



**Commonwealth Edison**

Dresden Nuclear Power Station  
R.R. #1  
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March 3, 1992

CWS LTR #92-122

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

Licensee Event Report 92-05, Docket 050249 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(iv).

*L. J. Merman for 3/6/92*

Charles W. Schroeder  
Station Manager  
Dresden Nuclear Power Station

CWS/cfq

Enclosure

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

(ZDVR/498)

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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) <b>Dresden Nuclear Power Station, Unit 3</b>	Docket Number (2) <b>0 15 10 10 10 12 14 19</b>	Page (3) <b>1 of 0 5</b>
Title (4) <b>Primary Containment Isolation Valve Closure Due To Reactor Water Cleanup System Isolation</b>		

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 2	0 9	9 12	9 12	0 10 15	0 10	0 3	0 3	9 12	N/A		
N/A											

OPERATING MODE (9) <b>N</b>	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)																			
POWER LEVEL (10) <b>0 0 0</b>	<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 type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.36(c)(2)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)	<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 <b>Kenneth H. Neal, Technical Staff System Engineer Ext. 2237</b>	TELEPHONE NUMBER AREA CODE <b>8 1 5 9 4 2 1 - 2 19 12 10</b>
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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	
CE	1 2	C N V	F 1 3 0	Yes							

SUPPLEMENTAL REPORT EXPECTED (14)

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

On February 9, 1992, at 1137 hours, with Unit 3 shutdown, a Reactor Water Cleanup (RWCU) System isolation occurred during system start-up resulting in Primary Containment Isolation (PCI) Motor Operated Valves (MOVs) 3-1201-1 and 3-1201-3 fully closing. Operations personnel attempted to restart the RWCU system; however, the RWCU system isolated again at 1146 hours. The RWCU system isolated due to high pressure signals in each case. Although this event was not initiated by PCI logic, it did result in closure of PCI Valves. This event had minimal safety significance because the Unit was shutdown and no problems with reactor water chemistry occurred. The investigation concluded that the root cause of the system isolations was an operating procedure deficiency such that inadequate guidance was provided concerning positioning of a pressure control bypass valve. RWCU restart was completed satisfactorily upon repositioning of the RWCU pressure control bypass valve. Pressure control valve electro-pneumatic converter (E/P) replacement along with E/P and positioner calibrations were also completed on February 14, 1992. The Operations Department will also revise the RWCU operating procedure to provide clarification concerning use of the bypass valve. A previous RWCU isolation is recorded in LER 92-04/05000237.

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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-XXXXX)

EVENT IDENTIFICATION:

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

A. CONDITIONS PRIOR TO EVENT:

Unit: 3                                      Event Date: February 9, 1992                                      Event Time: 1137 Hours

Reactor Mode: N                                      Mode Name: Shutdown                                      Power Level: 0%

Reactor Coolant System (RCS) Pressure:      0 psig

B. DESCRIPTION OF EVENT:

On February 9, 1992, at 1137 hours, with Unit 3 shutdown for a refuel outage, a Reactor Water Cleanup (RWC) System isolation occurred during system start-up resulting in Primary Containment Isolation (PCI) Motor Operated Valves (MOVs) 3-1201-1 and 3-1201-3 fully closing. Operations personnel attempted restart of the RWC system; however, the RWC system re-isolated at 1146 hours. The RWC system isolated due to high pressure signals in each case. Main Control Room Panel 903-4 alarm F-12 [JL], RWC System After Non-Regenerative Heat Exchangers Pressure High, was received each time. Immediate corrective action was to review the valve line-up of the RWC system. Pressure control valve PCV 3-1217 was closed to successfully start the RWC system for reactor vessel blowdown.

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 3-1201-1 and 3-1201-3.

The RWC system takes water from the reactor vessel through the Reactor Recirculation [AD] system suction line (see attachment 1). During power operation, normal reactor pressure provides the driving force for the water to the RWC system. The water then passes through heat exchangers and a pressure control valve (PCV 3-1217), to reduce the water temperature and pressure, prior to the demineralizers. After the demineralizers, the water is returned to the Feedwater [SJ] system through the RWC recirculation pump and flow control valve (FCV 3-1219).

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

When the reactor is not at pressure, an auxiliary pump is used to transfer the water from the reactor through the RWCU system. The RWCU recirculation pump is not utilized for this mode of RWCU system operation.

Investigation concluded that the root cause of the two system isolations was a deficiency within Dresden Operating Procedure (DOP) 1200-01, RWCU System Operation During Startup and Shutdown, such that inadequate guidance was provided concerning positioning of pressure control bypass valve (PCBV) 3-1201-43. During a previous PCV-3-1217 operation difficulty, PCBV-3-1201-43 had been opened. Subsequently, the RWCU system was shutdown for refueling outage maintenance work. In support of other outage activities, restart of the RWCU system was required. The PCBV being open with PCV-3-1217 being open 20% in the manual position, caused system pressure to spike to the isolation setpoint. Pressure switch PS-3-1291-14, which initiates the high pressure isolation, senses system pressure downstream of PCV-3-1217 and PCBV-3-1201-43. Once system pressure increased to the isolation setpoint, the RWCU system isolation valves automatically closed as designed to protect the system from overpressurization. Restart of the RWCU system was completed satisfactorily by closing the PCV and having the PCBV open eight turns.

Further investigation concluded that the previous operational difficulty with PCV-3-1217 was caused by improper response within the E/P converter logic. Review of maintenance history indicated that E/P converter failures of this type have not been a recurring trend.

