



**Commonwealth Edison**  
Dresden Nuclear Power Station  
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Telephone 815/942-2920

June 29, 1993

GFS PMLTR 93-0004

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

Licensee Event Report 92-045-01, Docket 050237. This revised report is being submitted to provide an update on progress regarding this event.

*Gary F. Spedl*  
Gary F. Spedl 6-30-93  
Station Managers  
Dresden Station

GFS/slb

Enclosure

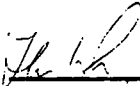
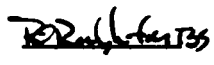
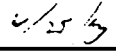
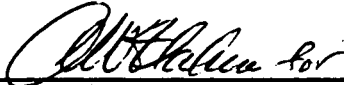
cc: J. Martin, Regional Administrator, Region III  
NRC Resident Inspector's Office  
File/NRC  
File/Numerical

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*J. Martin*  
11

DAP FORM 02-08C  
 SUPPLEMENTAL REPORT TO LER

DVR NO.					SYSTEM AFFECTED	
	STA	UNIT	YEAR	NO.	1300	
D	- 12	- 2	- 92	- 045		
<u>PART 1</u> TITLE OF EVENT				<u>OCCURRED</u>		
Isolation Condenser Group V Isolation Due to Spurious Flow Spikes				12/17/92		1232
				DATE		TIME
REASON FOR SUPPLEMENTAL REPORT						
This supplemental report provides an update progress regarding this event.						
<u>PART 2</u>						
ACCEPTANCE BY STATION REVIEW				 _____		 _____
DATE				 _____		6-28-93 _____
SUPPLEMENTAL REPORT APPROVED AND AUTHORIZED FOR DISTRIBUTION				 _____		6-30-93 _____
				STATION MANAGER		DATE

LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1)  Dresden Nuclear Power Station, Unit 2	Docket Number (2)  0 5 0 0 0 2 3 7	Page (3)  1 of 0 4
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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)			
1	2	1 7 9 2	9	2	0 4 5	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)	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	TELEPHONE NUMBER
Sang J. Rhee, Technical Staff System Engineer	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)	Expected Submission Date (15)	Month	Day	Year
<input checked="" type="checkbox"/> Yes (If yes, complete EXPECTED SUBMISSION DATE)	NO	0 1	3 1	9 4

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

On December 17, 1992, at 1232 hours with Unit 2 in cold shutdown with all control rods inserted, an unplanned Primary Containment Group V Isolation occurred while opening the inboard Isolation Condenser isolation valve, MO2-1301-4, in preparation for reactor startup per Dresden Operating Procedure (DOP) 1300-1, Standby Operation of The Isolation Condenser System. No abnormalities, open fuses, or other electrical problems were found in the circuitry, and the isolation signal was reset after verification that the signal was spurious. Instrument Maintenance Department (IMD) personnel were also dispatched to the area of the differential pressure instrumentation which initiates the isolation. No personnel were identified as having inadvertently jarred the instruments. In addition, following the event, all of the Group V isolated initiation instrumentation setpoints were verified to be within their specified tolerances. Isolation Condenser operability is not required whenever reactor pressure is less than 150 psig; also, had this event occurred under power operation, the High Pressure Coolant Injection or Automatic Depressurization Systems could have been utilized for reactor pressure control. Therefore, the safety significance of this event is minimal. A similar previous event was reported by LER 91-040/050237.

