



Commonwealth Edison

Dresden Nuclear Power Station
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Telephone 815/942-2920

December 3, 1991

CWS LTR #91-023

U.S. Nuclear Regulatory Commission
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Washington, D.C. 20555

Licensee Event Report 91-038, Docket 050237 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(iv).

L. J. Gower for 12/5/91
Charles W. Schroeder
Station Manager
Dresden Nuclear Power Station

CWS/dwh

Enclosure

cc: A. Bert Davis, Regional Administrator, Region III
NRC Resident Inspector's Office
File/NRC
File/Numerical

100000

(ZDVR/390)

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PDR ADOCK 05000237
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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Dresden Nuclear Power Station, Unit 2	Docket Number (2) 0 0 5 0 0 2 3 7	Page (3) 1 of 0 4
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Title (4) Primary Containment Isolation Valve Closure Due To Reactor Water Cleanup System Isolation

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)
11	11	391	91	038	00	12	03	91	N/A	
									N/A	

OPERATING MODE (9) N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)																				
POWER LEVEL (10) 0 0 0	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 20.405(a)(1)(v)	<input checked="" type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	<input type="checkbox"/> 50.73(a)(2)(x)	<input type="checkbox"/> 73.71(b)	<input type="checkbox"/> 73.71(c)	<input type="checkbox"/> Other (Specify in Abstract below and in Text)

LICENSEE CONTACT FOR THIS LER (12)

Name John Reid, Technical Staff System Engineer	Ext. 2380	TELEPHONE NUMBER AREA CODE 8 1 5	9 4 2 -2 9 2 0
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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)

Yes (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	Expected Submission Date (15)	Month	Day	Year
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ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On November 13, 1991, at 1723 hours, with Unit 2 shutdown, a Reactor Water Cleanup (RWCU) System isolation occurred, resulting in Primary Containment Isolation Motor Operated Valves (MOVs) 2-1201-1 and 2-1201-3 fully closing. Operations personnel had just secured the RWCU 2B recirculating pump and were attempting to place the auxiliary pump in service. The RWCU System isolated on a high pressure signal. When turning RWCU pumps on, RWCU system pressure oscillations can be generated due to control difficulty within the RWCU flow controller. Although this event was not initiated by Primary Containment Isolation logic, it did result in unplanned closure of Primary Containment Isolation Valves. This event had minimal safety significance because the isolation of the RWCU System was promptly reset and there was no affect on reactor coolant chemistry. Immediate corrective actions were to reset/restart the RWCU System. Additional corrective actions include reviewing the pressure and flow control valve trim and pneumatic actuator configurations for possible improvement. The most recent similar occurrence was reported by LER 91-31/050237.

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TEXT Energy Industry Identification System (EIIS) 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:

Primary Containment Isolation [JM] Valve Closure Due To Reactor Water Cleanup [CE] System Isolation

A. CONDITIONS PRIOR TO EVENT:

Unit: 2 Event Date: November 13, 1991 Event Time: 1723 Hours
 Reactor Mode: N Mode Name: Shutdown Power Level: 0%
 Reactor Coolant System (RCS) Pressure: 0 psig

B. DESCRIPTION OF EVENT:

On November 13, 1991, at 1723 hours, with Unit 2 shutdown, a Reactor Water Cleanup (RWCU) System isolation occurred resulting in Primary Containment Isolation Motor Operated Valves (MOV) 2-1201-1 and 2-1201-3 fully closing. Operations personnel had just secured the RWCU 2B recirculating pump and were attempting to place the auxiliary pump in service. At this time, the RWCU System isolated on a high pressure signal and Control Room Panel 902-4 alarm F-12 [JL], RWCU System After Non-regenerative Heat Exchangers Pressure High, was received.

Although this event was not initiated by Primary Containment Isolation logic, it did result in closure of Primary Containment Isolation MOVs 2-1201-1 and 2-1201-3. Immediate corrective actions were to reset and restart the RWCU System. The total time the system was isolated was 12 minutes. The RWCU System was restored to normal operation at 1735 hours on November 13, 1991.

