

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
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TITLE (4)
Boron Dilution Setpoint Not Properly Verified Due to Incorrect Procedure

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	9	1 2 8 6	8 6	0 3 1	0 1	1 2 1 9 8 6				0 5 0 0 0		

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

OPERATING MODE (9) 1	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
	20.405(a)(1)(i)	50.38(e)(1)	50.73(a)(2)(v)	73.71(c)
	20.405(a)(1)(ii)	50.38(e)(2)	50.73(a)(2)(vii)	<input checked="" type="checkbox"/> OTHER (Specify in Abstract below and in Text, NRC Form 366A)
	20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	Part 21
	20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
POWER LEVEL (10) 1 1 0 0	20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME William R. Robinson - Superintendent, I&C	TELEPHONE NUMBER AREA CODE 3 1 4 6 7 6 - 8 2 9 3
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MAN. FAC. TURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUF. TURER	REPORTABLE TO NPRDS

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 9/12/86 erroneous input test voltages were discovered in the surveillance procedures which verify the Boron Dilution Setpoint of the Source Range Nuclear Instrumentation. The erroneous input test voltages had been incorporated due to incorrect information provided by a vendor manual. Prior to 9/12/86, the Boron Dilution Setpoint had been set at the required value of 2.0. It was verified by surveillance testing to be less than or equal to a count rate increase factor of 2.11 rather than the 2.0 required by the Technical Specifications. At the time of discovery the plant was in Mode 1, Power Operation, at 100% power and normal operating temperature and pressure.

The appropriate surveillance procedures were performed satisfactorily after incorporating the correct input test voltages. No adjustments to equipment were necessary. Additional corrective actions include revision of applicable plant documents.

Since the trip level setpoint had been previously set at a count rate increase factor of 2.0 and the instrumentation performed satisfactorily on 9/12/86 with no adjustments during the revised procedures, a safety concern did not exist.

AEOD
LTR & ENCL AW: IE/DQAVT/VPB

Rgn 1
Rgn 2
Rgn 3
Rgn 4
Rgn 5

IE22
1/1

8612240210 861219
PDR ADOCK 05000483
S PDR

N31C, S. Kver. E.

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 6	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		0	3	1	0	2 OF 0 3

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

Introduction

On 9/12/86 erroneous input test voltages were discovered in the surveillance procedures which verify the Boron Dilution Setpoint of the Source Range Nuclear Instrumentation (SRNI). The erroneous input test voltages had been incorporated due to incorrect information provided by a vendor manual. Until 9/12/86, the Boron Dilution Setpoint had not been properly verified per the Technical Specification (T/S) requirement. Therefore this incident is considered a condition prohibited by the plant's T/S and is being reported per 10 CFR 50.73(a)(2)(i)(B). This LER is also submitted to satisfy the reporting requirement of Part 21 of 10 CFR. At the time of discovery the plant was in Mode 1, Power Operation, at 100% power and normal operating temperature and pressure.

Description of Event

On 9/12/86, following an internal review of Licensee Event Report 86-015-00 submitted by Commonwealth Edison's Byron Unit 1, plant personnel discovered that erroneous input test voltages had been incorporated into the surveillance procedures (ISF-SE-00N31 and ISF-SE-00N32) which verify the Boron Dilution Setpoint of the SRNI. Per note 9 of T/S Table 4.3-1, the monthly surveillance of the SRNI is to include verification that the Boron Dilution Setpoint is less than or equal to an increase of twice the count rate within a ten minute period. The erroneous input test voltages were such that a count rate increase factor of less than or equal to 2.11 was verified rather than an increase factor of less than or equal to 2.0. It is noted that the setpoint was actually set at a count rate increase factor of 2.0, however this had not been verified during the monthly surveillances previous to 9/12/86.

Root Cause

The erroneous input test voltages had been incorporated into the surveillance procedures when they were originally written. The basis for the input test voltages was the Nuclear Instrumentation System manual (M762-310) provided by Westinghouse. Due to erroneous information in the vendor manual, the procedures were incorrectly written.

Corrective Actions

The Functional Test Surveillance Procedures (ISF-SE-00N31 and ISF-SE-00N32) were revised to incorporate the correct input test voltages on 9/12/86. The procedures were then performed satisfactorily on 9/12/86 without adjustments being made to the instrumentation.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

A Callaway Modification Package (CMP) has been implemented to change the vendor manual to reflect the correct input test voltages. The CMP has also decreased the setpoint slightly below a count rate increase factor of 2.0 to enhance the testability of the instrumentation. The vendor manual and instrument setpoint index have been changed by the CMP to reflect the new setpoint.

The Loop Calibration Surveillance Procedures (ISL-SE-00N31 and ISL-SE-00N32) will be revised to include the correct input test voltages. These procedures, as well as the Functional Test Surveillance Procedures and the Generic Calibration Procedure (ITC-ZZ-WSR11), will also be revised to include verification of the setpoint.

Evaluation of Safety Significance

The setpoints for the SRNI Boron Dilution modules were set for a flux doubling signal of 2.0. They had not been adjusted since initial installation, and were subsequently verified to trip with a test input signal equivalent to a flux increase of 2.0 on 9/12/86.

One of the two modules verified had been installed since 8/29/84 and the other module had been installed since initial fuel load. Based on the results of these verifications, and results obtained at other utilities, adequate assurance exists that the other module installed during the period from initial fuel load to 8/29/84 would also have tripped at a flux doubling factor of less than or equal to 2.0. Therefore, no significant safety hazard existed.

Previous occurrences: none



Callaway Plant

December 19, 1986

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

ULNRC-1417

Gentlemen:

DOCKET NUMBER 50-483
CALLAWAY PLANT UNIT 1
FACILITY OPERATING LICENSE NPF-30
LICENSEE EVENT REPORT 86-031-01
BORON DILUTION SETPOINT NOT
PROPERLY VERIFIED DUE TO INCORRECT PROCEDURE

The event described in Licensee Event Report (LER) 86-031-00 transmitted via ULNRC-1385, dated October 13, 1986, has been determined to be reportable per Part 21 of 10 CFR. The enclosed supplemental LER is being submitted to document the reportability of the event pursuant to Part 21 of 10 CFR as well as 10 CFR 50.73(a)(2)(i).

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

JWK
TPS/JWK/drs
Enclosure

cc: Distribution attached

IE22
11
Add: AFOO
IE/DQAVT/VPB
Rgn 1
Rgn 2
Rgn 3
Rgn 4
Rgn 5
Attn to Encl
NSIC, Silver E.

cc distribution for ULNRC-1417

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