

LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Dresden Nuclear Power Station, Unit 3				Docket Number (2) 0 5 0 0 0 2 4 9				Page (3) 1 of 0 4			
--	--	--	--	--------------------------------------	--	--	--	----------------------	--	--	--

Title (4)
Isolation Condenser Group V Isolation Due to Spurious Flow Spikes.

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	1	1 7 9 3	9 3	0 0 3	0 1	0	6	2 8 9 3	N/A				
										N/A			

OPERATING MODE (9) N
THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIRMENTS OF 10CFR.
(Check one or more of the following) (11)

POWER LEVEL (10) 0 0 0	20.402(b)	X	50.73(a)(2)(iv)	73.71(b)
	20.405(a)(1)(i)		50.73(a)(2)(v)	73.71(c)
	20.405(a)(1)(ii)		50.73(a)(2)(vii)	Other (Specify in Abstract below and in Text)
	20.405(a)(1)(iii)		50.73(a)(2)(viii) (A)	
	20.405(a)(1)(iv)		50.73(a)(2)(viii) (B)	
20.405(a)(1)(v)		50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSE CONTACT FOR THIS LER (12)

NAME Sang J. Rhee, Technical Staff System Engineer						TELEPHONE NUMBER Ext. 2371						
						AREA CODE						
						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 NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)
X Yes (If yes, complete EXPECTED SUBMISSION DATE) NO

Expected Submission Date (15)
Month: 0 1 3 Day: 1 Year: 9 4

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

On January 17, 1993, at 0111 hours, with Unit 3 in shutdown with all control rods inserted, an unplanned Primary Containment Group V isolation occurred. All of the Isolation Condenser isolation valves automatically responded as required. The system was walked down following the event, and no line breaks, open fuses, or electrical problems were found. Calibration checks were performed, and all setpoints were verified to be within tolerance. The Group V Primary Containment Isolation signal was reset after it was determined to be spurious.

The cause of this event appears to be a flow spike in the annubar flow element. A similar event was reported by LER 90-004/050249.

9307060297 930629
PDR ADOCK 05000249
S PDR



LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

Form Rev. 2.0

FACILITY NAME (1) Dresden Nuclear Power Station	DOCKET NUMBER (2) 0 5 0 0 0 2 4 9							LER NUMBER (6)						Page (3)				
								Year		Sequential Number		Revision Number		0	2	OF	0	4
								9	3	--	0	0	3					

TEXT Energy Industry Identification System (EIS) 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:

Isolation Condenser Group V Isolation Due to Spurious Flow Spikes

A. CONDITIONS PRIOR TO EVENT:

Unit: 3 Event Date: January 17, 1993 Event Time: 0111
 Reactor Mode: N Mode Name: Shutdown Power Level: 0%
 Reactor Coolant System (RCS) Pressure: 0 psig

B. DESCRIPTION OF EVENT:

On January 17, 1993, at 0111 hours, with Unit 3 in shutdown with all control rods inserted, an unplanned Primary Containment Group V isolation occurred. All of the Isolation Condenser isolation valves automatically responded as required. The system was walked down following the event, and no line breaks, open fuses, or electrical problems were found. Calibration checks were performed, and all setpoints were verified to be within tolerance. The Group V Primary Containment Isolation signal was reset after it was determined to be spurious.

The cause of this event appears to be a flow spike in the annubar flow element.

C. APPARENT CAUSE OF EVENT:

This report is being submitted in accordance with 10CFR50.73(a)(2)(iv), which requires the reporting of any event or condition that results in the manual or automatic actuation of any Engineered Safety Feature (ESF).

A preliminary engineering evaluation of the instrumentation and isolation logic for the Isolation Condenser was performed to determine the root cause of the spurious Group V isolations that have been occurred.

