Callaway Plant
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UNION ELECTRIC

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U. S. Nuclear Regulatory Commission
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ULNRC-03073

Gentlemen:

DOCKET NUMBER 50-483
CALLAWAY PLANT UNIT 1
FACILITY OPERATING LICENSE NPF-30
LICENSEE EVENT REPORT 94-003-01
FAILURE TO PROPERLY PERFORM TECHNICAL SPECIFICATIONS
4.3.3.6 AND 4.4.6.1.a DUE TO LACK OF KNOWLEDGE OF A COMMITMENT

The enclosed Licensee Event Report is submitted pursuant to 10CFR 50.73(a)(2)(i) concerning Failure to Properly Perform Technical Specifications 4.3.3.6 and 4.4.6.1.a on the Containment Area Radiation-High Range Monitoring and Containment Atmosphere Gas Detection Indicators Due to Lack of Knowledge of a Commitment.

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Manager, Callaway Plant

JDB/HDB/MAH/lrj

Enclosure

cc: Distribution attached

IE22

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LICENSEE EVENT REPORT (LER)

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TITLE (4) **Failure to Properly Perform Technical Specifications 4.3.3.6 and 4.4.6.1.a Due to Lack of Knowledge of a Commitment**

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV. NO.	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
										0 5 0 0 0
0 7	0 8	9 4	9 4	- 0 0 3	- 0 1	0 9	1 6	9 4		0 5 0 0 0

OPERATING MODE (9)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR : (Check one or more of the following) (11)			
1	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10) 1 0 0	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)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
	20.405(a)(1)(iv)	50.73(a)(2)(iii)	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	TELEPHONE NUMBER
	AREA CODE
H. D. Bono, Supervising Engineer, Site Licensing	3 1 4 6 7 6 - 4 4 2 8

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

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 6/2/94, a utility Quality Assurance (QA) engineer's surveillance of radiation monitors found that a 1989 utility engineering evaluation conflicted with the Final Safety Analysis Report's requirements for Regulatory Guide (RG) 1.97. RG 1.97 requires safety-related qualified equipment to be used for the Containment Area Radiation-High Range indicators. The evaluation mistakenly concluded the monitor channel was considered operable with it's safety-related indicator (RM-23) module inoperable provided the channel was monitored on the parallel non-safety-related RM-11 display.

Initial review of the "PAMS CHANNEL CHECK" surveillance procedure by the QA engineer determined that a concern did not exist since it listed both RM-11 and RM-23. On 7/8/94, after the QA engineer questioned a licensed Reactor Operator, it was found that the operators were using only the RM-11. It was determined that the CHANNEL CHECK requirements of Technical Specification (T/S) 4.3.3.6 had not been met. The plant was in Mode 1 - 94% reactor power.

A similar concern was identified with the Containment Atmosphere Gas Detection indicators. RM-23s should have been used to meet RG 1.45 requirements and T/S 4.4.6.1.a. The plant was in Mode 1 - 100% reactor power.

Since receipt of the initial license on 6/11/84, utility personnel have not been aware that the safety-related display indication for these four (4) channels were to be only provided by the RM-23s and not the RM-11 displays. The engineering evaluation, work control database, and operation procedures have been revised to show the required use of the RM-23. Licensed personnel will review this event.

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

BASIS FOR REPORTABILITY:

This event is reportable per 10CFR50.73(a)(2)(i)(B) as a condition prohibited by the plant's Technical Specifications (T/S). The T/S surveillances 4.3.3.6 and 4.4.6.1.a CHANNEL CHECKs of the Containment Area Radiation-High Range Channel indicators, GT-RIC-59/60[1], and the Containment Atmosphere Gas Detection Channel indicators, GT-RIC-31/32[2] were not properly performed since receipt of the Operating License (OL) on 6/11/84.

PLANT CONDITION AT TIME OF DISCOVERIES:

7/8/94 Failure to perform Containment Area Radiation High Range Channel surveillance

Mode 1 - Power Operations; 94% Reactor Power

8/23/94 Failure to perform Containment Atmosphere Gas Detection Channel surveillance

Mode 1 - Power Operations; 100% Reactor Power

DESCRIPTION OF EVENT:

On 6/2/94, a utility Quality Assurance (QA) engineer's surveillance of radiation monitors indicated that a utility engineering evaluation (Request for Resolution #04924A) conflicted with the Final Safety Analysis Report (FSAR) Chapter 7.5, "Safety-Related Display Instrumentation". He documented the concern on the plant's corrective action system. On 6/23/94, in response to the corrective action concern, utility engineers' concluded the evaluation was in error with respect to the Chapter 7A requirements detailing the plant's response to Regulatory Guide 1.97, Post Accident Monitoring System (PAMS) instrumentation.

