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10 CFR 50.73

December 29, 2000

PSLTR: #00-0181

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 2000-005-00, "Recirculation Loop Temperature Failure Causes Shutdown Cooling Inoperability"

Enclosed is Licensee Event Report 2000-005-00, "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), 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 action was taken:

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

This correspondence contains the following new commitment:

Determination of the root cause for this event is in progress. A supplemental report will be submitted upon completion of the root cause determination.

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 Dale Ambler, Dresden Regulatory Assurance Manager at (815) 942-2920 extension, 3800.

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 (6-1998) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

APPROVED BY OMB NO. 3150-0104
EXPIRES 06/30/2001

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the information and Records Management Branch (t-6 f33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0104), Office Of Management And Budget, Washington, DC 20503. If an 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.

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
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TITLE (4)
Recirculation Loop Temperature Failure Causes Shutdown Cooling Inoperability

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 NAME	DOCKET NUMBER
									N/A	N/A
12	01	2000	2000	005	00	12	29	2000	FACILITY NAME N/A	DOCKET NUMBER N/A

OPERATING MODE (9)	3	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more) (11)							
POWER LEVEL (10)	0		20.2201(b)		20.2203(a)(2)(v)		50.73(a)(2)(I)		50.73(a)(2)(viii)
			20.2203(a)(i)		20.2203(a)(3)(I)		50.73(a)(2)(ii)		50.73(a)(2)(x)
			20.2203(a)(2)(i))		20.2203(a)(3)(ii)		50.73(a)(2)(iii)		73.71
			20.2203(a)(2)(ii)		20.2203(a)(4)		50.73(a)(2)(iv)		OTHER
			20.2203(a)(2)(iii)		50.36(c)(1)	X	50.73(a)(2)(v)		Specify in Abstract below or in NRC Form 366A
			20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Richard A. Kelly, Regulatory Assurance	(815) 942-2920 Ext. 2924

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
X	YES (If yes, complete EXPECTED SUBMISSION DATE).		NO		12	14	2001

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

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 final determination of the failure mode of the temperature loop failure is currently in-progress. A supplement will be submitted to report the final root cause of the temperature loop failure and the corrective actions taken.

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Dresden Nuclear Power Station, Unit 3	05000237	2000	005	00	2 OF 3

TEXT *(If more space is required, use additional copies of NRC Form 366A) (17)*

PLANT AND SYSTEM IDENTIFICATION:

General Electric – Boiling Water Reactor – 2527 MWt rated core thermal power

Energy Industry Identification System (EIIS) Codes are identified in the text as [XX] and are obtained from IEEE Standard 805-1984, IEEE Recommended Practice for System Identification in Nuclear Power Plants and Related Facilities.

EVENT IDENTIFICATION:

Recirculation Loop Temperature Failure Causes Shutdown Cooling Inoperability

A. PLANT CONDITIONS PRIOR TO EVENT:

Unit: 2 Event Date: 12-01-2000 Event Time: 10:00
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 final root cause determination is still in progress.

All ECCS and ESF systems were operable during this event.

C. CAUSE OF EVENT:

The cause of the temperature loop to fail high is unknown at this time. A supplemental report will be submitted upon completion of the root cause determination,

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 procedure DOA 1000-01 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).

The reactor remained in hot shutdown during this event. Alternate coolant temperature indication was available. The operator could use these indications and use DOA 1000-01, "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.

Determination of the root cause for the temperature loop failing high is in progress. A supplemental report will be submitted upon completion of the root cause determination.

F. PREVIOUS OCCURRENCES:

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

G. COMPONENT FAILURE DATA:

None