During unit shutdown and start-up, process pressure transients and noise are present at the location of the condensate return side flow element due to the operation of other systems that connect with the Isolation Condenser condensate return piping. As the reactor goes into the shutdown conditions, the Recirculation pumps are set to minimum speed (28%). Then, when the Recirculation loop temperature drops below 350 degrees F, the Shutdown Cooling pump starts. Finally, as reactor pressure drops below 90 psig, the Auxiliary Reactor Water Cleanup pump is started. This sequence of operations continually adds more and more induced pressure transients at the location of the condensate return side flow element. In effect, with each system that is added, the transient differential pressure process noise that is being sensed by the flow instrumentation approaches the value of the instrument trip setpoint. Based on the preliminary evaluation, it was concluded that the root cause of the group V isolations is that the combination of the instrument errors in the conservative direction along with the transient pressure effects of the interconnected systems produce an undesirable small

FACILITY NAME (1) Dresden Nuclear Power Station	DOCKET NUMBER (2) 0 5 0 0 0 2 4 9	LER NUMBER (6)						Page (3)			
		Year 9 3 --	Sequential Number 0 0 3 --	Revision Number 0 1							

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

steady state operation margin. This significantly increases the likelihood of the generation of spurious Group V isolation signal. The isolation instrumentation is adequately performed its intended safety function; designed to detect a high flow condition in the Isolation Condenser system and initiate an isolation from the reactor.

D. SAFETY ANALYSIS OF EVENT:

The purpose of the Isolation Condenser is to control reactor pressure and/or remove decay heat from the reactor inventory during periods when the normal heat sink is unavailable. The Isolation Condenser can be manually initiated. An automatic initiation occurs when reactor pressure is sustained at greater than or equal to 1070 psig for 15 seconds. Since Unit 3 was in the cold shutdown mode and reactor pressure was less than 150 psig, operability of the Isolation Condenser was not required.

Technical Specification Table 3.5.E.2 allows the Isolation Condenser to be inoperable for up to seven days provided that all active components of the High Pressure Coolant Injection (HPCI) [BJ] system remain operable. Had this event occurred at power, the consequences of a postulated accident would have been mitigated by the HPCI or Automatic Depressurization [SB] system in conjunction with the Low Pressure Coolant Injection [BO] and Core Spray [BM] system. The safety significance of this event was considered to be minimal.

E. CORRECTIVE ACTIONS:

The system characteristic testing was performed and test results are being evaluated by the System Engineer and Site Engineering Department. A supplemental issued by January 31, 1994, upon completion of the investigation and corrective actions (249-180-93-00301S1).

F. PREVIOUS OCCURRENCES:

<u>LER/Docket Numbers</u>	<u>Title</u>
90-004/050249	Spurious Group V Primary Containment Isolation While Shutdown Due to Design Deficiency. On February 12, 1990 with Unit 3 in cold shutdown, the Control Room received alarm H-2 on Panel 903-3, Isolation Condenser Line Break (Group V Isolation). The root cause of this event is unknown.
89-003/050249	Spurious Group V Primary Containment Isolation While Shutdown Due to Design Deficiency On May 6, 1989, at 1443 hours, with Unit 3 in cold shutdown and reactor water level at 35 inches, a Group V Primary Containment Isolation occurred. The cause of the event was believed to be differential pressure spikes and/or noise generated by an annubar flow instrument that was installed on the Isolation Condenser condensate return line during the 1985 Unit 3 refueling outage. As corrective action, a modification to install a time delay with a more accurate time delay scale was initiated.
87-013/050249	Manual Reactor Scram Due to Reactor Feedwater System Oscillations During Unit Shutdown Due to Failure of

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

Form Rev. 2.0

FACILITY NAME (1) Dresden Nuclear Power Station	DOCKET NUMBER (2) 0 5 0 0 0 2 4 9	LER NUMBER (6)						Page (3)			
		Year 9 3 --	Sequential Number 0 0 3 --			Revision Number 0 1		0 4 OF 0 4			

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

Air Operated Containment Isolation Valve AO3-1601-63 to Close During Surveillance Testing.

On August 7, 1987, a spurious Group V Primary Containment Isolation occurred while the Isolation Condenser was in use following a manual scram. The spurious isolation was reset and the Isolation Condenser was restarted satisfactorily.

G. COMPONENT FAILURE DATA:

As no component failure occurred, this section is not applicable and an NPRDS data search was not performed.