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Regulatory Guide 1.97 Design and Qualification Criteria for Category 1 Instrumentation requires safety-related equipment. It also specifies the Containment Area Radiation-High Range monitors as Category 1 instrumentation. The FSAR requires these safety-related (Category 1) indicators be operable as part of the channels for monitoring Containment Area Radiation-High Range levels to detect and assess significant releases. The indicators (RM-23's) for these Category 1 channels are located on panel SP067[3] which is behind the Main Control Board in the Control Room. Panel SP067 receives safety-related power. The engineering evaluation concluded in 1989 that the affected radiation monitor channel was considered operable with it's RM-23 module inoperable provided the channel was monitored on the parallel non-safety-related powered RM-11 display (See Figure I). This evaluation concluded the local microprocessor (RM-80)[4] actually generates alarm conditions and engineered safety actuations, and all the functions performed by the RM-23 can be performed by the RM-11.

After receiving Engineering's response on 6/23/94, the surveillance procedure OSP-SH-00001, "PAMS CHANNEL CHECK", was reviewed by the utility QA engineer. At first, his review determined that a concern did not exist for GT-RIC-59/60 since it listed the RM-11 and RM-23 indication locations as the indicators to perform a CHANNEL CHECK. On 7/8/94, after the QA engineer questioned a licensed Reactor Operator to find out how the channel check was performed, it was found that the operators were using only the RM-11. Utility engineers confirmed the RM-11 could not alarm for every conceivable RM-23 failure. Therefore, the event was determined to be reportable.

Upon further review of other radiation monitors it was determined that no additional safety-related power supply concerns existed. A review of the Containment Atmosphere Gas Detector Channels, GT-RE-31/32, determined that the surveillance procedure OSP-ZZ-00001, "CONTROL ROOM SHIFTLY & DAILY LOG READINGS AND CHANNEL CHECKS", for the monitor did not comply with T/S 4.4.6.1 for RCS Leak Detection Systems. The previous evaluations were correct in determining that the RCS Leak Detection Systems do not perform any safety functions. However, the previous evaluations overlooked the requirement that these radiation monitors must perform their functions following a seismic event. This is required per Regulatory Guide 1.45, "Reactor Coolant Pressure Boundary Leakage Detection Systems." Since the radiation monitor display on the RM-11 is not seismically qualified, the only control room devices that would fulfill this seismic function are the safety-related RM-23s (GT-RIC-31/32) on panel SP067. The set-up of the Containment Atmosphere Gas Detector Channels is similar to that of the Containment Area Radiation-High Range Channels shown in Figure 1.

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ROOT CAUSE:

Since initial license in 1984, utility personnel were not aware that the safety-related display instrumentation, the RM-23's on panel SP067 and not the RM-11 monitor/printer, are needed to satisfy the T/S surveillances for containment high range radiation and containment atmosphere radiation. This is evidenced by the following contributing factors:

A. Surveillance procedures OSP-SH-00001 and OSP-ZZ-00001, have shown the required meter indication as either "RM-11" or "RM-11, RM-23". They have not specified just the RM-23 indication.

B. The originally licensed T/S 3/4.3.3.6 Tables 3.3-10 and 4.3-7 did not specify GT-RIC-59/60 (i.e., the RM-23 indicator tag numbers) for the Containment Area Radiation High-Range Channels to reflect the FSAR commitments to Regulatory Guide 1.97.

C. The originally licensed T/S 3/4.4.6.1.a and Table 4.3-3 did not specify GT-RIC-31/32 for the Containment Atmosphere Gas Detection Channels to reflect the FSAR commitments to Regulatory Guide 1.45.

D. The 1989 engineering evaluation allowed the use of the RM-11 for an RM-23 failure condition. The responsible utility engineer did not thoroughly review the commitments to Regulatory Guides 1.45 and 1.97 in the FSAR.

CORRECTIVE ACTIONS:

1. Operations' Department procedures have been revised to show the required use of the RM-23 to satisfy the CHANNEL CHECK.

2. Licensed operators will review this event.

3. The engineer who performed the engineering evaluation (RFR 04924A) in 1989 is now aware of the requirements in Regulatory Guides 1.45 and 1.97 for the Containment Atmosphere Gas Detection and Containment Area Radiation-High Range indicators. He has revised the evaluation to show that the RM-11 cannot be used to replace the RM-23.

4. A review of other radiation monitoring systems determined that this event does not apply to any monitor other than the Containment Area Radiation-High Range and Containment Atmosphere Gas monitors because of specific regulatory requirements and plant configuration.

