

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Callaway Plant Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 4 8 3 1	PAGE (3) OF 0 3
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TITLE (4)
Inadvertent ESF Actuations and Manual Reactor Trip

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)																																																																																													
10	16	84	84	052	00	11	15	84			0 5 0 0 0																																																																																													
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LICENSEE CONTACT FOR THIS LER (12)

NAME Robert H. Leuther - Superintendent, Maintenance	TELEPHONE NUMBER 3 1 4 6 7 6 - 8 2 0 5
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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					
X	A	A	R	J	X	W	1	2	0	N				

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

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

On 10/16/84 a switchyard bus was inadvertently isolated during work on a main generator switchyard breaker. The loss of switchyard bus voltage subsequently caused an undervoltage on the corresponding Engineered Safety Features bus. The emergency diesel generator started and carried the loads brought onto the bus by the shutdown sequencer.

A Containment Purge Isolation, Control Room Ventilation Isolation, and Fuel Building Isolation were actuated. Also, upon observing erratic rod position during the event, the operators manually tripped the reactor. A Feedwater Isolation and Auxiliary Feedwater Actuation occurred following the Reactor Trip.

A modification to the breaker failure control scheme is being evaluated to prevent inadvertent isolation of the switchyard bus. The failed power supply which led to the rod movement during the incident was replaced and the retest performed satisfactorily.

There was no damage to plant equipment or release of radioactivity as a result of this incident. At no time was the public health or safety threatened.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Callaway Plant Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 4 8 3 8 4	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
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TEXT (If more space is required, use additional NRC Form 388A's) (17)

At approximately 1310 CDT on 10/16/84, Engineered Safety Features (ESF) were actuated and the reactor manually tripped during a series of events initiated by the inadvertent isolation of switchyard bus "B." The "B" bus was lost during work on main generator switchyard breaker V-55. Unexpected rod movement during the loss of power left the rods in an undesirable configuration, thus the operators manually tripped the reactor. With the exception of the unexpected rod movement, the ESF actuations performed properly. The plant was in Mode 2 at 2% Reactor Power with an average Reactor Coolant System (RCS) temperature of 557°F and a RCS pressure of 2235 psig at the time of the incident.

Relay technicians were current checking an auxiliary current transformer in a relay current circuit of V-55. The required DC control power to breakers V-54 and V-55 was tagged-out with the exception of flashover relay 50FO/V-55. This relay had been inadvertently left powered by the relay technicians. During subsequent relay testing, the flashover relay gave the indication that the breaker had flashed over (arced). This caused the primary and secondary switchyard bus "B" Differential Lockouts to trip, thus isolating the 345 kV switchyard bus by opening site feeder breakers V-45 and V-85. This resultant loss of switchyard bus voltage caused a loss of power to Safeguards Transformer "B" which in turn tripped open the ESF Transformer feeder breaker. Thus power was lost to NB01, one of two 4160V ESF buses.

The loss of NB01 caused loads on the bus to be shed, started diesel generator "A," and initiated the shutdown sequencer to reload the bus. Power to bus PN07 was lost as a result of losing NB01. The loss of radiation monitors powered by PN07 initiated a Containment Purge Isolation (CPIS), a Control Room Ventilation Isolation (CRVIS), and a Fuel Building Isolation (FBIS).

The loss of bus PN07 also caused a loss of power to rod control data cabinets and a loss of backup power to the rod control power supply cabinets. A Rod Position Indication Urgent Alarm was received due to the loss of power to both rod control data cabinets. Also, a Rod Control Urgent Failure Alarm was received which indicated that both primary and backup power had been lost in a rod control power supply cabinet.

The loss of primary and backup -24V power supplies in rod control power cabinet IAC caused movement of the rods controlled by that cabinet. When the diesel generator restored power to PN07, the operators observed the change in rod position on the Digital Rod Position Indication and, being uncertain of control rod location, manually tripped the reactor.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Callaway Plant Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 4 8 3 8 4 - 0 5 2 - 0 0	LER NUMBER (8)			PAGE (3)	
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					0 3	OF 0 3

TEXT (If more space is required, use additional NRC Form 388A's) (17)

The Reactor Trip coupled with an average RCS temperature less than 564°F initiated a Feedwater Isolation (FWIS). An Auxiliary Feedwater Actuation (AFAS) occurred upon tripping of the main feedwater pumps. The CPIS, CRVIS, FBIS, FWIS, and AFAS performed properly when actuated.

The plant was restored per Emergency Operating Procedures E-0, Reactor Trip or Safety Injection, and ES-0.1, Reactor Trip Recovery. The NB01 feeder breaker was closed and offsite power restored at 1605 on 10/16/84.

The relay testing was completed after correctly tagging out the breaker failure scheme. The incident was reviewed with the technicians with an emphasis on the importance of correctly tagging out DC control power before working on main generator breaker control circuits. A modification to the breaker failure control scheme is being evaluated.

The failed primary power supply in the rod control power supply cabinet was replaced and the retest completed on 10/17/84. The power supply (Model No. LM-261) was supplied by the Westinghouse Electric Corporation and had experienced a failure in the voltage regulation circuit.

The manual Reactor Trip is considered appropriate conservative operational action. No further corrective action is deemed necessary.

There was no damage to plant equipment or release of radioactivity as a result of this incident. At no time did this event pose a threat to the public health or safety.

Previous occurrences: none

UNION ELECTRIC COMPANY
CALLAWAY PLANT

MAILING ADDRESS:
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November 15, 1984

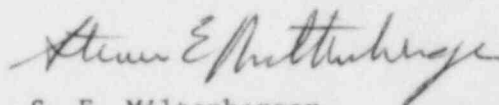
U. S. Nuclear Regulatory Commission
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ULNRC-974

DOCKET NUMBER 50-483
CALLAWAY PLANT UNIT 1
FACILITY OPERATING LICENSE NPF-30
LICENSEE EVENT REPORT 84-052-00
INADVERTENT ESF ACTUATIONS AND MANUAL REACTOR TRIP

Gentlemen:

The enclosed Licensee Event Report is submitted pursuant to 10 CFR 50.73(a)(2)(iv) concerning inadvertent Engineered Safety Features actuations and a manual Reactor Trip.



S. E. Miltenberger
Manager, Callaway Plant

RHL/WRR/JWK/drs
Enclosure

cc: Distribution attached

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cc distribution for ULNRC-974

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