

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Dresden Nuclear Power Station										DOCKET NUMBER (2) 0 5 0 0 0 2 3 7				PAGE (3) 1 OF 0 2	
TITLE (4) Unit 2 Reactor Scram															
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)		
0 5	1 8	8 5	8 5	0 2 6	0 0 0 6	0 3	8 5		N/A				0 5 0 0 0		
										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															
POWER LEVEL (10)		20.402(b) X 50.73(a)(2)(iv) 73.71(b)													
0 8 4		20.406(a)(1)(i) 50.38(e)(1) 73.71(e)													
		20.406(a)(1)(ii) 50.38(e)(2) OTHER (Specify in Abstract below and in Text, NRC Form 365A)													
		20.406(a)(1)(iii) 50.73(a)(2)(i)													
		20.406(a)(1)(iv) 50.73(a)(2)(ii)													
		20.406(a)(1)(v) 50.73(a)(2)(iii)													
LICENSEE CONTACT FOR THIS LER (12)															
NAME Jerry F. Lizalek (X-421)										TELEPHONE NUMBER 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	MANUFACTURER	REPORTABLE TO NPDOS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS	CAUSE
X	TIA	IZIISN	Q 0 7	N											
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 DOS 500-9, Turbine Generator Load Reject Scram Circuit Sensor Tests, a reactor scram occurred while testing the #3 control valve (CV-3).

This event was caused by the failure of the 10 percent open limit switch (CVTS-3). The normally open 10 percent open limit switch failed in the closed position. Depressing the MSV/CV3 test pushbutton caused the fast-acting solenoid to energize and trip close the #3 control valve. Fast closure of the #3 control valve caused a reactor scram due to high flux. Ordinarily when the test button of the CV-3/SV-3 valve combination is depressed CV-3 will slow close until, at approximately 90 percent of closure, the fast acting solenoid is operated to close the control valve rapidly. Both the normal operating devices and fast acting devices are thereby tested. Fast closure of the valve for the final 10 percent will not cause a high flux reactor scram. Subsequent investigation revealed that the connecting rod which connects the limit switch actuating rod to the switch arm on the control valve power actuator was broken at the lower end bearing. The bearing's structural integrity was degraded as a result of wear, causing it to fail under the high forces experienced during fast closure of the control valve. Wearing of the upper end bearing was also observed.

The Electrical Maintenance Department inspected all the turbine stop, bypass and control valve switch-rod-to-switch-arm connecting rods prior to unit startup. The 10 percent open limit switch and connecting rod were replaced, and the test circuit tested operable. This event was of minimal safety significance since the failure only affected the test circuitry, and operation of this test circuit does not impair scram capabilities. All systems functioned as designed in response to this event. This is the first occurrence of this nature at Dresden Station.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

FACILITY NAME (1) Dresden Nuclear Power Station	DOCKET NUMBER (2) 0 5 0 0 0 2 3 7	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 5	— 0 2 6	— 0 0	0 2	OF	0 2

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

During normal unit operation, while performing DOS 500-9, Turbine Generator Load Reject Scram Circuit Sensor Test, a reactor scram occurred while testing the #3 control valve.

This event was caused by the failure of the 10 percent open limit switch (CVTS-3). The normally open 10 percent open limit switch failed in the closed position. Depressing the MSV/CV3 test pushbutton caused the fast-acting solenoid to energize and trip close the #3 control valve. Fast closure of the #3 control valve caused a high flux reactor scram. Ordinarily when the test button of the CV-3/SV-3 valve combination is depressed, CV-3 will close at a slow velocity until, at approximately 1 inch (after 90 percent of travel) of stroke of the servomotor, the fast-acting solenoid is operated to close the valve rapidly. Both the normal operating devices and fast-acting devices are thereby tested. Fast closure of the valve for the final 1 inch of stroke (10 percent of travel) will not cause a high flux reactor scram. A subsequent investigation revealed that the connecting rod which connects the limit switch actuating rod to the switch arm on the control valve power actuator was broken. The break occurred at the lower end bearing. The bearing's structural integrity was degraded as a result of wear, causing it to fail under the large forces experienced during fast closure of the control valve. Wearing of the upper end bearing was also observed.

The Electrical Maintenance Department inspected all the turbine stop, bypass and control valve switch-rod-to-switch-arm connecting rods prior to unit start-up. As a result, the connecting rod on the #8 bypass valve was discovered to be bent. As is, the connecting rod will not affect proper valve operation. The rod will be repaired during the next short outage. As a precautionary measure, the Mechanical Maintenance Department will incorporate the replacement of the end bearings into the 6 year turbine maintenance program. The 10 percent open limit switch and connecting rod were replaced, and the test circuit tested operable.

This event was of minimal safety significance since the failure only affected the test circuitry, and operation of this test circuit does not impair scram capabilities. All systems functioned as designed in response to this event. This is the first occurrence of this nature at Dresden Station.



Commonwealth Edison

Dresden Nuclear Power Station

R.R. #1

Morris, Illinois 60450

Telephone 815/942-2920

June 3, 1985

DJS Ltr #85-592

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

Licensee Event Report #85-026-0, Docket #050237 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73 (a)(2)(iv).

D.J. Scott
Station Manager
Dresden Nuclear Power Station

DJS/kjl

Enclosure

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

IE22
11