

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Callaway Plant Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 0 4 8 3 1	PAGE (3) 1 OF 0 4
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TITLE (4)
RCS Depressurization Event

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 7	8 4	8 4	0 1 6	0 0 0	8 1	6 8	4			0 5 0 0 0 0																																			
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:15%;">OPERATING MODE (9) 5</td> <td colspan="11">THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)</td> </tr> <tr> <td rowspan="5">POWER LEVEL (10) 0 0 0</td> <td>20.402(b)</td> <td>20.405(c)</td> <td>50.73(a)(2)(iv)</td> <td>73.71(b)</td> </tr> <tr> <td>20.406(a)(1)(i)</td> <td>50.38(c)(1)</td> <td>50.73(a)(2)(v)</td> <td>73.71(c)</td> </tr> <tr> <td>20.406(a)(1)(ii)</td> <td>50.38(c)(2)</td> <td>50.73(a)(2)(vii)</td> <td rowspan="3">OTHER (Specify in Abstract below and in Text, NRC Form 386A)</td> </tr> <tr> <td>20.406(a)(1)(iii)</td> <td>50.73(a)(2)(i)</td> <td>50.73(a)(2)(viii)(A)</td> </tr> <tr> <td>20.406(a)(1)(iv)</td> <td>X 50.73(a)(2)(ii)</td> <td>50.73(a)(2)(viii)(B)</td> </tr> <tr> <td>20.406(a)(1)(v)</td> <td>50.73(a)(2)(iii)</td> <td>50.73(a)(2)(ix)</td> <td></td> </tr> </table>												OPERATING MODE (9) 5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)											POWER LEVEL (10) 0 0 0	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)	20.406(a)(1)(i)	50.38(c)(1)	50.73(a)(2)(v)	73.71(c)	20.406(a)(1)(ii)	50.38(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 386A)	20.406(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	20.406(a)(1)(iv)	X 50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	20.406(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(ix)	
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LICENSEE CONTACT FOR THIS LER (12)

NAME M. E. Taylor - Superintendent, Operations	TELEPHONE NUMBER AREA CODE 3 1 4 6 7 6 - 8 2 0 7
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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)

<input type="checkbox"/> YES (if yes, complete EXPECTED SUBMISSION DATE) <input checked="" 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 7/17/84 the Reactor Coolant System (RCS) depressurized to 0 psig and the primary seal on Reactor Coolant Pump 'C' (RCP 'C') was damaged. The plant was in Mode 5, water solid with the RCS at 380 psig and 180°F prior to this event.

The cause of the RCS pressure transient was determined to be improper sequence of valve operation in the 'A' Residual Heat Removal Pump surveillance procedure restoration. RHR Train 'B' was aligned to take a suction and discharge to the RCS and RHR Train 'A' was being restored from the surveillance during which the suction and discharge were aligned to the Refueling Water Storage Tank (RWST). The procedure required opening the Train 'B' RHR Injection Balance Line Isolation Valve (EJ-HV-8716B) prior to isolating the RHR Injection Balance Line from the RWST by closing BN-8717. Thus, the RHR pump was taking suction from the RCS and discharging to the RWST, which immediately depressurized the RCS.

RCP seal damage occurred when the RCS depressurized to 0 psig. The seal was replaced and RCP 'C' returned to service on 8/6/84. A Temporary Change Notice was issued to correct the RHR surveillance procedure. Similar procedures were also reviewed for impact on plant conditions.

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PDR ADOCK 05000483
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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

At 1309 CDT, on 7/17/84, the plant was in Mode 5 in water solid conditions with RCS pressure and temperature 380 psig and 180°F, respectively. RHR Train 'B' was taking suction from, and discharging to RCS at approximately 3000 gpm, with Reactor Coolant Pump 'C' the only operating RCP.

The valve lineup just prior to this event is shown in Figure 1. The RHR Pump 'A' surveillance procedure was being completed and the restoration in progress. RHR Pump 'A' was secured and at 1309 CDT valve EJ-HV-8716B was opened per the surveillance procedure restoration. Coincident with opening this valve, there was suddenly a loss of RHR 'B' flow to the RCS, a drop of RCS pressure to approximately 0 psig and a 1% increase in RWST level. Also coincident with this event was a sharp drop in seal return flow from the RCP's.

Upon loss of RHR 'B' flow, RHR Pump 'B' was immediately tripped. It was initially believed that a pressure spike had lifted the RHR relief valves, causing loss of RHR flow. However, upon consulting both wide and narrow range RCS pressure indicators, it was discovered that the loss of RHR flow to the RCS was caused by the incorrect valve lineup, not the lifting of the RHR suction relief valves.

Upon observation of low RCS pressure, RCP 'C' was tripped immediately. Approximately 15 seconds had elapsed since loss of RHR flow.

Upon testing RCP 'C,' it was suspected that the primary seal had been damaged due to the loss of pressure. The RCS was cooled down and the pump uncoupled. The seal was replaced and RCP 'C' was returned to service on 8/6/84.

Analysis of this incident revealed the root cause to be improper sequence of valve operation in RHR Train 'A' surveillance procedure OSP-EJ-P001A, "Section XI RHR Train 'A' Operability." The restoration checklist in the procedure specifies to open valve EJ-HV-8716B, "RHR Injection Balance Line Isolation Valve," prior to closing valve BN-8717, "RWST Return Line Manual Isolation Valve." Thus, when valve EJ-HV-8716B was opened, the RCS immediately depressurized through RHR 'B' discharge, valve EJ-HV-8716B and valve BN-8717 to the RWST, which is at atmospheric pressure. This accounts for the 1% increase of RWST level at the time of the incident. This procedure had been utilized on at least two previous occasions under different plant configurations without incident. However, the procedure was in error for this particular configuration with RHR Train 'B' aligned to the RCS.

