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Dresden Nuclear Power Station
R.R. #1
Morris, Illinois 60450
Telephone 815/942-2920

July 14, 1992

CWS LTR #92-411

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

Licensee Event Report #92-16, Docket #050249 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(iv).

L. J. Grewer for 7/16/92

Charles W. Schroeder
Station Manager
Dresden Nuclear Power Station

CWS/jmt

Enclosure

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

(ZDVR/674)

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PDR ADOCK 05000249
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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Dresden Nuclear Power Station, Unit 3 Docket Number (2) 0 15 10 10 10 12 14 19 Page (3) 1 of 0 4

Title (4) Primary Containment Isolation Valve Closure Due To RWCU 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)										
0	16	2	6	9	12	9	12	0	11	16	0	0	0	7	11	4	9	2	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	7	6	<input type="checkbox"/>	20.402(b)	<input type="checkbox"/>	20.405(c)	<input checked="" type="checkbox"/>	50.73(a)(2)(iv)	<input type="checkbox"/>	73.71(b)
				<input type="checkbox"/>	20.405(a)(1)(i)	<input type="checkbox"/>	50.36(c)(1)	<input type="checkbox"/>	50.73(a)(2)(v)	<input type="checkbox"/>	73.71(c)
				<input type="checkbox"/>	20.405(a)(1)(ii)	<input type="checkbox"/>	50.36(c)(2)	<input type="checkbox"/>	50.73(a)(2)(vii)	<input type="checkbox"/>	Other (Specify in Abstract below and in Text)
				<input type="checkbox"/>	20.405(a)(1)(iii)	<input type="checkbox"/>	50.73(a)(2)(i)	<input type="checkbox"/>	50.73(a)(2)(viii)(A)		
				<input type="checkbox"/>	20.405(a)(1)(iv)	<input type="checkbox"/>	50.73(a)(2)(ii)	<input type="checkbox"/>	50.73(a)(2)(viii)(B)		
				<input type="checkbox"/>	20.405(a)(1)(v)	<input type="checkbox"/>	50.73(a)(2)(iii)	<input type="checkbox"/>	50.73(a)(2)(x)		

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 1 -2 19 12 10

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS		
X	C	E	P	C	I	V	C	6	10	10	N

SUPPLEMENTAL REPORT EXPECTED (14)

Expected Submission Date (15) Yes (If yes, complete EXPECTED SUBMISSION DATE) X NO

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

On June 26, 1992, at 1522 hours, with Unit 3 at 76% power, a Reactor Water Cleanup (RWCU) System isolation occurred during RWCU system startup. The high pressure isolation resulted in Primary Containment Isolation (PCI) Motor Operated Valves (MOVs) 3-1201-1A and 3-1201-2 fully closing. The RWCU system was immediately restarted. Although not initiated by PCI logic, it did result in the closure of PCI valves. The root cause of the system isolation was due to a momentary system pressure surge due to the inability of the Pressure Control Valve (PCV) 3-1217 to control startup flow rates and pressures. This valve has previously been cited as a major contributor to system pressure instabilities due to disc wear causing difficulty with RWCU pressure control. A new PCV is being designed. This event had no safety significance because the isolation logic operated as designed to prevent RWCU overpressurization and there was minimal effect on reactor water chemistry. A previous similar Unit 2 RWCU isolation was reported by LER 92-18/05000237.

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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-XXXX)

EVENT IDENTIFICATION:

Primary Containment Isolation [JM] Valve Closure Due To RWCU [CE] System Isolation

A. CONDITIONS PRIOR TO EVENT:

Unit: 3	Event Date: June 26, 1992	Event Time: 1522 Hours
Reactor Mode: N	Mode Name: RUN	Power Level: 76%
Reactor Coolant System (RCS) Pressure: 969 psig		

