

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Callaway Plant Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 4 1 8 3	PAGE (3) 1 OF 0 5
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TITLE (4)
Inadvertent Engineered Safety Features Actuation

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 4	2 3	8 6	8 6	0 1 5	0 0 0	0 5	2 2	8 6			0 5 0 0 0
											0 5 0 0 0

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §. (Check one or more of the following) (11)									
POWER LEVEL (10) 0 3 1 1	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)						
	<input type="checkbox"/> 20.405(a)(1)-(i)	<input type="checkbox"/> 50.38(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)						
	<input type="checkbox"/> 20.405(a)(1)-(ii)	<input type="checkbox"/> 50.38(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)						
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)							
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)							
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)								

LICENSEE CONTACT FOR THIS LER (12)		TELEPHONE NUMBER	
NAME J. A. Ridgel - Superintendent, Radwaste		AREA CODE	
		3 1 4	6 7 6 - 8 3 8 1

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)			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 4/23/86 at approximately 1653 CST an Auxiliary Feedwater Actuation (AFAS) and a Steam Generator Blowdown Isolation (SGBIS) occurred as a result of a loss of power to PK-51, a 125 VDC control panel. The plant was in Mode 1, Power Operation, at 31% power and at normal operating temperature and pressure.

A utility Radwaste technician unintentionally opened DC fused disconnect switch (PK-0112), thus removing power to PK-51. PK-0112 was closed at approximately 1723 CST on 4/23/86 restoring power to PK-51.

Corrective actions include: this incident was reviewed with the responsible Radwaste technician; Radwaste personnel were reminded of the limitations on operating plant equipment; a checklist was implemented to ensure that new Radwaste technicians are aware of and understand the limitations on operating plant equipment; and the Training Department will incorporate this event and include which departments are responsible for operating plant equipment into initial plant orientation course and requalification training.

The Engineered Safety Features actuated as designed. The public health and safety was not threatened by this event.

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

At approximately 1653 CST on 4/23/86 an Auxiliary Feedwater Actuation (AFAS) and a Steam Generation Blowdown Isolation (SGBIS) occurred as a result of a loss of power to PK-51, a 125 VDC control panel. The plant was in Mode 1, Power Operation, at 31% power and at normal operating temperature and pressure. Numerous Main Control Board (MCB) annunciator alarms were received and Balance of Plant (BOP) MCB annunciators 89 through 133 went dark. The normal letdown and makeup capabilities to the Chemical and Volume Control System (CVCS) Volume Control Tank (VCT)⁽¹⁾ were lost. Several valve position indicators on MCB panel RL-01 were de-energized due to a loss of DC control power.

Immediate Action

The actions are not listed in chronological order.

1. The BOP Operator immediately determined that a reactor trip had not occurred from the control rod indications. Upon observing increasing steam generator levels, the BOP Operator⁽²⁾ took manual control of the Motor Driven Auxiliary Feed Pumps and restored the levels to normal.
2. Immediately upon observation that normal VCT letdown and makeup was lost, the Reactor Operator (RO) attempted to initiate excess letdown. It failed to initiate⁽³⁾. Consequently emergency letdown to the Pressurize Relief Tank⁽³⁾ was initiated. Also the RO took manual control of charging to the RCS so as to minimize the decrease in the VCT level. The VCT level⁽⁴⁾ continued to drop so the Centrifugal Charging Pump (CCP)⁽⁴⁾ suction was switched from the VCT to the Refueling Water Storage Tank (RWST)⁽⁵⁾ at approximately 1721 CST.
3. The operators determined from electrical drawings that PK-51⁽⁶⁾ was the power supply for a majority of the affected annunciators and valve position indicators. The PK-51 supply light⁽⁷⁾ located in the Auxiliary Building was verified off. PK-0112⁽⁷⁾ on panel PK-01⁽⁸⁾ located in the Turbine Building was closed at approximately 1723 CST and the Control Room annunciators returned to normal. The operators subsequently restored all systems to normal.
4. Suspecting the incident to be the act of an unauthorized operator, the Plant Manager and Security Department were notified. At approximately 1748 CST, a one-hour report was made to the NRC Operations room via the Emergency Notification System (ENS).

