii)(A)	50.73(a)(2)(v)(A)	73.71(a)(5)	
20.2203(a)(2)(ii)	50.36(c)(2)	X 50.73(a)(2)(v)(B)	OTHER Specify in Abstract below or in NRC Form 366A	
20.2203(a)(2)(iii)	50.46(a)(3)(ii)	50.73(a)(2)(v)(C)		
20.2203(a)(2)(iv)	50.73(a)(2)(i)(A)	50.73(a)(2)(v)(D)		
20.2203(a)(2)(v)	50.73(a)(2)(i)(B)	50.73(a)(2)(vii)		
20.2203(a)(2)(vi)	50.73(a)(2)(i)(C)	50.73(a)(2)(viii)(A)		
20.2203(a)(3)(i)	50.73(a)(2)(ii)(A)	50.73(a)(2)(viii)(B)		

12. LICENSEE CONTACT FOR THIS LER

NAME	TELEPHONE NUMBER (Include Area Code)
Timothy P. Heisterman	(815) 416-2815

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

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

14. SUPPLEMENTAL REPORT EXPECTED			15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X	NO				

16. ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On December 1, 2000, at 1000 hours, with Unit 2 in hot shutdown during a forced outage the "B" Reactor Recirculation Loop temperature instrumentation loop failed high. Failure of the instrumentation loop resulted in the Shutdown Cooling System (SDC) Isolation valves being interlocked closed. In the event of a unit scram or shutdown these valves must be opened for the SDC system to function. The cause of the event was determined to be degraded thermocouples, cabling and connections. Corrective actions associated with this root cause included, repair or replacement of the thermocouples, connectors and cabling, and replacement of the drywell instrument cable penetration (X202F).

A. Plant Conditions Prior to Event:

Unit: 02 Event Date: 12-01-2000 Event Time: 1000
Reactor Mode: 3 Mode Name: Hot Standby Power Level: 0%
Reactor Coolant System Pressure: 358 psig

B. Description of Event:

This LER is being submitted pursuant to 10 CFR 50.73 (a)(2)(v)(B), which requires the reporting of any event or condition that alone could have prevented the fulfillment of the safety function required to remove residual heat.

At 10:00 on 12/1/2000, the "B" Reactor Recirculation [AD] Loop temperature instrumentation loop failed high. Failure of the instrumentation loop resulted in the Shutdown Cooling System (SDC) [BO] Isolation valves being interlocked closed. In the event of a unit scram or shutdown these valves must be opened for the SDC system to function.

Operations entered the Limiting Condition for Operation (LCO) in accordance with technical specifications. Troubleshooting was performed on the millivolt to current (MV/I) signal convertor and the temperature indication returned to normal. As a result of the troubleshooting activity, the MV/I signal convertor was replaced. At this time, the LCO was exited and the system returned to operable status. Additionally, the MV/I signal convertor was sent off site for additional analysis.

Subsequent to this action, on December 17, 2000, the "B" Reactor Recirculation Loop temperature instrumentation loop failed high a second time. During additional troubleshooting, it was determined that the input to the MV/I signal convertor was degraded. The cause of the event was determined to be degraded thermocouples, cabling and connections.

All ECCS and ESF systems were operable during this event.

C. Cause of Event:

The cause of the event was determined to be degraded thermocouples, cabling and connections.

D. Safety Analysis:

The purpose of the Reactor Recirculation Coolant temperature interlock, SDC System Cut-In-Permissive, is to protect the SDC system components from over-temperature.

Reactor Recirculation Coolant temperature is measured by a thermocouple (T/C) and a Resistance Temperature Detector (RTD) in each loop. The T/C feeds the MV/I, which outputs to a recorder and a temperature switch in a series loop. The temperature switch provides an actuation signal to the SDC system motor operated inboard and outboard isolation valves. The isolation valves are interlocked with the above temperature switches. Both switches, one from each loop, are arranged in series. Therefore high temperature indication in either recirculation loop will prevent opening of isolation valves in both SDC system trains. The contact opens when temperature rises above the set point, 350 degrees F. An open contact prevents opening of the isolation valves during normal reactor operation. During this event the "B" loop temperature switch failed upscale, which would prevent opening

the isolation valves. However recirculation loop "A" temperature indication was available at the recorder and on a digital indicator. In addition the RTD in each recirculation loop provides a computer point generated display. These indications could be used to verify coolant temperature and the station procedure for residual heat removal alternatives could be used to cool down the reactor coolant inventory.

The opening of the contacts on rising temperature to prevent opening the isolation valves during normal operation is a "fail safe" design. This prevents isolation valves from opening to preclude over-temperature in the SDC system. This failure is classified as a safety system functional failure in accordance with 10 CFR 50.73(a)(2)(v)(B).

The reactor remained in hot shutdown during this event. Alternate coolant temperature indication was available. The operator could use these indications, in conjunction with the station procedure for residual heat removal alternatives, to override the interlock if the need arose. Therefore the safety significance of this event is considered minimal.

E. Corrective Actions:

Troubleshooting was performed on the MV/I signal convertor and it was replaced.

Completed repairs/replacement of the thermocouples, connectors and cabling.

Replaced drywell instrument cable penetration X202F.

F. Previous Occurrences:

LER/Docket Numbers	Title
99-006-00/05000237	Recirculation Loop Temperature Failure Causes Shutdown Cooling Inoperability

G. Component Failure Data:

N/A