Temporary Change Notice 84-788 was issued 7/17/84 to correct the procedure restoration checklist valve lineup. Similar procedures were also reviewed for system impact when performed in various plant operating conditions.

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		8 4	— 0 1 6	— 0 0	0 3	OF 0 4

TEXT: If more space is required, use additional NRC Form 365A's (17)

Since the reactor had not yet been critical, there was no potential for release of radioactive materials or core damage. At no time did conditions develop which posed a threat to the health and safety of the public. As the RHR Trains are not aligned to the RCS at pressures above 450 psig, this event could not have occurred at power.

Previous occurrences: none

FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (8)

PAGE (3)

Callaway Plant Unit 1

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YEAR	SEQUENTIAL NUMBER	REVISION NUMBER
84	016	00

TEXT (If more space is required, use additional NRC Form 366A's) (17)

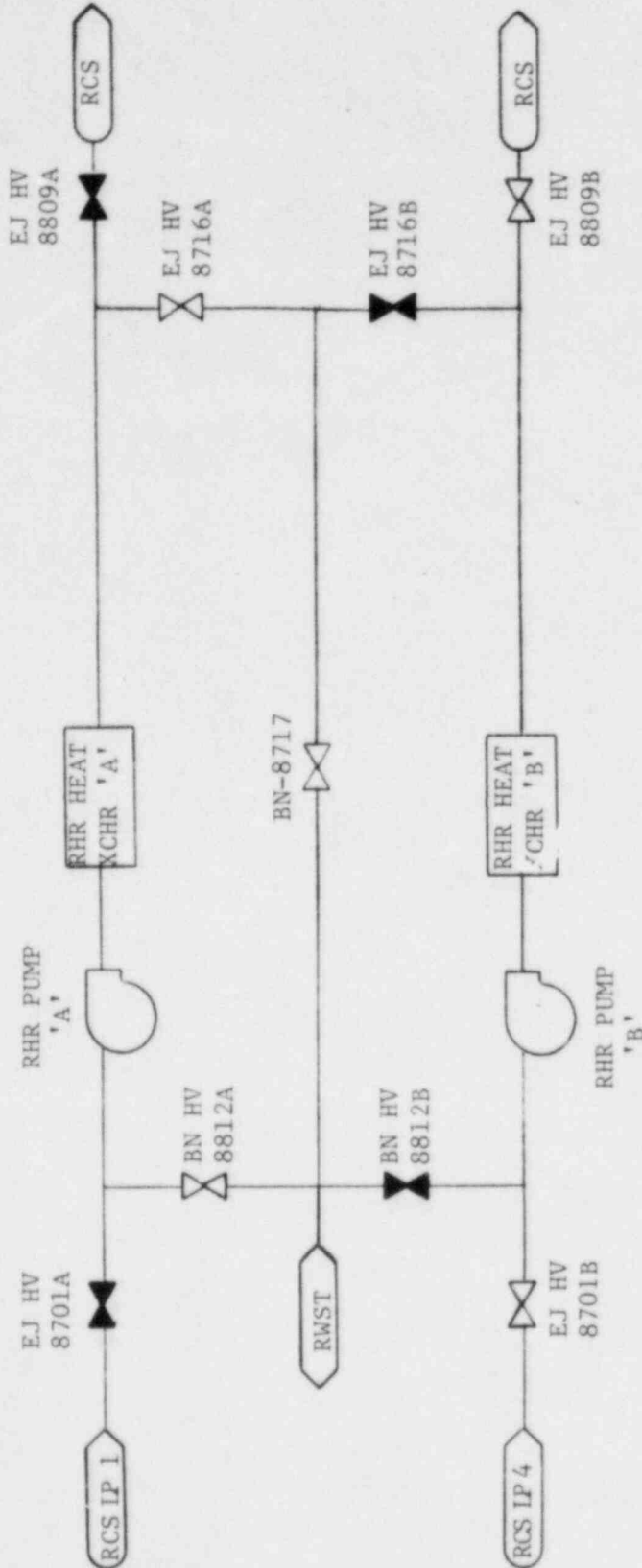


Figure 1: Simplified piping diagram
Residual Heat Removal System

UNION ELECTRIC COMPANY
CALLAWAY PLANT

August 16, 1984

MAILING ADDRESS:
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FULTON, MO. 65251

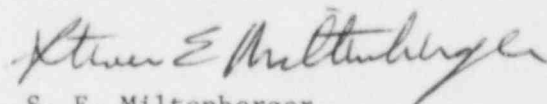
U. S. Nuclear Regulatory Commission
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Washington, DC 20555

ULNRC-907

DOCKET NUMBER 50-483
CALLAWAY PLANT UNIT 1
FACILITY OPERATING LICENSE NPF-25
LICENSEE EVENT REPORT 84-016-00
DEPRESSURIZATION OF THE REACTOR COOLANT SYSTEM

Gentlemen:

The enclosed Licensee Event Report is submitted pursuant to
10 CFR 50.73(a)(2)(ii) concerning an inadvertent depressurization
of the Reactor Coolant System.



S. E. Miltenberger
Manager, Callaway Plant

JMS/drs
Enclosure

cc: Distribution attached

IE22
/1

cc distribution for ULNRC-907

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