



November 8, 1996

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Mail Stop P1-137  
Washington, DC 20555-0001

ULNRC- 3486

Gentlemen:

**DOCKET NUMBER 50-483**  
**CALLAWAY PLANT UNIT 1**  
**FACILITY OPERATING LICENSE NPF-30**  
**AUXILIARY FEEDWATER ACTUATION AFTER MAIN**  
**FEEDWATER PUMP 'A' TRIP ON HIGH DISCHARGE PRESSURE**

The enclosed licensee event report is submitted pursuant to 10CFR50.73(a)(2)(iv) due to automatic actuation of an Engineered Safety Feature.

A handwritten signature in cursive script, appearing to read "R. D. Affolter".

R. D. Affolter  
Manager, Callaway

RDA/HDB/MAH/lmf

Enclosure

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# LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) <b>Callaway Plant Unit 1</b>										DOCKET NUMBER (2) 0   5   0   0   0   4   8   3					PAGE (3) 1   OF   0   3																				
TITLE (4) <b>Auxiliary Feedwater Actuation After Main Feedwater Pump 'A' Trip on High Discharge Pressure</b>																																			
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)																					
1	0	1	2	9	6	9	6	-	0	0	3	-	0	0	1	1	0	8	9	6						0	5	0	0	0					
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (Check one or more of the following) (11)																																
POWER LEVEL (10)			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)(vii)			OTHER (Specify in																							
			20.405(a)(1)(iii)			50.73(a)(2)(i)			50.73(a)(2)(viii)(A)			Abstract below and in																							
			20.405(a)(1)(iv)			50.73(a)(2)(ii)			50.73(a)(2)(viii)(B)			Text, NRC Form 366A)																							
20.405(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(x)																													
LICENSEE CONTACT FOR THIS LER (12)																																			
NAME										TELEPHONE NUMBER																									
H. D. Bono, Supervising Engineer, Site Licensing										AREA CODE																									
										5		7		3		6		7		6		-		4		4		2		8					
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																																			
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC																										
SUPPLEMENTAL REPORT EXPECTED (14)										EXPECTED SUBMISSION DATE (15)		MONTH		DAY		YEAR																			
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO																																			

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

On 10/12/96, at 0319 CDT, with the plant in Mode 3, an Engineered Safety Features Actuation System (ESFAS) Trip of all Main Feedwater Pumps (MFP) - Start Auxiliary Feedwater Motor-Driven Pumps signal was received when the single operating MFP, PAE01A, tripped on high discharge pressure. At the time of the event licensed operators were performing ETP-SF-ST001, "Control Rod Drop Time Test" to shut down the plant and collect control rod drop times required by NRC Bulletin 96-01. The reactor had been manually tripped in accordance with the procedure. A Feedwater Isolation Signal occurred and isolated MFP flow per design. With the MFP flow isolated, the secondary feedwater system gradually pressurized from a combination of system residual heat and feedwater pre-heating. The heat build up resulted in a high discharge pressure trip on the 'A' MFP and a subsequent Auxiliary Feedwater Actuation Signal. The operators responded to the event in accordance with procedures and the event was terminated at 0436 when PAE01A was restored to service. There was no safety significance to this event as all safety equipment operated per design.

ETP-SF-ST001 did not have steps to place the Auxiliary Feedwater Pump ESFAS block switches into the BLOCK position as allowed per Technical Specifications. If it becomes necessary to use the procedure again, corrective actions will include adding steps in the procedure to place the switches into the BLOCK position after Mode 3 entry. In addition, other procedures will be reviewed to determine if they need to be revised to remove heating steam from the High Pressure Heater string prior to securing feedwater flow.

**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	0   5   0   0   0   4   8   3	9   6	-   0   0   3	-   0   0	0   2	OF	0   3

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

**BASIS FOR REPORTABILITY:**

This event is reportable under 10CFR50.73(a)(2)(iv) due to automatic actuation of an Engineered Safety Feature.

