

Dave Morey
Vice President
Farley Project

**Southern Nuclear
Operating Company, Inc.**
Post Office Box 1295
Birmingham, Alabama 35201
Tel 205.992.5131



April 5, 2000

Energy to Serve Your WorldSM

Docket No.: 50-364

NEL-00-0098

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

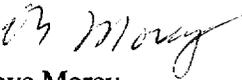
**Joseph M. Farley Nuclear Plant
Unit 2 Licensee Event Report 2000-001-01
T. S. 3.0.5 Entered Due to Service Water Lubrication and Cooling Pumps Inoperable**

Ladies and Gentlemen:

Joseph M. Farley Nuclear Plant – Unit 2 Licensee Event Report (LER) No. 2000-001-01 is being submitted in accordance with 50.73(a)(2)(i) and 50.73(a)(2)(v). This revises LER No. 2000-01-00 that was submitted March 3, 2000. There are no NRC commitments in the LER.

If you have any questions, please advise.

Respectfully submitted,


Dave Morey

EWC/maf ler200001-01.doc
Attachment

IE22

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U. S. Nuclear Regulatory Commission

cc: Southern Nuclear Operating Company
Mr. L. M. Stinson, General Manager - Farley

U. S. Nuclear Regulatory Commission, Washington, D. C.
Mr. L. M. Padovan, Licensing Project Manager – Farley

U. S. Nuclear Regulatory Commission, Region II
Mr. L. A. Reyes, Regional Administrator
Mr. T. P. Johnson, Senior Resident Inspector – Farley

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

FACILITY NAME (1)

Joseph M. Farley Nuclear Plant - Unit 2

DOCKET NUMBER (2)

050003641 OF 4

PAGE (3)

TITLE (4)

T. S. 3.0.5 Entered due to Service Water Lubrication and Cooling Pumps 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 NAME	DOCKET NUMBER
02	07	2000	2000	001	01	04	05	2000		05000
									FACILITY NAME	05000
									FACILITY NAME	05000

OPERATING MODE (9)	POWER LEVEL (10)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)				
1	100	20.2201(b)	20.2203(a)(2)(v)	<input checked="" type="checkbox"/>	50.73(a)(2)(i)	50.73(a)(2)(viii)
		20.2203(a)(1)	20.2203(a)(3)(i)		50.73(a)(2)(ii)	50.73(a)(2)(x)
		20.2203(a)(2)(i)	20.2033(a)(3)(ii)		50.73(a)(2)(iii)	73.71
		20.2203(a)(2)(ii)	20.2033(a)(4)		50.73(a)(2)(iv)	OTHER
		20.2203(a)(2)(iii)	50.38(c)(1)	<input checked="" type="checkbox"/>	50.73(a)(2)(v)	Specify in Abstract below
		20.2203(a)(2)(iv)	50.38(c)(2)		50.73(a)(2)(vii)	or in NRC Form 366A

LICENSEE CONTACT FOR THIS LER (12)

NAME

L. M. Stinson, General Manager Nuclear Plant

TELEPHONE NUMBER (include area code)

334 - 899 - 5156

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
X	B	I	P	G 2 0 0	Y				

SUPPLEMENTAL REPORT EXPECTED (14)

YES (if yes, complete EXPECTED SUBMISSION DATE)

NO

EXPECTED SUBMISSION DATE (15)

MONTH DAY YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-space typewritten lines) (16)

On February 7, 2000 at 1430 it was determined, that for approximately the previous 11 hours, Farley Nuclear Plant Unit 2 may have been operating in a condition contrary to Technical Specifications. In addition, this condition could have prevented fulfillment of a safety function for removal of shutdown decay heat. On February 6, 2000 at 0257, the B train service water (SW) lube and cooling booster pump failed. No Technical Specification limiting condition was identified. On February 7, 2000 at 0329, an A train diesel generator (DG) was removed from service for planned maintenance. At this time both trains of SW could have failed to perform their intended function should a dual unit LOSP event have occurred. The DG was returned to service on February 7, 2000 at 1605, thereby restoring the functionality of the A train SW system. The B train lube and cooling booster pump was returned to service on February 8, 2000 at 1303.

The cause of this event was a potentially inadequate procedure in that the procedure identifying necessary attendant plant equipment did not specify the booster pumps as necessary attendant equipment for the Unit 2 SW pumps. FNP has not considered the booster pumps to be necessary attendant equipment for a number of years. This issue was examined by NRC and dispositioned by FNP during the 1993 Service Water System Operational Performance Inspection (SWSOPI). However, a discrepancy between the Functional System Description and the SWSOPI results has been identified. Subsequent evaluation has determined that the booster pumps are necessary attendant equipment. The procedure has been revised to include the SW booster pumps as necessary attendant equipment for Unit 2 SW pumps. Licensed and on shift operations personnel have been sent notifications of this procedure change.