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Subsequent Actions

The following measures were taken on 4/23/86:

1. Security personnel were posted at PK-01 to preserve any evidence.
2. Security patrols were increased throughout the power block. This included providing a constant roving patrol on the 1974 elevation of the Auxiliary Building (the location of the Emergency Core Cooling System pumps) and the 2000 elevation of the Diesel Generator (DG) and Control Building (the location of the DG and the 4160V/480V switchgear).
3. Security personnel began collecting data from the security computer and eliminating those personnel who did not have access to open PK-0112.
4. The event was discussed with the Plant Manager and the determination was made that the plant supervision would be tasked with verifying the whereabouts of their subordinates at the time of the incident.
5. The normal complement of Equipment Operators (EO) on shift was doubled. An EO was dedicated in the Auxiliary Building and in the Turbine/Control Building to be constantly roving to observe abnormal equipment lineups.
6. Each Operations shift that came on duty subsequent to the event was briefed on the sequence of events and informed of the severity of the perceived problem.

On 4/24/86 various meetings were held at the Callaway Plant to develop an action plan to identify the individual who opened PK-0112. At 1215 CST, a utility Radwaste Technician (RT-1) came forward to the Plant Manager and identified himself as the individual who opened PK-0112. After explaining the sequence of events as discussed below, RT-1 led the Plant Manager and other parties to the location of PK-0112 and simulated his actions taken on 4/23/86 at approximately 1653 CST.

Sequence of events that led to the opening of PK-0112

On 4/23/86 at approximately 1300 CST, RT-1 discovered that the Radwaste Traveling Bridge Crane (SHC-07A) circuit "A" was not working. RT-1 called the Radwaste Foreman and informed him of the problem. After checking the electrical drawings, they found that PK-01 (125 VDC power bus) was the power supply for PK-51 (125 VDC control panel) and that PK-51 fed SHC-07A. RT-1 and another Radwaste technician (RT-2) went to the location of PK-01, 2032 elevation of the Turbine Building. RT-1 and

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

RT-2 looked at the 125 VDC fused disconnect (PK-0112) that connects power to PK-51 and both thought the disconnect was in the open position when in fact it was in the closed position. RT-1 and RT-2 read the indication from the head of the switch rather than the handle where the ON and OFF positions were located. The Radwaste Foreman told RT-1 to leave PK-0112 alone. RT-1 and RT-2 returned to their work area. Later that day, RT-1 remembered that a shredder was being electrically disconnected for maintenance in the Radwaste Building and thought this was the reason PK-0112 was open. (In fact, the shredder was not powered from PK-51.) RT-1 decided to check and see if the work on disconnecting the shredder was completed so PK-0112 could be closed restoring power to SHC-07A. RT-1 checked and found that the work had indeed been completed and he went to PK-01 and opened PK-0112 (presuming to close it and assuming it was the power supply to SHC-07A) at approximately 1653 CST.

Based on the information obtained, the determination was made that RT-1, was acting in good faith and unintentionally opened PK-0112. The error made by RT-1 was a cognitive error in which he failed to recognize the true position of the disconnect.

Corrective Actions

Corrective actions include: this incident was reviewed with the responsible Radwaste technician; Radwaste personnel were reminded of the limitations on operating plant equipment; a checklist was implemented to ensure that new Radwaste technicians are aware of and understand the limitations on operating plant equipment; and the Training Department will incorporate this event and include which departments are responsible for operating plant equipment into initial plant orientation course and requalification training.

Safety Significance

Sufficient controls and indications were available during the event to safely operate the plant at power and to safely shut down the plant to a stable condition if required. The Engineered Safety Features actuated as designed. The public health and safety was not threatened by this event.

Previous occurrences: none

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Footnotes

The component and system codes used below are from IEEE Standards 803A-1983 and 805-1983, respectively.

- (1) Component - TK, System - CB
- (2) Component - P, System - BA
- (3) Component - TK, System - AB
- (4) Component - P, System - CB
- (5) Component - T, System - KI
- (6) Component - BU, System - EI
- (7) Component - JS, System - EI
- (8) Component - BU, System - EI
- (9) Component - CRN, System - WB



Callaway Plant

May 22, 1986

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

ULNRC-1321

Gentlemen:

DOCKET NUMBER 50-483
CALLAWAY PLANT UNIT 1
FACILITY OPERATING LICENSE NPF-30
LICENSEE EVENT REPORT 86-015-00
INADVERTENT ENGINEERED SAFETY FEATURES ACTUATION

The enclosed Licensee Event Report is submitted pursuant to
10 CFR 50.73(a)(2)(iv) concerning ESFAS actuations.

G. L. Randolph
G. L. Randolph
Manager, Callaway Plant

TPS WRB
TPS/WRB/drs
Enclosure

cc: Distribution attached

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cc distribution for ULRRC-132.

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