**PLANT CONDITION AT TIME OF EVENT DISCOVERY:**

Mode 3, Hot Standby - 0% power

Reactor Coolant System: Temperature (average) - 558.5 degrees F

Pressure - 2234.8 psig

**DESCRIPTION OF EVENT:**

On 10/12/96, at 0319 CDT, with the plant in Mode 3, an Engineered Safety Features Actuation System (ESFAS) Trip of all Main Feedwater Pumps (MFP) - Start Auxiliary Feedwater Motor-Driven Pumps signal was received when the single operating MFP, PAE01A<sup>(1)</sup>, tripped on high discharge pressure. At the time of the event licensed operators were performing ETP-SF-ST001, Rev. 0, "Control Rod Drop Time Test" to shut down the plant from Mode 2 and collect control rod drop times required by NRC Bulletin 96-01 "Control Rod Insertion Problems." The reactor had been manually tripped in accordance with the procedure. A Feedwater Isolation Signal occurred and isolated MFP flow per design. The MFP had previously been placed in a recirculation lineup. With the MFP flow isolated, the secondary feedwater system gradually pressurized from the combination of system residual heat and feedwater pre-heating being in service. The heat build up in the water solid system, and the associated pressure increase, resulted in actuation of AEP SH0047A, B, and C, MFP Discharge High Pressure Switches A, B, & C<sup>(2)</sup>. This caused a 2 out of 3 logic high discharge pressure (1900 psig) trip on the 'A' MFP and the subsequent Auxiliary Feedwater Actuation Signal (AFAS).

The operators responded to the event in accordance with OTA-RL-RK126A, "MFP Discharge Pressure High," OTO-AE-00001, "Feedwater Systems Malfunctions," and OTO-SA-00001, "Engineered Safety Feature Actuation Verification and Restoration." All safety equipment performed as designed. The event was terminated at 0436 when MFP 'A' was restored to service.

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Callaway Plant Unit 1	0   5   0   0   0   4   8   3	9   6	-   0   0   3	-   0   0	0   3	OF	0   3

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

**ROOT CAUSE:**

The heatup and pressurization of the isolated feedwater pipe from system residual heat and feedwater preheating was unanticipated. Technical Specification 3.3.2 Table 3.3-3 Item 6.g notation allows the Trip of all MFPs - Start Auxiliary Feedwater Motor-Driven Pumps function to be blocked just before shutdown of the last operating MFP. ETP-SF-ST001 did not have steps to place FCHS0025, Auxiliary Feedwater Pump ESFAS BLOCK Train 'A' Hand Switch<sup>(3)</sup>, and 26, Auxiliary Feedwater Pump ESFAS BLOCK Train 'B' Hand Switch<sup>(3)</sup>, into the BLOCK position.

**CORRECTIVE ACTIONS:**

If it becomes necessary to use the procedure again, corrective actions will include revising ETP-SF-ST001 to add steps to place FCHS0025 and 26 into the BLOCK position after Mode 2 entry. Procedures ETP-SF-ST001 and OTG-ZZ-00006, "Plant Cooldown Hot Standby to Cold Shutdown," will be reviewed to determine if they need to be revised to remove heating steam from the High Pressure Heater string prior to securing feedwater flow.

**SAFETY SIGNIFICANCE:**

There was no safety significance to this event as all safeguards features operated per design. The automatic actuation to start the Motor-Driven Auxiliary Feedwater Pump<sup>(4)</sup> is normally blocked in Mode 3 just prior to securing the last MFP. The actuation had no impact on plant safety. This event did not affect public health and safety.

**PREVIOUS OCCURRENCES:**

None

**FOOTNOTES:**

The system and component codes listed below are from IEEE Standards 805-1985 and 803A-1984.

- (1) System - SJ, Component - P
- (2) System - SJ, Component - PS
- (3) System - JE, Component - HS
- (4) System - BA, Component - P