

August 30, 2002

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



ULNRC-04720

Ladies and Gentlemen:

**DOCKET NUMBER 50-483  
Callaway PLANT UNIT 1  
UNION ELECTRIC CO.  
FACILITY OPERATING LICENSE NPF-30  
LICENSEE EVENT REPORT 2002-010-00  
Potential for fire induced common cause failure.**

The enclosed licensee event report is submitted in accordance with 10CFR50.73(a)(2)(ii)(B) to report a licensee-identified potential for a common cause failure if a fire were to occur in Fire Area A-1.

*Warren A. Witt*

Warren A. Witt  
Manager, Callaway Plant

WAW/ewh

Enclosure

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<b>NRC FORM 366</b> (7-2001)		<b>U.S. NUCLEAR REGULATORY COMMISSION</b>			APPROVED BY OMB NO. 3150-0104		EXPIRES 7-31-2004				
<b>LICENSEE EVENT REPORT (LER)</b>					Estimated burden per response to comply with this mandatory information collection request. 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.						
1. FACILITY NAME <b>CALLAWAY PLANT UNIT 1</b>					2. DOCKET NUMBER <b>05000 483</b>		3. PAGE <b>1 OF 4</b>				
4. TITLE <b>Potential for fire induced common cause failure.</b>											
5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED		
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER	
7	2	2002	2002	010	00	8	30	2002		05000	
9. OPERATING MODE			11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR ** (Check all that apply)							FACILITY NAME	
10. POWER LEVEL			20.2201(b)		20.2203(a)(3)(ii)		X		50.73(a)(2)(ii)(B)		
1			20.2201(d)		20.2203(a)(4)				50.73(a)(2)(iii)		
100			20.2203(a)(1)		50.36(c)(1)(i)(A)				50.73(a)(2)(iv)(A)		
			20.2203(a)(2)(i)		50.36(c)(1)(ii)(A)				50.73(a)(2)(v)(A)		
			20.2203(a)(2)(ii)		50.36(c)(2)				50.73(a)(2)(v)(B)		
			20.2203(a)(2)(iii)		50.46(a)(3)(ii)				50.73(a)(2)(v)(C)		
			20.2203(a)(2)(iv)		50.73(a)(2)(i)(A)				50.73(a)(2)(v)(D)		
			20.2203(a)(2)(v)		50.73(a)(2)(i)(B)				50.73(a)(2)(vii)		
			20.2203(a)(2)(vi)		50.73(a)(2)(i)(C)				50.73(a)(2)(viii)(A)		
			20.2203(a)(3)(i)		50.73(a)(2)(ii)(A)				50.73(a)(2)(viii)(B)		
<b>12. LICENSEE CONTACT FOR THIS LER</b>											
NAME <b>Mark A. Reidmeyer</b>						TELEPHONE NUMBER (Include Area Code) <b>(573) 676-4306</b>					
<b>13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT</b>											
CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX		
14. SUPPLEMENTAL REPORT EXPECTED							15. EXPECTED SUBMISSION DATE		MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)							NO				
<b>16. ABSTRACT</b> (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)											
<p>On 6/25/02, with Callaway Plant in Mode 1 at 100 percent power, testing was being conducted involving "A" Train Ultimate Heat Sink (UHS) sump heater, SEF02A. When energized, the motor control center (MCC) feeder breaker, NG0705, tripped. Investigation revealed that SEF02A was grounded and that its feeder breaker protection was not properly coordinated with the MCC feeder breaker. The next closest breaker with ground fault protection was NG0705.</p> <p>An extent of condition review was completed that revealed a potential for safety related components and load centers to experience a common cause failure if a single fire were to occur in Auxiliary Building Fire Area A-1. MCC's NG01A and NG02A could experience a fire induced ground fault condition due to cable damage on downstream loads, which could cause the loss of either, or both, NG01A and NG02A.</p> <p>In addition, cables in Fire Area A-1 for "A" and "B" Residual Heat Removal pump room coolers have less than the required 20 feet of horizontal separation per FSAR Table 9.5E-1.</p> <p>Compensatory actions taken include establishment of hourly firewatches in affected areas, isolation of circuit breakers for UHS sump heaters pending completion of an electrical design change, issuing an Operations Night Order detailing actions to be taken to restore NG01A and/or NG02A in the event of a fire, and evaluating revisions to Fire Area Pre-plans.</p>											

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET (2) NUMBER (2)	LER NUMBER (6)			PAGE (3)
Callaway Plant Unit 1	05000483	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 4
		2002	- 010	- 00	

NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

I. DESCRIPTION OF THE REPORTABLE EVENT

A. REPORTABLE EVENT CLASSIFICATION

This event has been classified as reportable under 10CFR50.73(a)(2)(ii)(B), an unanalyzed condition that could significantly degrade plant safety.

B. PLANT OPERATING CONDITIONS PRIOR TO THE EVENT

Callaway Plant was in Mode 1 at 100 percent power.