5. The work control database has been modified to incorporate the information relative to this event.

SAFETY SIGNIFICANCE:

Control Room licensed operators have used the RM-11 indicators for readings. These indicators have additional functionality above that of the RM-23s. They can provide trending and printouts for the various monitors. The primary difference between the two indicators is the qualification per Regulatory Guides 1.45 and 1.97. The RM-23 is a digital indication, whereas CHANNEL CHECKS have historically been used for analog circuits. If an accident had occurred coincident with an RM-23 failure, the RM-23 module could be changed out within a few minutes.

The two sets of channels were periodically checked by other procedures than the T/S surveillance procedures. For the Containment Area Radiation-High Range Channels, both the RM-11 and RM-23 panel indications are part of an 18 month T/S 4.3.3.6 loop calibration surveillance which has been completed successfully since 1984. This 18 month surveillance satisfied the monthly CHANNEL CHECK requirement in the month performed. For the Containment Atmosphere Gas Detector Channels, both the RM-11 and RM-23 panel indicators are part of a monthly T/S 4.4.6.1 loop calibration surveillance which has been completed successfully since 1984. The monthly surveillance satisfied the shiftly CHANNEL CHECK requirement in the shift performed. The Containment Area Radiation- High Range Channels and the Containment Atmosphere Gas Detection Channels would have operated as required by T/S and other regulatory commitments. These events are administrative failures to visually check redundant indications on a monthly basis for the Containment Area Radiation- High Range Channels and a shiftly basis for the Containment Atmosphere Gas Detection Channels. Most credible failures of the RM-23 would have been identified by the RM-11 console. There was no threat to the public health or safety.

PREVIOUS OCCURRENCES:

None.

FOOTNOTES:

The system and component codes listed below are from IEEE Standard 805-1984 and 803A-1984, respectively.

(1) System - IP, Component - RI

(2) System - IK, Component - RI

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(3) System - EK, Component - PL

(4) System - IP, Component - DCC

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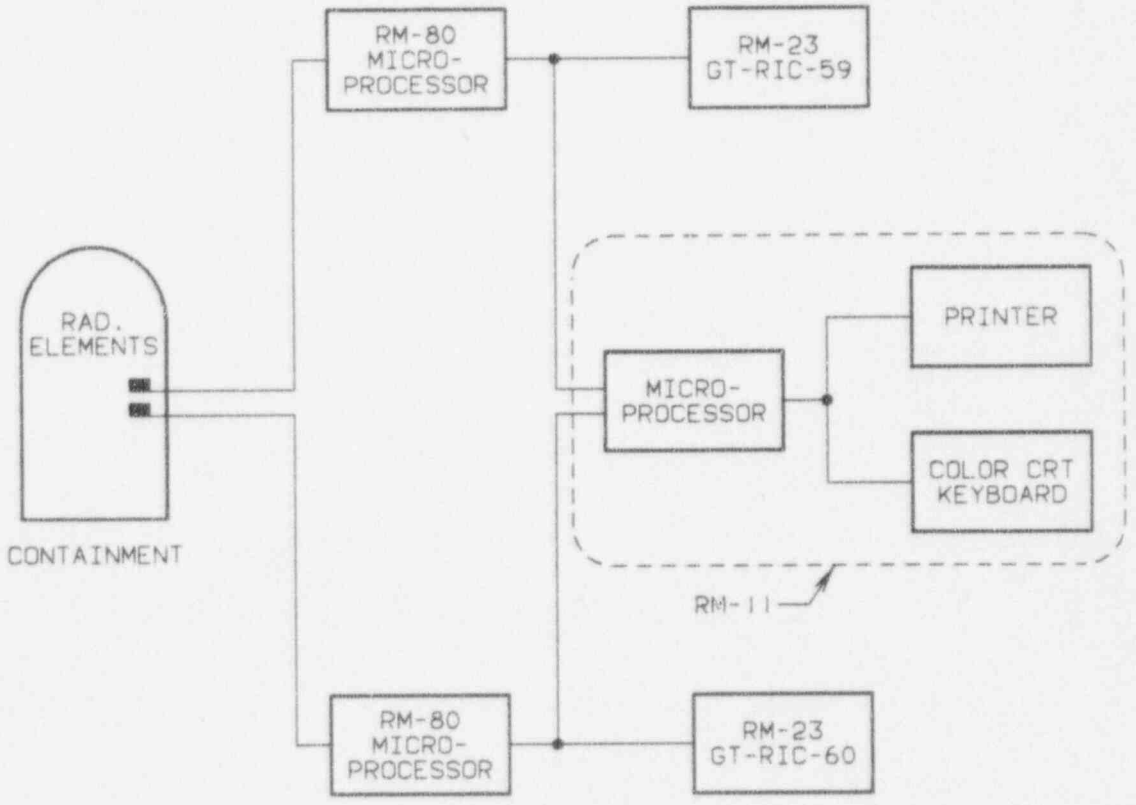

FIGURE I

CAD-0289