NRC Form 366 U.S. NUCLEAR REGULATORY COMMISSION APPROVED OMB NO 3150-0104 LICENSEE EVENT REPORT (LER) EXPIRES 8/31/88 PAGE (3 FACILITY NAME (1) DOCKET NUMBER (2) Callaway Plant Unit 1 0 15 10 10 10 1 41 813 1 OF 0 15 TITLE (4) Two Engineered Safety Features Actuation Events Due To High Spike on Control Room Gaseous Radiation Monitor GK-RE-04 and Due To A Technician's Inadvertent Actions While Troubleshooting Automatic Test Insertion System EVENT DATE (5) LER NUMBER (6) OTHER FACILITIES INVOLVED (8) REPORT DATE 17 SEQUENTIAL OCKET NUMBERIS MONTH YEAR REVISION DAY YEAR DAY YEAF 0 15 10 10 101 0 2 28 8 9 8 9 0 3 2 7 89 0 15 10 10 101 THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR S (Check one or more of the following) (11 OPERATING MODE (9) 20 402(h) 20.405(c) 50.73(a)(2)(iv) 73.71(b) X 20.405(a)(1)(i) 73.71(c) 50.36(c)(1) 50.73(a)(2)(v) POWER LEVEL (10) OTHER (Specify in Abstract below and in Text, NRC Form 366.41 10 1 0 20.406(a)(1)(ii) 50.36(c)(2) 50 73(a)(2)(vii) 20.406(a)(1)(00) 50.73(a)(2)(i) 50.73(a)(2)(viii)(A) 20.405(a)(1)(iv) 50 73(#)(2)(0) 50 73(a)(2)(viii)(B) 20.406(a)(1)(v) 50.73(4)(2)((0) 50 73(a)(2)(x) LICENSEE CONTACT FOR THIS LER (12) TELEPHONE NUMBER J. F. Hogg - Superintendent of Instrument and Controls 3,1,4 6 7 6 - 18 1 9 3 COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13) TO NPRDS MANUFAC REPORTABLE TO NPRDS MANUFAC COMPONENT CAUSE SYSTEM CAUSE X IIL CIBILI 0101010 N SUPPLEMENTAL REPORT EXPECTED (14) DA YEAR EXPECTED SUBM(SSION DATE (15) YES (If yes complete EXPECTED SUBMISSION DATE) X NO ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) [16] On 2/28 and 3/3/89, unplanned Engineered Safety Features actuations occurred, Events 1 and 2 respectively. In Event 1 a Control Room Ventilation Isolation (CRVIS) occurred due to an electrical spike on the Control Room Heating, Ventilating, and Air Conditioning gaseous radiation monitor GK-RE-04. In Event 2 a CRVIS and a Fuel Building Isolation occurred due to a technician's inadvertent actions while troubleshooting the Balance of Plant Engineered Safety Features Actuation System Automatic Test Insertion (ATI) system. The plant was in Mode 1 - Power Operations at 100 percent reactor power. The root cause for the Event 1 electrical spike was shield breakage of the GK-RE-04 coaxial cable. The damaged coaxial cable and the gas channel detector were replaced. An engineering evaluation is in progress to address replacing the connector on GK-RE-04 and on other similar radiation elements. In Evert 2, an Instrument and Control (I&C) technician inadvertently pushed in an ESF actuation push button located adjacent to the ATI decoder module card he was reinserting. The technician was counseled to ensure that all actions taken during troubleshooting are researched to identify potential hazards. This event will be reviewed by other I&C personnel. JE221/1 8904050177 890327 PDR ADOCK 05000483 S PDC

NRC Form 3964 (8-63)	NT REPORT (LER) TEXT CONTINU	UATION	I ; NUCLEAR RI APPROVED EXPIRES: 8/	GULATORY COMMISSION OMB NO. 3150-0104 31/88
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TEXT (If more space is required, use additional NRC Form 386A's) (17)

This Licensee Event Report (LER) consists of two events which occurred over a short length of time and are similar in that component failures contributed to the events and both resulted in unplanned Engineered Safety Features (ESF) actuations, specifically a Control Room Ventilation Isolation (CRVIS). This LER is reported within 30 days of Event 1.

PLANT CONDITIONS AT TIME OF EVENTS

Mode 1 - Power Operations; 100 percent Reactor Power

BASIS FOR REPORTABILITY

Event 1

On 2/28/89 at 0642 CST, an unplanned CRVIS occurred due to an electrical spike on the "Control Room Heating, Ventilating, and Air Conditioning (HVAC) gaseous radiation monitor", GK-RE-04.

Event 2

On 3/3/89 at 0943 CST, an unplanned CRVIS and Fuel Building Isolation (FBIS) occurred due to a technician's inadvertent actions while troubleshooting the Balance of Plant (BOP) Engineered Safety Features Actuation System (ESFAS) (3) Automatic Test Insertion (ATI) (4) system.

The ESF actuations in Event 1 and Event 2 are reported per 10 CFR 50.73(a)(2)(iv).

