NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

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 12

TITLE (4)
Short in Containment Penetration Module Causes Reactor Trip

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	2 8	8 6	8 6	— 0 0 4	— 0 0	0 3	2 8	8 6		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	1	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)	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 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)	
		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 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	
B	A A	P E N	G 0 8 0	Y							

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)

At 1626 on 2-28-86, while operating in steady state at 99 percent power, a reactor trip occurred due to a high negative flux rate as detected by the power range nuclear detectors. The trip was caused by a dropped control rod. A circuit check revealed that the moveable gripper cable and the stationary gripper cable were routed through the same containment electrical penetration and that a short had occurred in the penetration. This caused a blown fuse in the circuit supplying power to the stationary gripper of rod F-10. An additional blown fuse was found in the power regulation circuit for the shutdown bank B, group 2 control rods.

The blown fuses were replaced and the affected cables were rewired to spare penetration conductors. Following rewiring, the rod control system was tested and surveillance was performed to verify operability. All control rod drive system electrical penetration modules will be replaced during the next refueling outage (Fall of 1986). The unit returned to power operation on 3-2-86. Health/safety of the public was not affected by this event.

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At 1626 on 2-28-86, while operating in steady state at 99 percent power, a reactor trip occurred due to a high negative flux rate as detected by the power range nuclear detectors. The trip was caused by a dropped control rod. An electrical short occurred between the cables supplying power to the stationary and movable grippers of rod F-10.

Following the trip, the operators implemented FNP-1-EEP-0 (Reactor Trip or Safety Injection) and FNP-1-ESP-0.1 (Reactor Trip Response), ensuring that the unit was safely in Mode 3. All control and safety systems functioned as designed with the exception of source range detector N32 which failed to give correct indication when energized following the trip. The detector was replaced and following a successful detector and loop calibration, the channel was returned to service.

An investigation into the cause of the dropped rod revealed a blown fuse for the stationary gripper of rod F-10 which is in control bank D, group 2. A second fuse was found blown in the power regulation circuit for shutdown bank B group 2 rods. Testing performed following the trip proved that the second fuse blowing would not have caused any rods to drop. At approximately 1945 on 3-1-86, following energizing the rod control system, the movable gripper fuse for rod F-10 was observed to be blown and blew immediately when replaced with a new fuse. A circuit check revealed that the movable gripper cable and stationary gripper cable were routed through the same containment electrical penetration and that an electrical short had occurred in the penetration.

The blown fuses, all 30 amp fuses to power regulation circuits, and all stationary gripper fuses were replaced. The affected cables were rewired to spare penetration conductors. Following rewiring, the rod control system was tested and surveillance was performed to verify operability. The unit returned to power operation on 3-2-86. Health/safety of the public as not affected by this event.

A similar event was reported in LER 85-012-01 (Reactor Trip). LER 85-016-00 (Shorts in Containment Low Voltage Control Penetration Modules) described problems encountered with General Electric Series 100 containment penetration modules. All control rod drive system electrical penetration modules will be replaced during the next refueling outage (Fall of 1986).

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R. P. McDonald
Senior Vice President
Flintridge Building

Alabama Power
the southern electric system

March 28, 1986

Docket No. 50-348

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

Dear Sir:

Joseph M. Farley Nuclear Plant - Unit 1
Licensee Event Report No. LER 86-004-00

Joseph M. Farley Nuclear Plant, Unit 1, Licensee Event Report No. LER 86-004-00 is being submitted in accordance with 10CFR50.73.

If you have any questions, please advise.

Respectfully submitted,

R. P. McDonald

RPM/JAR:ddb-D-LER

Enclosure

cc: IE, Region II

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