Southern Nuclear Operating Company
Post Office Box 1295
Birmingham, Alabama 35201
Telephone 205 868-5086

J. D. Woodard
Vice President
Farley Project

Southern Nuclear Operating Company
the southern electric system

June 1, 1992

10 CFR 50.73

Docket No. 50-364

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

Joseph M. Farley Nuclear Plant - Unit 2
Licensee Event Report No. LER 92-003-00

Gentlemen:

Joseph M. Farley Nuclear Plant, Unit 2, Licensee Event Report No. LER 92-003-00 is being submitted in accordance with 10 CFR 50.73. If you have any questions, please advise.

Respectfully submitted,

J. D. Woodard

JDW/EFB:map 2469

Enclosure

cc: Mr. S. D. Ebneter
Mr. G. F. Maxwell

IE22

NRC Form 366 (6-89)

U.S. NUCLEAR REGULATORY COMMISSION

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

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
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TITLE (4)
Actuation of ESF Equipment Caused by Inadequate Procedural Guidance

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILIT... (8)	
MONTH	DAY	YEAR	YEAR	SEQ NUM	REV	MONTH	DAY	YEAR	FACILITY NAMES	... NUMBER(S)
0 5	0 2	9 2	9 2	0 0 3	0 0	06	01	92		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9): 5

POWER LEVEL: 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (11)

[ ] 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)
[ ] 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	TELEPHONE NUMBER: AREA CODE	
R. D. Hill, General Manager - Nuclear Plant	205	899-5156

COMPLETE ONE LINE FOR EACH FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORT TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORT TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

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

EXPECTED SUBMISSION DATE (15): MONTH | DAY | YEAR

ABSTRACT (16)

At 0128 on 05-02-92 while in Mode 5, an inadvertent actuation of the engineered safety feature (ESF) equipment occurred while establishing prerequisites for reactor coolant system (RCS) temperature instrumentation cross-calibration. During the cross-calibration setup, other plant activities were being conducted in preparation to enter Mode 4. To support other plant surveillance testing activities, the Instrumentation & Control (I&C) group applied test signals to simulate the disconnected RCS temperature detectors. Test signals equivalent to an average RCS temperature (Tavg) of 550 degrees Fahrenheit were applied to the "A" and "B" loop RCS temperature instrumentation channels causing the low-low average temperature safety injection block in the Solid State Protection System (SSPS) to reset. This, in turn, enabled the low steamline pressure safety injection signal, which is normally blocked at less than 543 degrees average RCS temperature (P12). With the actual steamline pressure at atmospheric pressure, the low steamline pressure safety injection (SI) initiation signal setpoint of 585 psig was met, causing an SI.

This event was caused by inadequate procedural guidance. The guidance used by the I&C group to perform the temperature instrumentation cross-calibration did not address the application of a specific simulated Tavg test signal.

Procedural guidance for performing temperature test signal simulation has been developed to provide specific requirements. Further, this incident will be discussed with I&C personnel prior to June 30, 1992, and with Operations personnel during license retraining prior to the Unit 1 Eleventh Refueling Outage.

TEXT

Plant and System Identification

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

Summary of Event

At 0128 on 05-02-92 while in Mode 5, an inadvertent actuation of the engineered safety feature (ESF) [JE] equipment occurred while establishing prerequisites for reactor coolant system (RCS) temperature instrumentation cross-calibration. During the cross-calibration setup, other plant activities were being conducted in preparation to enter Mode 4. To support other plant surveillance testing activities, the Instrumentation & Control (I&C) group applied test signals to simulate the disconnected RCS temperature detectors. Test signals equivalent to an average RCS temperature (Tavg) of 550 degrees Fahrenheit were applied to the "A" and "B" loop RCS temperature instrumentation channels causing the low-low average temperature safety injection block in the Solid State Protection System (SSPS) [JG] to reset. This, in turn, enabled the low steamline pressure safety injection signal, which is normally blocked at less than 543 degrees average RCS temperature (P12). With the actual steamline pressure at atmospheric pressure, the low steamline pressure safety injection (SI) initiation signal setpoint of 585 psig was met, causing an SI.

Description of Event

During the Unit 2 Eighth Refueling Outage, the resistance temperature detector (RTD) bypass elimination modification was being implemented. Replacement of the RCS hot and cold leg RTDs had been accomplished and efforts were underway to calibrate the new narrow-range temperature detectors.

On 05-02-92, while in Mode 5 near the end of the refueling outage, I&C personnel were establishing prerequisites for the cross-calibration of the newly-installed RTDs which requires each RTD to be disconnected from its respective protection system temperature instrumentation channel. To support other surveillance testing activities that require reactor trip breaker closure, test boxes were also connected to the protection system to simulate RTD temperature signals. Concurrently, other I&C personnel were returning the SSPS to normal conditions in preparation for entering Mode 4.

At 0105, I&C returned both "A" train and "B" train SSPS to normal using FNP-2-IMP-0.7, thus enabling the SSPS to initiate an SI signal. Subsequently, I&C applied test signals into T-412 and T-422, the "A" and "B" loop RCS temperature protection channels, to simulate an RCS Tavg of 550 degrees. Since the test signals applied were greater than 543 degrees Fahrenheit, the low steamline pressure SI was unblocked resulting in an SI due to plant conditions, i.e., atmospheric pressure in the steamlines. The inadvertent SI occurred at 0128.

The operators verified that all in-service ESF equipment had responded properly. The unnecessary equipment was then secured.

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TEXT

Cause of Event

This event was caused by inadequate procedural guidance. The guidance used by the I&C group to establish prerequisites and to perform the RTD cross-calibration did not address the installation of test boxes or application of specific simulated Tavg signals to support other plant surveillance testing activities.

Reportability Analysis and Safety Assessment

This event is reportable because of the actuation of ESF equipment. After the SI, the required systems and equipment, which were available, operated as designed:

- the 1C, 1-2A, 2B and 2C diesel generators started,
- containment isolation valves closed,
- the motor driven auxiliary feedwater pumps started,
- the 2C charging pump was already running and the remaining charging pumps were racked out,
- the charging pump suction shifted to the refueling water storage tank, and
- both residual heat removal pumps were already running.

There was no effect on the health and safety of the public.

Corrective Action

A new procedure was developed to provide guidelines for temperature signal test box installation and specific test signal conditions. Also, this incident will be discussed with I&C personnel prior to June 30, 1992, and with Operations personnel during license retraining prior to the Unit 1 Eleventh Refueling Outage.

Additional Information

No similar LERs have bee[illegible]ted by Farley Nuclear Plant.

All available ESF equip[illegible]nt functioned properly during this event.

An inadvertent safety injection would have been more severe if it had occurred while the plant was operating at a higher temperature.