

LICENSEE EVENT REPORT (LER)

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

TITLE (4) High Negative Flux Rate 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)												
0	6	0	7	8	5	8	5	0	2	6	0	0	0	7	0	8	8	5	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) 1 0 0	20.402(b)	20.405(c)	X	50.73(a)(2)(iv)	73.71(b)														
	20.405(a)(1)(i)	50.36(c)(1)		50.73(a)(2)(v)	73.71(c)														
	20.405(a)(1)(ii)	50.36(c)(2)		50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)														
	20.405(a)(1)(iii)	50.73(a)(2)(i)		50.73(a)(2)(viii)(A)															
	20.405(a)(1)(iv)	50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)															
	20.405(a)(1)(v)	50.73(a)(2)(iii)		50.73(a)(2)(x)															

LICENSEE CONTACT FOR THIS LER (12)									
NAME Charles D. Naslund, Superintendent - I&C								TELEPHONE NUMBER AREA CODE 3 1 1 4 6 7 6 1 - 1 8 5 1 0 0	

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)											
CAUSE	SYSTEM	COMPONENT	MANUFAC. TURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFAC. TURER	REPORTABLE TO NPRDS		
X	A	A	S	C	R	W	1	2	0	N	
C	A	A	R	J	X	W	1	2	0	N	

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)							
X NO							

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

On 6/7/85 at 2238 CDT with the plant in Mode 1 (Power Operation) and at 100% power, a Reactor Trip occurred due to a high negative flux rate. The high negative flux rate occurred when control rods dropped during troubleshooting of an immovable control rod. The rods dropped when four rod control power supplies failed as a result of a thyristor bank insulator failure.

A Feedwater Isolation, Auxiliary Feedwater Actuation, and Steam Generator Blowdown Isolation resulted from the Reactor Trip. The required Engineered Safety Features performed as designed.

The operators recovered from the trip per plant operating procedures. The thyristor bank and power supplies were replaced. The faulty insulator for the thyristor bank is not considered a generic problem. Therefore additional corrective action is not deemed necessary.

The public health and safety was not threatened during this event since the required safety systems performed as designed.

8507180380 850708
PDR ADOCK 05000483
S PDR

IE22
1/1

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

FACILITY NAME (1) Callaway Plant Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 4 8 3 8 5 - 0 2 6 - 0 0 0 2	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
					OF		

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

On 6/7/85 at 2238 CDT with the plant in Mode 1 (Power Operation) and at 100% power, a Reactor Trip occurred due to a high negative flux rate. A Feedwater Isolation, Auxiliary Feedwater Actuation, and Steam Generator Blowdown Isolation resulted from the Reactor Trip. The required Engineered Safety Features (ESF) performed as designed.

At the time of the trip I&C technicians were in the process of troubleshooting a control rod which would not step (Rod H-8 of Control Bank D). A thyristor bank (multiplexing thyristors for the Control Rod Drive Mechanism lift coils - IEEE Standard 805-1983 system: AA, IEEE Standard 803A-1983 component: SCR) in rod control cabinet 2BD had been replaced and an attempt was being made to raise the rod. The heat sink of the thyristor bank arced to the cabinet due to a crack in the insulated mounting bushing of the heat sink. The arc caused the two +24 V rod control power supplies in cabinet 2BD and the two -24 V rod control power supplies in cabinet 1AC to fail (power supplies - system: AA, component: RJX). Loss of these four rod control power supplies caused rods to drop and a High Negative Flux Rate Reactor Trip occurred.

The operators stabilized plant conditions and recovered from the trip per plant operating procedures. During recovery the source range channels of nuclear instrumentation were manually energized because of problems experienced with channel 36 of the intermediate range nuclear instrumentation (system: IG). The source range channels are designed to automatically energize when both intermediate range channels decrease to 5E-11 amps. Intermediate range channel 35 was observed to be at approximately 5E-11 amps however, due to electronic problems, channel 36 was oscillating at approximately 1E-10 amps. The operators therefore manually energized both source range channels. It should be noted that the oscillations on channel 36 occur only when the channel is near the reset point of 5E-11 amps and operates properly in other ranges.