C. APPARENT CAUSE OF EVENT:

This report is submitted in accordance with Title 10 of the Code of Federal Regulations Part 50 Section 73(a)(2)(iv), which states that any event that results in the manual or automatic actuation of any Engineered Safety Feature, including the Reactor Protection System (RPS) [JE], must be reported.

The cause of the RWCU auxiliary pump trip and subsequent system isolation was due to a momentary pressure spike. The automatic isolation occurred, as expected, to protect the RWCU piping and components. Review of this event with Operations and Instrument Maintenance personnel indicate that the underlying cause is a control difficulty within the RWCU system. During changing RWCU operating conditions, Operators have difficulty achieving and maintaining a constant and proper RWCU system pressure/flow relationship. This is due to the relatively narrow band within which the pressure control valve (PCV 2-1217) and the flow control valve (FCV 2-1219) must operate during system startup/shutdown. In order to stabilize RWCU operation, the pressure control station is operated in the automatic mode, while the flow control station is operated in the manual mode. The Operator manually adjusts FCV position to achieve the desired flow. As such, FCV position must be frequently readjusted to compensate for changing system conditions.

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A maintenance history review indicates that the FCV 2-1219 valve was completely rebuilt in March, 1991, under Work Request (WR) 98612. The RWCU PCV 2-1217 air operator was rebuilt in November, 1990, under WR 94522. Also, the RWCU PCV was inspected under WR 96778 in December, 1990. The valve seat and the disc stack on the plug were found to be eroded. The plug was repaired and the seat was replaced. On November 4, 1991, the Mechanical Maintenance Department (MMD) replaced the FCV 2-1219 valve diaphragm and performed a diaphragm spring tension adjustment on the valve under WR 04403. WR 02820 has been initiated to repair PCV 2-1217 (237-200-91-18201).

Review of the configuration of the present valve trim and pneumatic actuators for the FCV and the PCV by the System Engineer and the Nuclear Engineering Department (NED) has identified that the present valves were sized for optimum performance with two RWCU demineralizer vessels in operation. Currently, the RWCU System is routinely configured with one demineralizer in operation; it is believed that this is contributing to the difficulty in maintaining the appropriate pressure/flow relationship.

D. SAFETY ANALYSIS OF EVENT:

The purpose of the RWCU system is to maintain reactor water chemistry within Technical Specification requirements. As the RWCU system was returned to service promptly, Technical Specification limits were not exceeded. The RWCU system automatically isolated, as designed, upon receipt of a high pressure signal in the RWCU system. There was no effect on public health or safety. For these reasons, this event had no safety significance.

E. CORRECTIVE ACTIONS:

Immediate corrective actions were to reset/restart the RWCU system. This was accomplished within fifteen minutes of the isolation and the RWCU system operated without further problems. The System Engineer and NED are continuing to investigate improvements to the PCV and FCV in order to facilitate smoother RWCU operation using a single demineralizer. Designs are currently being developed for installation of PCV/FCV improvements during the next refuel outage (237-200-91-18202).

F. PREVIOUS OCCURENCES:

Two similar Unit 2 RWCU isolation events are listed below.

LER/Docket Numbers Title

91-033/0500237 Primary Containment Isolation Valve Closure Due To Reactor Water Cleanup System Isolation

This event involved unplanned automatic closure of two Primary Containment Group III Isolation valves due to a RWCU isolation while returning the RWCU system to normal operation after it had been isolated to support 250 VDC battery [EJ] switching. Corrective actions included replacing the FCV 2-1219 valve diaphragm and performing a diaphragm spring tension adjustment on the valve under WR 04403.

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

91-034/0500237

Primary Containment Isolation Valve Closure Due to Reactor Water Cleanup System Isolation

This event involved unplanned automatic closure of two Primary Containment Group III Isolation valves due to pressure oscillations caused by the loss of the RWCU surge tank nitrogen blanket. Corrective actions included adding nitrogen and reset/restart of the RWCU system.

G. COMPONENT FAILURE DATA:

As there was no component failure, this section does not apply.