DESCRIPTION OF EVENTS

Event 1

On 2/28/89 at 0642 CST, a CRVIS occurred due to an electrical spike on HVAC gaseous monitor GK-RE-04. The spike lasted approximately six seconds. The filter on GK-RE-04 was counted and no radioactivity above normal background was present. This was verified by analyzing the filter on the redundant radiation monitor GK-RE-05. Troubleshooting began to determine the cause of the spike.

At 0655 CST on 2/28/89, the CRVIS was reset and the ventilation systems were returned to their normal lineup in accordance with plant procedures.

NRC Form 366A (9-83)	LICENSEE EVENT REPORT (LER) TEXT CONTINU								JA	U.S NUCLEAR REGULATORY CON APPROVED OMB NO. 3150-0 EXPIRES: 8/31/88								MMI 0104	MISSION				
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Event 2

On 3/2/89 at 2325 CST, the BOP ESFAS ATI was declared inoperable due to the ATI locking up. Troubleshooting began on 3/3/89.

When the ATI is de-energized, the logic on certain cards must be reset. Three decoder module cards must be pulled out to reset the logic.

A utility, non-licensed Instrument and Control (I&C) technician was reinserting an ATI decoder module card in BOP ESFAS cabinet SA036D⁽⁶⁾ after resetting the ATI logic per the vendor manual procedure. An input buffer card ⁽⁷⁾ is located next to the decoder module card. The input buffer card has a small push button on the top of the card that when pressed would result in CRVIS and FBIS actuations. The technician had difficulty pushing the card back into the cabinet. He shifted the position of his fingers on the card. This action positioned his right hand knuckles in line with the input buffer card push button allowing him to inadvertently push the button and cause the CRVIS and FBIS at 0943 CST on 3/3/89.

ROOT CAUSE

Event 1

The location of the electrical connection from the GK-RT-04 to the control room radiation monitor console, RM-80, (8) pre-amplifier board is at the bottom of the RM-80. This location causes the coaxial cable to be bent during disconnection/reconnection of the cable when performing periodic Technical Specification surveillance testing.

Troubleshooting after the CRVIS on 2/28/89 determined that the coaxial cable was damaged due to the tight routing of the cable and the required disconnecting of the cable to allow the performance of a surveillance test on 2/27/89. This resulted in shield breakage of the cable, monitor spiking, and an unplanned ESF actuation.

Event 2

A failed +48 VDC power supply in BOP ESFAS cabinet SA036E caused the ATI to lock up. During subsequent troubleshooting, the I&C technician inadvertently pushed in an ESF actuation push button located adjacent to the decoder module card he was reinserting. Contributing factors to this event include:

- a) The decoder module cards must be removed and reinserted in order to reset the logic. The cards are difficult to slide in.
- b) The adjacent input buffer card push button is in close proximity to the decoder module card.

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CORR	ECTIVE ACTIONS			
Even	<u>t 1</u>			
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2)	An engineering evaluati straight connector with cable.	on was initiated on 3/ a right angle connect	1/89 to replace t for to reduce stre	he ss on the
3)	The connectors on other replaced if necessary.	similar radiation ele	ements will be ins	pected and
Even	t 2			
1)	On 3/3/89 at 1435 CST, SA036E was replaced whi declared operable at 14	a failed +48VDC power ch corrected the ATI 1 40 CST.	supply in BOP ESF. ockup problem. T	AS cabinet he ATI was
2)	The I&C technician was during troubleshooting that the technician is to not cause an inadver	counseled to ensure th are researched to ider responsible to perform tent actuation.	nat all actions ta ntify potential ha n activities in su	ken zards and ch a way
3)	This event will be revi	ewed by other I&C pers	sonnel.	
SAFE	TY SIGNIFICANCE			
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	(3)	System - JE						
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	(9)	System - JE,	Component -	CBL				
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Callaway Plant

March 27, 1989

U. S. Nuclear Regulatory Commission Document Control Desk Washington, DC 20555

ULNRC-1951

Gentlemen:

DOCKET NUMBER 50-483 CALLAWAY PLANT UNIT 1 FACILITY OPERATING LICENSE NPF-30 LICENSEE EVENT REPORT 89-002-00 TWO ENGINEERED SAFETY FEATURES ACTUATION EVENTS DUE TO HIGH SPIKE ON CONTROL ROOM GASEOUS RADIATION MONITOR GK-RE-04 AND DUE TO A TECHNICIAN'S INADVERTENT ACTIONS WHILE TROUBLESHOOTING AUTOMATIC TEST INSERTION SYSTEM

The enclosed Licensee Event Report is submitted pursuant to 10 CFR 50.73(a)(2)(iv) concerning two events of automatic actuation of Engineered Safety Features. The first event was an unplanned Control Room Ventilation Isolation (CRVIS) due to an electrical spike on the control room heating, ventilating, and air conditioning gaseous radiation monitor GK-RE-04. The second event was caused by a technician inadvertently pushing a button on an input buffer card in the Balance of Plant Engineered Safety Features Actuation System Automatic Test Insertion (ATI) cabinet during troubleshooting of the ATI. The button on the input buffer card actuates a CRVIS and a Fuel Building Isolation.

J. D. Blosser Manager, Callaway Plant

TPS/LAM: j1h

Enclosure

cc: Distribution attached

cc distribution for ULNRC-1951

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