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) Inadvertent Reactor Protection System (RPS) Actuation 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)
									Dresden Unit 3	0 5 0 0 0 2 4 9
0 5	1 5	8 8	8 8	0 1 0	0 0	0 6	1 3	8 8	N/A	

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)			
	N	___ 20.402(b)	___ 20.405(c)	X 50.73(a)(2)(iv)	___ 73.71(b)
POWER LEVEL (10)	0 0 0	___ 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)	

LICENSEE CONTACT FOR THIS LER (12)

Name	TELEPHONE NUMBER AREA CODE
Daniel G. Daly, Technical Staff Engineer (X-526)	8 1 5 9 4 2 - 2 9 2 0

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

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)

At 1428 hours on May 15, 1988, with Unit 2 shutting down in accordance with Dresden General Procedure (DGP) 2-1, Unit 2(3) Normal Unit Shutdown, an unplanned Reactor Protection System (RPS) actuation occurred. Unit 2 was being shutdown for a scheduled maintenance outage. Following the completion of control rod insertions, the Center Desk Nuclear Station Operator (NSO) placed the mode switch to Shutdown, resulting in an anticipated reactor scram. The extra Unit 2 NSO immediately reset the scram whereupon a second scram signal was received. At that time, the NSO noted that the Scram Discharge Volume (SDV) High Level Scram Bypass switch was not in the "bypass" position. The NSO placed the switch to bypass, manually closed the SDV vent and drains utilizing switches on the 902-5 panel (valves auto close on a scram), and then reset the scram a second time.

The cause of this unanticipated RPS actuation has been determined to be a personnel error. The NSO failed to follow the procedure for properly resetting a reactor scram. A revision to the shutdown procedure, DGP 2-1, will be made to include the steps necessary for resetting a scram, preceding the step which allows the mode switch to be placed in the Shutdown position.

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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].

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

EVENT IDENTIFICATION

Inadvertent Reactor Protection System (RPS) [JC] Actuation Due to Personnel Error.

A. CONDITIONS PRIOR TO EVENT:

Unit: 2 Event Date: June 15, 1988 Event Time: 1428 hours

Reactor Mode: N Mode Name: Shutdown Power Level: 0%

Reactor Coolant System (RCS) Pressure: 125 psig

B. DESCRIPTION OF EVENT:

At 1428 hours on May 15, 1988, an unplanned Reactor Protection System (RPS) actuation occurred while Unit 2 was being shutdown for a short outage in accordance with Dresden General Procedure (DGP) 2-1, Unit 2(3) Normal Unit Shutdown. With all control rods inserted to the full in position, the Center Desk Nuclear Station Operator (NSO) placed the mode switch to Shutdown as directed by the Station Control Room Engineer (SCRE). Placing the mode switch to Shutdown results in a reactor scram by design and subsequently fills the Scram Discharge Volume (SDV). The extra Unit 2 NSO immediately reset the scram whereupon a second scram signal was received. At that time, the NSO noted that the Scram Discharge Volume (SDV) High Level Scram Bypass switch was not in the "bypass" position. The NSO placed the switch to bypass, manually closed the SDV vent and drain valves to ensure they stayed closed on the scram reset and then reset the RPS scram logic.

The purpose of the SDV and the Scram Instrument Volume (SIV) is to receive and contain the water exhausted from all the Control Rod Drives (CRDs) [AA] during a reactor scram, thereby limiting the loss of water from the reactor pressure vessel. The SDV is comprised of header piping that runs over the top of the CRD Hydraulic Control Units (HCUs). Each bank of HCUs directs its scram discharge water to the SDV piping directly overhead which in turn drains to one of two SIVs. Independent of the SIV, the SDV was adequately sized to contain the water volume discharged from all the CRDs.

The SIVs provide a means for monitoring for the amount of water released from the individual HCUs to the SDV. Each SIV consists of a 20 inch diameter cylinder and six associated level switches. The SIV is instrumented to ensure there will be enough volume available in the SDV in the event of a reactor scram. Each SIV has a thermal type level sensor switch that trips at 10 gallons in the SIV and initiates an alarm in the Control Room indicating "East (West) Scram Discharge Volume Not Drained". Also, each SIV has a thermal type level sensor switch that trips at 26 gallons in the SIV and initiates a rod block and a Control Room alarm indicating "Scram Discharge Volume High Level Rod Block." There are four SDV High High Level switches on each SIV. Two switches are of the thermal type that trip at 35 gallons, and two switches are differential pressure type switches that are set to trip at 40 gallons. The switches are arranged in a one-out-of-two twice trip logic within the RPS logic which in turn generates a reactor scram signal.

Each SDV is vented by two air to open, spring to close, vent valves connected in series. Each SIV is drained by two air to open, spring to close, drain valves connected in series. These valves are normally open under normal operating conditions and the SDV and SIV should normally be empty. During a scram condition, the vent and drain valves close. The SIV's and SDV's fill with reactor water due to the displaced water from the over piston area and due to leakage past the CRD mechanism seals. Thus the SDVs and SIVs become an "extension" of the primary system.

When the reactor mode switch is in either the Shutdown or Refuel position, a SDV high water level scram can be bypassed by use of a key lock switch on the Control Room 902-3 Panel. The bypass allows the RPS channels to be reset with a high level in the SIV. In this event, the NSO failed to bypass the SDV high level prior to resetting the mode switch to shutdown scram since this action was not specifically addressed in DGP 2-1. Since the primary system was still slightly pressurized when the SDV vent and drain valves reopened following the initial scram reset, the water in the SDV and SIV flashed to steam causing the thermal type level switches to sense a high level resulting in the second scram. As discussed previously in this report, had the SDV high level scram been bypassed, this second scram would not have occurred.

C. APPARENT CAUSE OF EVENT:

This report was reported under requirement 10 CFR 50.72(b)(2)(ii) because an unplanned automatic actuation of the RPS occurred. The actuation occurred because the NSO failed to follow the proper procedure for resetting a reactor scram. DGP 2-3, Unit 2/3 Reactor Scram, specifically addresses the steps that should be followed when resetting a reactor scram. Failure to follow this procedure lead to the inadvertent actuation of the RPS. Consequently, the cause of this event has been determined to be personnel error.

D. SAFETY ANALYSIS OF EVENT:

At the time of the event, the reactor was shutdown with all rods fully inserted. The RPS was immediately reset following the inadvertent actuation with all systems responding as designed. For these reasons, the safety significance of this event was minimal.

E. CORRECTIVE ACTIONS:

This event was reviewed with the individual involved in regards to the importance of procedural adherence. In addition, a revision will be submitted to DGP 2-1 which will include the proper action required to reset the scram if the mode switch is to be placed in the Shutdown position (237-200-88-06301). The procedure currently states that the mode switch may be placed in Refuel or Shutdown at the discretion of the Shift Supervisor. No further corrective action is deemed necessary at this time.

F. PREVIOUS EVENTS:

This is the first reported occurrence of this type at Dresden Station.

G. COMPONENT FAILURE DATA:

As no component failures occurred during this event, this section is not applicable.

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June 13, 1988

EDE LTR #88-449

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

Licensee Event Report #88-010-0, Docket #050237 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(iv).

E.D. Eenigenburg
Station Manager
Dresden Nuclear Power Station

EDE/jmt

Enclosure

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