B. DESCRIPTION OF EVENT:

On June 26, 1992, at 1522 hours, with Unit 3 at 76% of rated core thermal power, a Reactor Water Cleanup (RWCU) System isolation occurred while restarting the RWCU system. The system had been isolated several hours earlier for maintenance repairs to Motor Operated Valve (MOV) 3-1201-9A. When Operations personnel attempted to restart the RWCU system, the system isolated on a high pressure signal. Main Control Room Panel 903-4 alarm F-12 [JL], RWCU System After Non-Regenerative Heat Exchangers Pressure High, was received. RWCU pressure increased momentarily, to approximately 150 pounds per square inch gauge (psig). This pressure spike was recorded on the RWCU demineralizer flow and pressure recorder 3-1290-12, and resulted in Primary Containment Isolation (PCI) MOVs 3-1201-1A and 3-1201-2 fully closing. The system was reset/restarted at 1540 hours without any further problems.

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. Although this event was not initiated by PCI logic, it did result in closure of PCI MOVs 3-1201-1A and 3-1201-2.

The RWCU system takes water from the Reactor Recirculation [AD] System Suction Line (see Attachment 1). During normal power operation, reactor pressure provides the driving force to circulate water through the RWCU system. Auxiliary pumps are provided to transfer water when the reactor is not at pressure. The RWCU recirculation pumps are not utilized during this mode of operation. The water passes through heat exchangers and Pressure Control Valve (PCV) 3-1217, to reduce temperature and pressure. Temperature and pressure must be reduced to less than 150 lbs and 150 degrees F to avoid damaging the bead resin in the demineralizers. After flowing through the demineralizers, the water is returned to the Feedwater [SJ] system through the RWCU Recirculation pump and Flow Control Valve (FCV) 3-1219.

The root cause of this system isolation was due to a momentary system pressure surge created by the inability of the PCV 3-1217 to control startup flow rates and pressures. The PCV 3-1217 was designed for 1300 GPM (two demineralizers in service) flow and is currently operating at 650 GPM (one demineralizer in service). This results in the valve being severely throttled which leads to wear and cavitation. A PCV more suitably sized for use in the Unit 2 RWCU system has been ordered. The same valve design is also being considered for Unit 3 RWCU PCV 3-1217.

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

D. SAFETY ANALYSIS OF EVENT:

Although this event was not initiated by PCI sensors, it did result in the closure of PCI valves. The purpose of the RWCU system is to maintain reactor water chemistry within Technical Specification requirements. As the RWCU was returned to service immediately, Technical Specification water chemistry limits were never approached or exceeded. The RWCU system automatically isolated, as designed, upon receipt of a high pressure signal in the RWCU system. There were no effects on the public health or safety. Therefore, this event had no safety significance.

E. CORRECTIVE ACTIONS:

Immediate corrective actions were to reset and restart the RWCU system. The RWCU system then operated without further problems.

The Nuclear Engineering Department (NED), the Site General Electric Company Engineer, and the System Engineer have reviewed the design of a new pressure control valve. This valve is scheduled to be replaced during the next Unit 2 refuel outage (237-200-92-07104).

NED has recently evaluated the performance of the RWCU system. The System Engineer will submit work requests, procedure changes, as necessary, and system enhancements by August 17, 1992 to improve system performance (237-200-92-07103).

NED will initiate a study for the RWCU control system to mitigate RWCU isolations (237-200-92-10202). The System Engineer will submit RWCU controls recommendations for technical review within two months after completion of the controls evaluation (237-200-92-10203).

F. PREVIOUS OCCURENCES:

There have been numerous RWCU trips. The most recent event is listed below.

LER/Docket Numbers Title

92-014/05000249 Reactor Water Cleanup System Isolation During Fill and Vent Due To Pressure Control Problem

This event involved unplanned automatic closure of two Primary Containment Group III Isolation valves due to deficiency within the RWCU pressure control valve and/or its controls system.

G. COMPONENT FAILURE DATA:

<u>Manufacturer</u>	<u>Nomenclature</u>	<u>Model Number</u>	<u>Mfg. Part Number</u>
Control Components Inc.	Disk Stack Assembly	N/A	723701005

An industry wide NPRDS data base search was performed on the disc stack assembly of the PCV valve and it revealed no previous occurrences.

