



Callaway Plant

June 12, 1992

U. S. Nuclear Regulatory Commission
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ULNRC-2645

Gentlemen:

**DOCKET NUMBER 50-483
CALLAWAY PLANT UNIT 1
FACILITY OPERATING LICENSE NPF-30
LICENSEE EVENT REPORT 92-006-00
MAIN FEEDWATER ISOLATION DUE TO THE
SPURIOUS OPENING OF MAIN STEAM DUMP VALVES**

The enclosed Licensee Event Report is submitted pursuant to 10CFR 50.73(a)(2)(iv) concerning an unplanned Engineered Safety Feature Main Feedwater Isolation.

J. D. Blosser
Manager, Callaway Plant

JDB/TPS/JGB/lrj

Enclosure

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Callaway Plant Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 4 8 3	PAGE (3) 1 OF 0 3
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TITLE (4) **Main Feedwater Isolation Signal Due To The Spurious Opening Of Main Steam Dump Valves**

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV. NO.	MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER(S)
0 5	1 5	9 2	9 2	- 0 0 6	- 0 0	0 6	1 2	9 2			0 5 0 0 0
OPERATING MODE (9) 3			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR : (Check one or more of the following) (11)								

POWER LEVEL (10) 0	20.402(b)	20.405(c)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)	73.71(b)
	20.405(a)(1)(i)	50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	73.71(c)
	20.405(a)(1)(ii)	50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 365A)
	20.405(a)(1)(iii)	50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(vii)(A)	
	20.405(a)(1)(iv)	50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(vii)(B)	
	20.405(a)(1)(v)	50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(viii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME Thomas P. Sharkey, Supervising Engineer, Site Licensing	TELEPHONE NUMBER 3 1 4 6 7 6 - 8 3 3 6
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPD5	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPD5

SUPPLEMENTAL REPORT EXPECTED (14)

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 1470 spaces, i.e. approximately fifteen single-space typewritten lines)(16)

On 5/15/92 at 2117 CDT, an unplanned Engineered Safety Features (ESF) Main Feedwater Isolation Signal was received due to the spurious opening of main steam dump valves Groups 2, 3 and 4. The plant was in Mode 3 - Hot Standby, with Reactor Coolant System temperature at 557 degrees F and Reactor Coolant System pressure at 1850 psig.

Main steam header pressure dropped causing all four Steam Generator levels to swell to the high-high water level setpoint of 78%. Feedwater isolation and bypass valves automatically closed and a licensed utility reactor operator manually started the 'A' and 'B' Motor Driven Auxiliary Feedwater Pumps. All the steam dumps automatically closed at the P-12 interlock at 550 degrees F in the RCS.

On 5/16/92, utility Instrument and Control personnel performed extensive troubleshooting, however, no hardware abnormalities could be found. No evidence could be found of inadvertent licensed operator action or inadvertent personnel actions during on-going work activities. Mode 1 - Power Operation was achieved at 1639 on 5/18/92 without further steam dump control difficulties.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

FACILITY NAME (1) Callaway Plant Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 4 8 3	LER NUMBER (6) YEAR SEQUENTIAL NUMBER REV NO. 9 2 - 0 0 6 - 0 0	PAGE (3) 0 2 OF 0 3
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TEXT (If more space is required, use additional NRC Form 366A's)(17)

BASIS FOR REPORTABILITY:

On 5/15/92 at 2117 CDT an Engineered Safety Features (ESF)⁽¹⁾ Main Feedwater⁽²⁾ Isolation Signal was received due to the spurious opening of main steam dump valves⁽³⁾ groups 2, 3 and 4. This report is submitted pursuant to 10CFR50.73(a)(2)(iv) to report an event which resulted in an unplanned automatic ESF actuation.

CONDITIONS AT THE TIME OF EVENT:

Mode 3 - Hot Standby

Reactor Coolant System temperature - 557 degrees F

Reactor Coolant Pressure - 1850 psig

DESCRIPTION OF EVENT:

On 5/15/92 at 2117 CDT an ESF Main Feedwater Isolation occurred when main steam dump valves groups 2, 3 and 4 spuriously opened to the main condenser⁽⁴⁾ for approximately 36 seconds. Main steam header pressure dropped causing all four Steam Generator levels to swell to the P-14 high-high water level setpoint of 78%. Feedwater isolation and bypass valves automatically closed and a licensed utility Reactor Operator (RO) manually started the 'A' and 'B' Motor Driven Auxiliary Feedwater Pumps⁽⁵⁾. Reactor Coolant System (RCS) temperature decreased from 557 to 543 degrees F. All the steam dumps automatically closed at the P-12 interlock at 550 degrees F in the RCS. The licensed operators returned RCS temperature to 557 degrees F by 2215. All 12 steam dump valves were isolated with manual valves on 5/16/92 at 0031. Utility Instrument & Controls (I&C) technicians and their supervisors performed troubleshooting to determine the cause. The three Group 1 steam dump valves were placed into service on 5/16/92 at approximately 2000 with its controller in manual and the steam pressure mode controller in automatic. At 2030, the shutdown control rod banks⁽⁶⁾ were withdrawn and the plant startup was resumed and the remaining nine steam dump valves were placed into service. Mode 1-Plant Operation was achieved at 1639 on 5/18/92 with no further steam dump control difficulties.

ROOT CAUSE:

No definite cause for the spurious opening of the nine Group 2, 3 and 4 main steam dump valves could be found.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REV NO.			
Callaway Plant Unit 1	05000483	92	006	00	03	OF	03

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

CORRECTIVE ACTIONS:

On 5/16/92, Utility I&C personnel investigated a number of potential event causes. Voltage readings were taken in the steam dump control racks, however, all readings were normal. Alarm printouts were compared to system drawings, but no inconsistencies were found. A full re-creation of the event with initial conditions was performed and careful observation of steam dump behavior was made. A strip chart recorder was used to record variables in the steam dump control racks. All parameters behaved normally. On-going work activities were reviewed, but no definite correlation was found. No evidence could be found of inadvertent licensed operator action.

SAFETY SIGNIFICANCE:

The ESF system involved in this event functioned as required by plant design following its actuation. All valves and components functioned as required. No Technical Specification or administrative cooldown rates were exceeded. This event posed no threat to the health and safety of the public.

PREVIOUS OCCURRENCES:

LER 85-044-00, transmitted on 11/4/85, via ULNRC-1197.

On 10/7/85, a FWIS and Auxiliary Feedwater Actuation Signal occurred due to failed open Group 1 steam dumps caused by a failed card in Process Control Cabinet RP043. RP043 cards were tested during troubleshooting for this event. No problems were found. This latest event could therefore not have been caused by a failed RP043 card. No corrective actions of LER 85-044-00 could have prevented the event of LER 92-006-00.

FOOTNOTES:

The system and component codes listed below are from IEEE Standard 805-1984 and 803A-1984, respectively.

- (1) System-JE
- (2) System-SJ
- (3) System-SB, Component-V
- (4) System-SG
- (5) System-BA, Component-P
- (6) System-AA