



Commonwealth Edison
Dresden Nuclear Power Station
6500 North Dresden Road
Morris, Illinois 60450
Telephone 815/942-2920

August 3, 1993
GFSLTR 93-0033

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

Licensee Event Report 93-012, Docket 050249 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 73(a)(2)(iv).

Gary F. Spedl for 8-3-93
Gary F. Spedl
Station Manager
Dresden Station

GFS/RR:slb

Enclosure

cc: J. Martin, Regional Administrator, Region III
NRC Resident Inspector's Office
File/NRC
File/Numerical

(p:\plntmgr\gfs93\0033.93)

9308100184 930803
PDR ADDCK 05000249
S PDR

JE22

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)
Spurious Group V Primary Containment Isolation While Shutdown Due to Flow Spiking

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 7	1 0	9 3	9 3	0 1 2	0 0				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)	20.405(c)	X	50.73(a)(2)(iv)	73.71(b)
	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)	

LICENSE CONTACT FOR THIS LER (12)

NAME Kelly Spencer - System Engineer	TELEPHONE NUMBER			
	AREA CODE 8 1 5	9 4 2 - 2 9 2 0		
Ext. 2851				

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)	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)

On July 10, 1993, at 1531 hours, with Unit 3 in the Shutdown mode and all control rods inserted, a spurious Group V (Isolation Condenser Line Break) Primary Containment Isolation occurred. All of the Isolation Condenser isolation valves automatically responded as required. An operator was dispatched to check the area surrounding the instrument rack and no one was seen nearby. Unit 3 had experienced a reactor scram approximately 12 hours earlier and was in the process of cooling down when the Group V Isolation occurred. Reactor pressure was 0 psig and moderator temperature was approximately 198 degrees Fahrenheit at the time of the event. Control Room operators indicated that no changes in plant status were occurring at the time of the event. Since the Isolation Condenser is not required when the reactor pressure is less than 150 psig, the system was taken Out-of-Service after the event. Unit 3 has experienced eight spurious Group V Isolations since 1986. A preliminary engineering evaluation determined the root cause to be a spurious flow spike caused by operation of systems required to bring the Unit to cold shutdown and over-conservatism in the flow switch setpoints.

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

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:

Spurious Group V Primary Containment Isolation While Shutdown Due to Flow Spiking

A. CONDITIONS PRIOR TO EVENT:

Unit: 3 Event Date: July 10, 1993 Event Time: 1531
 Reactor Mode: N Mode Name: Shutdown Power Level: 0%
 Reactor Coolant System (RCS) Pressure:

B. DESCRIPTION OF EVENT:

On July 10, 1993, at 1531 hours, with Unit 3 in the Shutdown mode and all control rods inserted, a spurious Group V (Isolation Condenser [BL] Line Break) Primary Containment Isolation [JM] occurred. All of the Isolation Condenser isolation valves automatically responded as required. An operator was dispatched to check the area surrounding the instrument rack and no one was seen nearby. Unit 3 had experienced a reactor scram approximately 12 hours earlier and was in the process of cooling down when the Group V Isolation occurred. Reactor pressure was 0 psig and moderator temperature was approximately 198 degrees Fahrenheit at the time of the event. Control Room operators indicated that no changes in plant status were occurring at the time of the event. Since the Isolation Condenser is not required when the reactor pressure is less than 150 psig, the system was taken Out-of-Service after the event.

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).

Since the installation of the Unit 3 annubar as part of the 1985 and 1986 Recirculation [AD] Pipe Replacement, Unit 3 has experienced eight Group V isolations. A preliminary engineering evaluation was started to investigate the root cause from previous events. The preliminary evaluation determined that the root cause of the Group V Isolations was due to over-conservatism built into the flow switch setpoints and induced pressure transients present at the location of the condensate return side flow element. The transients are due to the operation of other systems, such as Recirculation, Shutdown Cooling (SDC) and Reactor Water Cleanup (RWCU)[CE], that are interconnected to the condensate return piping. During a normal shutdown, the Recirculation pumps are set to minimum speed (28%). Then, when the Recirculation loop temperature drops below 350 degrees Fahrenheit, the SDC system is started. Finally, when reactor pressure is at 90 psig, the RWCU Auxiliary pump is started. The sequence of operations results in additional induced pressure transients to the flow element driving it closer to the Group V Isolation setpoint. The combination of the over-conservatism built into the flow setpoints together with the transient pressure effects of the interconnected

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

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

downstream systems on the condensate return side, result in a smaller operating margin which results in spurious Group V Isolations.

To verify the setpoints of the high flow switches, The Instrument Maintenance Department performed Dresden Instrument Surveillance (DIS) 1300-02, Isolation Condenser Steam/Condensate Line High Flow Calibration. The condensate return line high flow switches were all found to be within tolerance. One of the two steam supply line high flow switches was found slightly out of tolerance high but was within Technical Specifications. The switch was recalibrated to the tolerance specified in the procedure.

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 system in conjunction with the Low Pressure Coolant Injection [BO] and Core Spray [BM] systems. All of the isolation valves repositioned as designed. The safety significance of this event is considered to be minimal.

E. CORRECTIVE ACTIONS:

1. The results from the preliminary engineering evaluation are being reviewed by the System Engineer and the Site Engineering Department. A supplemental report, under previously reported LER 93-003/050249, will be issued by January 31, 1994, upon completion of the review. Corrective actions to resolve the identified root causes will be contained in this report. This item is being tracked by NTS #249-180-93-00301S1.
2. To alleviate unnecessary challenges to the Isolation Condenser, the System Engineer will evaluate revising Operations procedures to take the Isolation Condenser Out-of-Service when reactor pressure below 150 psig and the Isolation Condenser is not required by Technical Specifications to be operable [249180930120001].
3. The System Engineer will also evaluate placing a Group V Isolation trigger on the TARS data acquisition system to collect plant status data immediately before and after the event [249180930120002].

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				
		9 3	--	0 1 2	--	0 0	0 4	OF	0 4		

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

F. PREVIOUS OCCURRENCES:

LER/Docket Numbers

Title

93-011/050249

Spurious Group V Primary Containment Isolation While Shutdown Due to Flow Spikes

On April 21, 1993, with Unit 3 in the refuel mode, a spurious Group V Isolation occurred while VOTES testing the MO 3-1301-3 valve. The root cause was determined to be a flow spike that occurred when the volume between the 1301-3 and 1301-4 valve filled with water as the 1301-3 was opened for testing.

93-003/050249

Spurious Group V Primary Containment Isolation While Shutdown Due to Spurious Flow Spikes.

On January 17, 1993, 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 was a spurious flow spike.

90-004/050249

Spurious Group V Primary Containment Isolation While Shutdown Due to Spurious Flow Spikes.

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 was a spurious flow spike.

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 level at 35 inches, a Group V Primary Containment Isolation occurred. The cause of this event was believed to be differential pressure spikes and/or noise generated by an annubar flow element 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 more accurate time delay scale was initiated.

G. COMPONENT FAILURE DATA:

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