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Southern Nuclear Operating Company
the southern electric system

June 13, 1994

Docket Nos.: 50-348
50-364

U.S. Nuclear Regulatory Commission
ATTN.: Document Control Desk
Washington, D.C. 20555

Joseph M. Farley Nuclear Plant
Licensee Event Report No. 94-003-00

Ladies and Gentlemen:

Joseph M. Farley Nuclear Plant Licensee Event Report No. 94-003-00 is being submitted voluntarily. If you have any questions, please advise.

Respectfully submitted,

DM Morey

Dave Morey

REM/clt:MSSVLER.DOC

Attachment

cc: Mr. S. D. Ebneter
Mr. B. L. Siegel
Mr. T. M. Ross
Dr. D. E. Williamson

IE22

NRC FORM 366 (6-89) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Joseph M. Farley Nuclear Plant - Unit 1	0 5 0 0 0 3 4 8	1 OF 3

TITLE (4)
Main Steam Safety Valves Setpoint Test Errors

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	
0 6	0 3	9 4	9 4	0 0 3	0 0	0 6	1 3	9 4	J.M. Farley Unit 2	0 5 0 0 0 3 6 4

OPERATING MODE (9)	3	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR ?: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 0 0	20.402(b)	20.405(c)	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)	X 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)	Voluntary Report
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
R. D. Hill, General Manager - Nuclear Plant	AREA CODE 2 0 5 8 9 9 - 5 1 5 6

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
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

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

Technical Specifications require that Main Steam Safety Valves (MSSVs) be operable with a lift setting of ±1% of designated settings. During the Unit 1 eleventh refueling outage and the Unit 2 ninth refueling outage, several MSSVs were found to have lift settings outside the ±1% tolerance band. Although the lift settings exceeded the ±1% tolerance band, the MSSVs continued to provide sufficient protection against over-pressurization of the secondary system.

The discovery of MSSV setpoints outside the ±1% tolerance band is attributed to two causes:

1. Test system accuracy as allowed by the ASME Code, Section XI, and ASME PTC 25.3-1976; and

2. An inaccuracy in the Mean Seat Area term of the equation used to calculate the lift setpoint for the Furmanite Trevitest system.

An increased band for the acceptable MSSV setpoints will be requested in an amendment to the technical specifications. Additionally, the Farley procedure used for calculating MSSV lift setpoints with the Furmanite Trevitest system has been revised to include the revised Mean Seat Area term.

Plant and System Identification

Westinghouse -- Pressurized Water Reactor
Energy Industry Identification System codes are identified in the text as [XX].

Description of Event

Technical Specifications require that Main Steam Safety Valves (MSSVs) [SB] be operable with a lift setting of ±1% of designated settings. During the Unit 1 eleventh refueling outage and the Unit 2 ninth refueling outage, several MSSVs were found to have lift settings outside the ±1% tolerance band. Although the lift settings exceeded the ±1% tolerance band, the MSSVs continued to provide the sufficient protection against over-pressurization of the secondary system.

Cause of Event

The ASME Code, Section XI, directs that "safety valve and relief valve set points shall be tested in accordance with ASME PTC 25.3-1976." PTC 25.3-1976 requires the test system to provide final results with an accuracy of ±2%. Technical specifications require the Main Steam Safety Valves (MSSVs) [SB] be set to a tolerance of ±1% of setpoint pressure.

As a result of the test system accuracy allowance, it is possible that a 4% difference in set point pressures could be measured between two sequential outages, i.e., the test system for outage 1 provides results that are +2% and the test system for outage 2 provides results that are -2%. Although it is unlikely that the 4% difference will be exceeded, the allowed difference exceeds the ± 1% tolerance band included in the technical specifications.

In addition to this possible 4% difference, Furmanite notified Southern Nuclear of an adjustment to the Mean Seat Area (MSA) term for the equation used to calculate the MSSV lift setpoint for the Furmanite Trevitest system. This adjustment was the result of recent safety valve testing by Furmanite to validate the setpoint calculation. The MSA bias adjustment resulted in a correction to the calculated MSSV lift set points of up to almost 1% in some cases.

As a result of the test system accuracy requirements and the MSA adjustment for the Furmanite Trevitest system, the ±1% technical specification tolerance band was exceeded on MSSVs in both Unit 1 and Unit 2. Although the lift settings exceeded the ±1% tolerance band, the MSSVs continued to provide sufficient protection against over-pressurization of the secondary system.

Safety Assessment

The MSSVs continued to provide sufficient protection against over-pressurization of the secondary system. Accident analyses have been previously performed utilizing a MSSV setpoint tolerance of ± 3%. Based on these analyses, it is judged that the health and safety of the public was not affected by the results of the test methodology or by the inaccurate MSA term.

In addition, evaluations have shown that the as-found lift set points for the MSSVs will not affect the ability of the AFW pumps to provide adequate feedwater as assumed in the analyses. The evaluations show that the AFW pumps would still deliver adequate flow to the steam generators.

Corrective Action

Accident analyses have been performed utilizing a MSSV setpoint tolerance of ±3%. A technical specification amendment will be developed to increase the MSSV setpoint tolerance to ±3%.

In addition, Furmanite sent a corrected value for the MSA term with their letter of March 1, 1994. The Trevitest device procedure was revised to use the correct MSA term and was employed during the twelfth refueling outage on Unit 1. During the last Unit 2 outage, the MSSV setpoints were tested and set using a test device other than the Furmanite Trevitest method. No known inaccuracies exist with respect to the MSA term for this test device.

Additional Information

No similar events have been reported by Farley Nuclear Plant.

No other components failed during this event.