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						
		9	2	--	0	4	5	--	0	1	0	2	OF

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: 2                                      Event Date: 12/17/92                                      Event Time: 1232 Hours  
 Reactor Mode: N                                      Mode Name: Shutdown                                      Power Level: 0%  
 Reactor Coolant System (RCS) Pressure: 0 psig

B. DESCRIPTION OF EVENT:

On December 17, 1992 at 1232 hours, with Unit 2 shutdown, a spurious Primary Containment Group V Isolation occurred while opening the inboard Isolation Condenser [BL] condensate return line isolation valve in preparation for reactor startup per Dresden Operating Procedure (DOP) 1300-1, Standby Operation of The Isolation Condenser System. On receipt of Control Room Panel 902-5 alarm H-2, Isolation Condenser Line Break (Group V Isolation), and B-4, Isolation Condenser Valves Off Normal, the Nuclear Station Operator observed that Isolation Condenser Motor Operated (MO) Valve 2-1301-4 reclosed as designed upon occurrence of either a high Isolation Condenser condensate return line flow or steam line high flow condition. The reactor was in the shutdown mode with all control rods [AA] fully inserted at the time of the event. As an immediate corrective action the Primary Containment Group V Isolation signal was reset after verification that the signal was spurious. The differential pressure switches which initiate the isolation are located in the Reactor Building on the ground elevation near the drywell equipment hatch entrance. No personnel were identified as having inadvertently jarred the instruments in question. No other safety systems or components were inoperable at the time that could have contributed to the event.

C. APPARENT CAUSE OF EVENT:

This report is submitted in accordance with 10CFR50.73(a)(2)(iv), which requires the reporting of any event or condition that resulted in 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 their systems that connect with the Isolation Condenser condensate return piping. As the reactor goes into the shutdown condition, the Recirculation pumps are set to minimum speed (28%). Then, when the Recirculation loop temperature drops below 350 degree 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

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		Year 9   2   --	Sequential Number 0   4   5   --			Revision Number 0   1		0   3	OF	0   4	

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

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 procedures and undesirable small 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 or automatically initiated. An automatic initiation occurs when reactor pressure is sustained at greater than or equal to 1070 psig of 15 seconds. The Primary Containment Group V Isolation occurred with Unit 2 shutdown at 0 psig reactor pressure. 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. Since Unit 2 was in the cold shutdown mode and reactor pressure was less than 150 psig, operability of the Isolation Condenser was not required. Had this event occurred at power, the consequences of a postulated accident would have been mitigated by the HPCI system or Automatic Depressurization [SB] system in conjunction with the Low Pressure Coolant Injection [BO] and Core Spray [BM] systems.

Initiation of the Primary Containment Group V Isolation demonstrated proper operation of the Containment Isolation valves when challenged by the spurious signal. Therefore, 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 report will be issued by January 31, 1994 upon completion of the investigation and corrective actions (237-180-92-47401S1).

F. PREVIOUS OCCURRENCES:

LER/Docket Numbers

Title

91-040/050237

Isolation Condenser Group V Isolation Due to Spurious Flow Spikes

On November 19, 1992 at 2355 hours, with Unit 2 shutdown, an unplanned Primary Containment Group V Isolation occurred while starting the 2B Shutdown Cooling pump. The 2A and 2B Shutdown Cooling pumps tripped and the Control Room received alarm H-2 on Panel 902-5, "Isolation Condenser Line Break (Group V Isol)".

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		Year		Sequential Number		Revision Number		0	4	OF	0	4
		9	2	-	0	4	5					

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

91-006/050237

**Unplanned Primary Containment Group V Isolation Due to Unknown Cause**

On March 13, 1991 at 0615 hours with Unit 2 in the refueling mode with all control rods fully inserted, an unplanned Primary Containment Group V Isolation occurred, causing spurious closure of the Isolation Condenser isolation valves. The isolation signal was reset after verification that the signal was spurious. Operations personnel were also dispatched to the area of the differential pressure instrumentation which initiates the isolation. No personnel were identified as having inadvertently jarred the instruments in question; subsequent vibration testing at the instrument rack also could not duplicate the event. There was no affect on plant operation because Isolation Condenser operability was not required under the current plant conditions; the Primary Containment Group V circuitry functioned properly when challenged by the spurious signal.

**G. COMPONENT FAILURE DATA:**

This section is not applicable.