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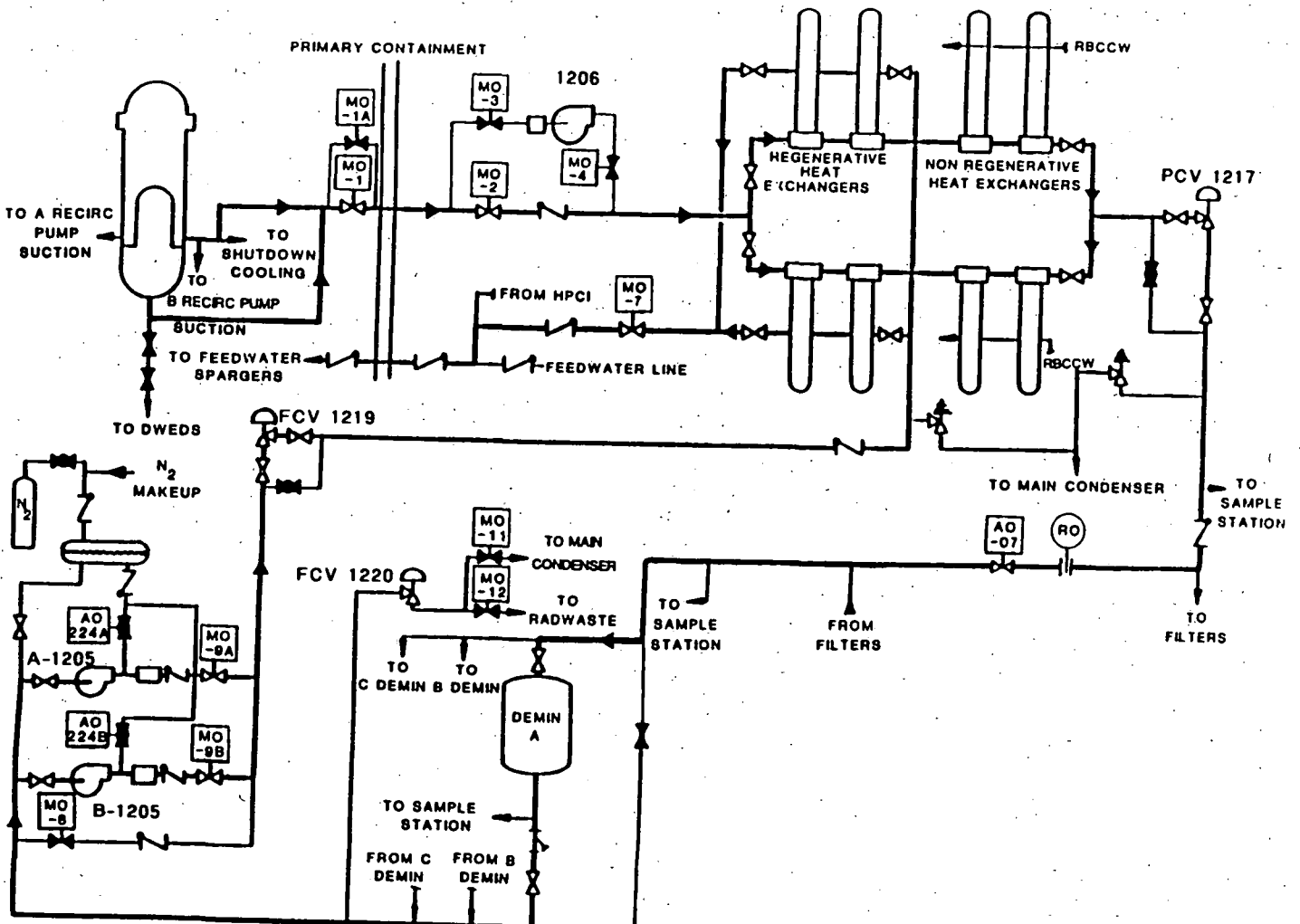
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ATTACHMENT 1



Normal RWCU System Flow