D. SAFETY ANALYSIS OF EVENT:

Although this event was not initiated by PCI logic, it did result in closure of PCI valves. This event had minimal operational significance because the Unit was shutdown and no problems with reactor water chemistry were experienced. The RWCU system automatically isolated, as designed, upon receipt of high pressure signals. For these reasons, this event had minimal safety significance.

E. CORRECTIVE ACTIONS:

E/P converter replacement along with E/P and positioner calibrations were performed under work request number D01797 and completed on February 14, 1992. The RWCU system was restored to normal operation at 0303 hours on February 22, 1992. The Operations Department will revise DOP 1200-01 to include clarification concerning manipulation of the PCBV 2(3)-1201-43 valve (249-200-92-02301). The System Engineer is also assisting with a comprehensive review of the RWCU system configuration, and design improvements to the pressure and flow control valves are under evaluation.

F. PREVIOUS OCCURENCES:

Previous Dresden RWCU isolation events are listed below.

LER/Docket Numbers    Title

92/004/0500237    Primary Containment Isolation [JM] Valve Closure Due To Procedure deficiency

This event invloved unplanned automatic closure of two Primary Containment Group III Isolation valves due to procedure deficiency. The RWCU system isolated to protect the system from possible overpressure due to the procedure deficiency. The procedure, DOP 1200-01, RWCU System Operating During Startup and Shutdown, was revised to increase the flow through the flow control valve to return demineralized water to the reactor vessel.

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

91-038/0500237 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 RWCU isolation while starting the RWCU auxiliary pump, after securing the RWCU 2B recirculating pump. Corrective actions included investigation by the System Engineer to improve 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.

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:

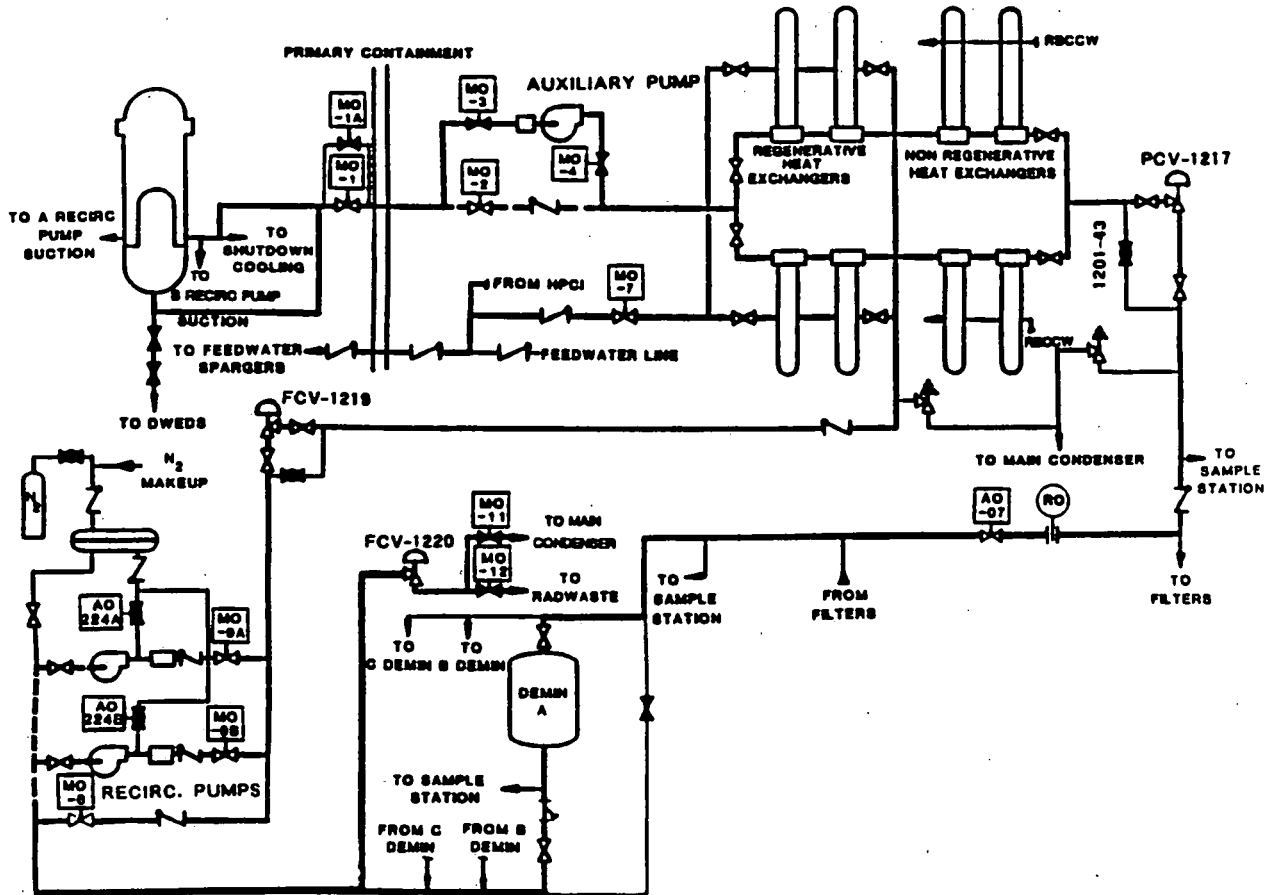
<u>Manufacturer</u>	<u>Nomenclature</u>	<u>Model Number</u>	<u>Mfg. Part Number</u>
Fisher Controls International, Inc.	Electro-pneumatic Transducer	Type 546	ML758X36 DWG

An industry-wide NPRDS search indicated no failures for the specified part number within all RWCU systems.

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

Attachment 1



Reject With Low Pressure RWCU System Flow