The problem with channel 36 of the intermediate range nuclear instrumentation was previously identified on 5/6/85 and reported in Callaway Licensee Event Report (LER) 85-025-00. Additional corrective action to be taken as a result of the problem experienced on 6/7/85 will be the replacement of the channel 36 intermediate range drawer with a spare. Further information pertaining to the intermediate range nuclear instrumentation problem will be provided in a supplemental report to LER 85-025-00 on 9/30/85.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

FACILITY NAME (1) Callaway Plant Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 4 8 3 8 5 - 0 2 6 - 0 0	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
					0 3	OF	0 3

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

The thyristor bank and four power supplies were replaced. The failed insulator for the thyristor bank is considered an isolated case for which no additional corrective action is deemed necessary. The thyristor bank and the power supplies were supplied by the Westinghouse Electric Corporation as part of the Full Length Rod Control System.

Further troubleshooting of rod H-8 revealed a loose terminal screw to the thyristor gate. With the loose terminal screw the thyristor did not receive the gating signal and rod H-8 would not step. The loose terminal screw was tightened and the control rods were declared operable at 0952 on 6/8/85. A work package has been initiated to ensure the remaining terminal screws in the rod control cabinets are tight.

Since the required ESF systems performed as designed and prevented the occurrence of adverse plant conditions, the public health and safety was not threatened by this event.

Previous occurrences: None

UNION ELECTRIC COMPANY
CALLAWAY PLANT

MAILING ADDRESS:
P. O. BOX 620
FULTON, MO. 65251

July 8, 1985

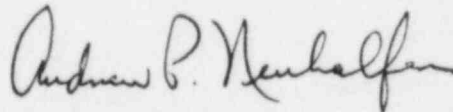
U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

ULNRC-1130

Gentlemen:

DOCKET NUMBER 50-483
CALLAWAY PLANT UNIT 1
FACILITY OPERATING LICENSE NPF-30
LICENSEE EVENT REPORT 85-026-00
HIGH NEGATIVE FLUX RATE REACTOR TRIP

The enclosed Licensee Event Report is submitted pursuant to 10 CFR 50.73(a)(2)(iv) concerning a High Negative Flux Rate Reactor Trip. The high negative flux rate occurred when control rods dropped due to a thyristor bank insulator failure in the rod control cabinets.



for
S. E. Miltenberger
Manager, Callaway Plant

CDN/WRR/JWK/gjt
Enclosure

cc: Distribution attached

IE22
11

cc distribution for ULNRC-1130

Mr. James G. Keppler
Regional Administrator
Office of Inspection & Enforcement
U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

American Nuclear Insurers
c/o Dottie Sherman, Library
The Exchange Suite 245
270 Farmington Avenue
Farmington, CT 06032

Records Center
Institute of Nuclear Power Operations
Suite 1500
1100 Circle 75 Parkway
Atlanta, GA 30339

Mr. Nicholas A. Petrick
Executive Director, SNUPPS
5 Choke Cherry Road
Rockville, Maryland 20850

Mr. J. H. Smith
Bechtel Power Corporation
SNUPPS Project
15740 Shady Grove Road
Gaithersburg, Maryland 20877-1454

NRC Resident Inspector
D. F. Schnell
J. F. McLaughlin
J. E. Davis (Z40LER)
D. W. Capone/R. P. Wendling
F. D. Field
R. L. Powers
A. C. Passwater/D. E. Shafer/D. J. Walker
G. A. Hughes
W. R. Robinson (QA Record)
J. M. Price
C. D. Naslund
R. A. McAleenan
L. K. Robertson (470) (NSRB)
Merlin Williams, Wolf Creek
SEM Chrono
3456-0021.6
3456-0260
Z40ULNRC
G56.37
N. Date