NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO 3150-0104
EXPIRES 8/31/85

LICENSEE EVENT REPORT (LER)

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

TITLE (4) Technical Specification Action Statements Not Met When A and B Train Post-Accident Hydrogen Analyzers on Both Units Were Inoperable

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 2	1 4	8 6	8 6	— 0 0 2	— 0 0	0 3	1 4	8 6	J. M. Farley-Unit 2	0 5 0 0 0 3 6 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)			
POWER LEVEL (10) 0 9 9	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)	X 50.36(c)(2)	X 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)(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
J. D. Woodard	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	
A	I P	H S	C 4 9 9	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 02-14-86, it was discovered that the A and B train post-accident hydrogen analyzers on both units were inoperable because they would have read low by a factor of approximately 0.83 due to an inappropriate design change. On 01-25-86, a design change was performed on the Unit 1 post-accident hydrogen analyzers to admit reagent gas (air) to the flow stream during the sample mode of operation. This design change had been made on recommendation of the equipment vendor during a maintenance and design review initiated by FNP. A similar design change was performed on the Unit 2 analyzers on 01-26-86. Subsequently, on 02-14-86, this design change was found to be inappropriate and the post-accident hydrogen analyzers were declared to be inoperable. Following discovery on 02-14-86, the analyzers were rewired to the original configuration and returned to service by 02-16-86.

This event was caused by personnel error. Based on misunderstanding of analyzer operation and incorrect recommendations from the equipment vendor (engineering staff and technical representative), Alabama Power Company incorrectly determined that the design change was necessary. The health/safety of the public was not affected by this event. Alternate sampling capabilities were available should the analyzers have been determined to be inoperable during an accident.

IE22
1/1

NRC Form 366
(9-83)

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Joseph M. Farley - Unit 1	0 5 0 0 0 3 4 8	8 6	— 0 0 2	— 0 0	0 2 OF 0 2

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

The post-accident hydrogen analyzers at FNP are capable of being used with either an inerted (nitrogen-filled) containment or an air-filled containment. When these analyzers are used with an inerted containment, it is necessary that the containment atmosphere sample be combined with a reagent gas containing oxygen (e.g., compressed air) so that recombination can take place. When in use with an air-filled containment as at FNP, the reagent gas is not essential for recombination. The presence of the reagent gas is only necessary for calibration of the analyzers.

In January 1986, during preventive maintenance and a maintenance and design review initiated by FNP, with a vendor representative present, it was noted that the reagent gas was not being admitted during containment sampling. At that time it was believed that this was an error and that this error caused the analyzers to be calibrated incorrectly. The internal wiring of the analyzers was changed, upon incorrect recommendation of the vendor engineering staff, to admit the reagent gas during sampling. The Unit 1 analyzers were modified on 01-25-86 and the Unit 2 analyzers were modified on 01-26-86.

It was not recognized at the time that the absence of reagent gas flow in the sample mode was being compensated for during calibration. Subsequently, while reviewing the as-found conditions for potential reportability under 10CFR21, it was discovered that the design change was not necessary. The design change, without a compensating revision to the calibration technique, resulted in the hydrogen analyzer reading low by a factor proportional to sample flow (about 250 cc/min) divided by sample plus reagent flow (about 300 cc/min), or about 0.83. Thus, the analyzers had been inoperable since the implementation of the design change in late January.

Following discovery of the error on 02-14-86, the analyzers were restored to their original configuration and functionally tested for proper flows during all modes of operation. All analyzers except the Unit 2 B Train analyzer were declared operable on 02-15-86. The Unit 2 B Train analyzer was declared operable at 1038 on 02-16-86.

This event was caused by personnel error. Based on misunderstanding of analyzer operation and incorrect recommendations from the equipment vendor (engineering staff and technical representative), Alabama Power Company incorrectly determined that the design change was necessary. As a result of this event, a task force, including Alabama Power Company, the architect-engineer and vendor personnel, has been formed to review the hydrogen analyzer design, application, documentation and maintenance. The health/safety of the public was not affected by this event because the post-accident hydrogen analyzers are needed only after a loss of reactor coolant accident. Alternate sampling capabilities were available should the analyzers have been determined to be inoperable during an accident.

Mailing Address
Alabama Power Company
600 North 18th Street
Post Office Box 2641
Birmingham, Alabama 35291
Telephone 205 783-6090

R. P. McDonald
Senior Vice President
Flintridge Building

Alabama Power
the southern electric system

March 14, 1986

Docket No. 50-348

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

Joseph M. Farley Nuclear Plant - Unit 1
Licensee Event Report No. LER 86-002-00

Dear Sir:

Joseph M. Farley Nuclear Plant, Unit 1, Licensee Event Report No. LER 86-002-00 is being submitted in accordance with 10CFR50.73.

If you have any questions, please advise.

Yours very truly,

R. P. McDonald

RPM/JAR:ddb-D-LER
Enclosure

cc: IE, Region II

IE22
1/1