C. STATUS OF STRUCTURES, SYSTEMS OR COMPONENTS THAT WERE INOPERABLE AT THE START OF THE EVENT AND THAT CONTRIBUTED TO THE EVENT

"A" Train Ultimate Heat Sink sump heater, SEF02A, was discovered grounded during daily shift inspections, which resulted in an extent of condition review that identified the reportable fire protection separation issue.

D. NARRATIVE SUMMARY OF THE EVENT, INCLUDING DATES AND APPROXIMATE TIMES

On 6/25/02, with Callaway Plant in Mode 1 at 100 percent power, a Non-Licensed Operator (NLO) was testing the "A" Train Ultimate Heat Sink (UHS) sump heater, SEF02A. When the NLO energized SEF02A, the motor control center (MCC) feeder breaker, NG0705, tripped. Investigation revealed that SEF02A was grounded and that its feeder breaker over current protection was not properly coordinated with the upstream MCC feeder breaker ground fault protection. The next closest breaker with ground fault protection was NG0705.

An extent of condition review was completed that revealed the potential for Safety Related components and electrical load centers to experience a common cause failure due to the miscoordination if a fire were to occur in the 1974' Auxiliary Building Fire Area A-1. Safety related MCC's NG01A and NG02A (opposite trains) could experience a fire induced ground fault condition due to cable damage on downstream loads. This ground fault condition could cause the loss of either or both NG01A and NG02A which supply post fire safe shutdown equipment like "A" and "B" Residual Heat Removal (RHR) pump room coolers. It was concluded this scenario could impact post fire safe shutdown equipment.

In addition, it was identified that cables in Fire Area A-1 for the "A" and "B" Residual Heat Removal (RHR) pump room coolers, which are post fire safe shutdown equipment, have less than 20 feet of horizontal separation and do not meet the separation commitments documented in FSAR Table 9.5E-1.

The following compensatory actions have been taken:

- An hourly firewatch was established for the affected area on 7/2/02 as the evaluations were completed.
- Circuit Breakers associated with Essential Service Water Sump Heaters have been isolated, pending completion of a design change to address electrical coordination consistent with the FSAR.
- An Operations Night Order detailing actions to be taken to restore NG01A and/or NG02A if a fire were to occur that affected these load centers. Actions include measures to isolate faulted circuits.
- Revisions to Fire Area Pre-plans have incorporated the guidance of the Operations Night Order.

E. METHOD OF DISCOVERY OF EACH COMPONENT, SYSTEM FAILURE, OR PROCEDURAL ERROR

The fire protection separation violation of FSAR Table 9.5E-1 commitments was discovered during an extent of condition review related to the ground fault failure of UHS sump heater SEF02A.

**LICENSEE EVENT REPORT (LER)**

FACILITY NAME (1)	DOCKET (2) NUMBER (2)	LER NUMBER (6)			PAGE (3)
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		2002	- 010	- 00	

NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

II. EVENT DRIVEN INFORMATION

A. SAFETY SYSTEMS THAT RESPONDED

Not Applicable for this event.

B. DURATION OF SAFETY SYSTEM INOPERABILITY

Not Applicable for this event

C. SAFETY CONSEQUENCES AND IMPLICATIONS OF THE EVENT.

A risk evaluation was performed of the potential impact for a fire in area A-1. Assuming that both MCC's NG01A and NG02A would fail, the probability of mitigation failure results in a less than 1E-6/year increase in the core damage frequency for Fire Area A-1. This results in a classification of very low risk significance.

III. CAUSE OF THE EVENT

The fire protection separation issue is the result of changes to industry interpretations of cable fault assumption requirements, associated with the fire protection program, since initial construction design.

IV. CORRECTIVE ACTIONS

The following compensatory actions have been taken:

- An hourly firewatch was established for the affected area on 7/2/02 as the evaluations were completed.
- Circuit Breakers associated with Essential Service Water Sump Heaters have been isolated, pending completion of a design change to address electrical coordination consistent with the FSAR.
- An Operations Night Order detailing actions to be taken to restore NG01A and/or NG02A if a fire were to occur that affected these load centers. Actions include measures to isolate faulted circuits.

Revisions to Fire Area Pre-plans have incorporated the guidance of the Operations Night Order.

Addition of fire wrap material and/or cable re-routing is being evaluated to address the cable separation issue concerning the cables for the "A" and "B" RHR pump room coolers.

V. PREVIOUS SIMILAR EVENTS

A review of Callaway Action Request System (CARS) documents from the last three years revealed two CARs that dealt with a cable separation issue. These were CARs:

200002070 – concern with separation of redundant equipment trains in fire areas.

200203631 – addresses separation issue involving cables associated with potential for Refueling Water Storage Tank (RWST) drain down to containment

A review of LERs over the last three-year period identified one LER. It was LER 2002-006-00 and documented the potential for drain down of the RWST to containment as identified in CAR 200203631.

**LICENSEE EVENT REPORT (LER)**

FACILITY NAME (1)	DOCKET (2) NUMBER (2)	LER NUMBER (6)			PAGE (3)
Callaway Plant Unit 1	05000483	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	4 OF 4
		2002	- 010	- 00	

NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

**VI. ADDITIONAL INFORMATION**

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

System: ED

Component: MCC