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Joseph M. Farley Nuclear Plant - Unit 2	0 5 0 0 0 3 6 4	2 0 0 0	- 0 0 1	- 0 1	2	OF	4

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

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

Description of Event

On February 7, 2000 at 1430 it was determined that for approximately the previous 11 hours, Farley Nuclear Plant Unit 2 may have been operated in a condition contrary to Technical Specifications. In addition, this condition could have prevented fulfillment of a safety function for removal of shutdown decay heat. On February 6, 2000 at 0257, the B train service water (SW)[BI] lube and cooling booster pump failed. This pump provides B train SW pumps bearing lubrication in the event of a loss of normal AC power. Even though the booster pump was failed, bearing cooling can be supported by shaft packing leakoff. This is not the normal design for bearing lubrication and cooling. The capability of shaft packing leakoff to sustain long term pump operation is in question. Based on existing procedural guidance, the on shift operating crew did not identify the booster pump as necessary attendant equipment and no Technical Specification limiting condition was entered. On February 7, 2000 at 0329, an A train diesel generator (DG) (DG 1C), which is the emergency power supply for A train SW, was removed from service for planned maintenance. At this time, because the B train booster pump was out of service and the A train SW pumps would not have had emergency power, both trains of SW could have failed to perform their intended function should a dual unit LOSP event have occurred. (This event could be mitigated by manually aligning the A train 1-2A DG to Unit 2). The A Train DG 1C was returned to service on February 7, 2000 at 1605, thereby restoring the functionality of the A train SW system. The B train lubrication and cooling booster pump was returned to service on February 8, 2000 at 1303. This event is not applicable to Unit 1 since its SW pumps are of a different design and do not require booster pumps.

Based on vendor information available as of 1993, the booster pumps were necessary to ensure the durability of the SW pumps in the event of an extended outage on the cyclone separator, which is the normal lube and cooling supply. The SW lube and cooling booster pumps were determined not to be necessary attendant equipment for any immediate operability concerns, as questioned by the NRC and dispositioned by FNP in the 1993 Service Water System Operational Performance Inspection (SWSOPI). This was based on a vendor letter stating, "we would not expect a pump to fail within sixty (60) days after a cooling or flush water system failure if the pump was within acceptable vibration parameters prior to the failure." However, a discrepancy between this determination and the Functional System Description has been identified, which could not be immediately resolved. Pending resolution of this discrepancy, conservative action was taken to treat the booster pumps as necessary attendant equipment for the Unit 2 Service Water pumps.

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

Subsequent evaluation has determined that the booster pumps are necessary attendant equipment. Information received from the vendor indicates that the expected life of the SW pumps without external lube and cooling supply is 30 minutes to 48 hours depending on individual pump conditions.

Cause of Event

The cause of this event was a potentially inadequate procedure in that the procedure identifying necessary attendant plant equipment did not list the booster pumps as necessary attendant equipment for the Unit 2 SW pumps.

Safety Assessment

The cyclone separator, a non-safety related source of filtered lube and cooling supply to the SW pumps, remained operable throughout this event. The SW pumps would have been impacted only in the event of a dual unit Loss of Site Power (LOSP). If a dual unit LOSP had occurred, the lubrication and cooling flow to the pumps would have come from service water flowing from the impeller region up through the pump shaft tube and out the packing. The use of this unfiltered service water for lubrication results in increased wear rates on the pump bearings. Based on vendor evaluation, pump failure would be expected between 30 minutes and 48 hours from the event, depending on pump internal conditions, due to abrasive particles within the pump and higher temperatures due to reduced cooling flow. Packing leakoff was checked and found to be adequate, so actual failure times would be expected to be relatively long within this range. Based on these expected times to failure, operator action to mitigate this event is reasonably expected but not certain.

A review of the maintenance history of the booster pumps for the past two years was performed and compared to LCO records for systems required to support service water operation. No other instances of this type of event were identified.

A LOSP did not occur during the time that both the B train SW booster pump and the 1C DG was out of service. The A train 1-2A DG remained in service during this event and could have been manually aligned to supply Unit 2 if necessary.

The health and safety of the public were not affected by this event.

This event is a Safety System Functional Failure.

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

Corrective Action

The procedure identifying necessary attendant plant equipment has been revised to define the booster pumps as necessary attendant equipment for Unit 2 SW pumps. Licensed and on-shift operations personnel have been sent notifications of this procedure change.

FNP obtained from the vendor an evaluation of the consequences of operation without lube water. Based on this evaluation, the conservative initial corrective action defined above has been determined to be appropriate.

Additional Information

A four-hour non-emergency report was made on February 7, 2000 because the discrepancy noted above could not be resolved immediately.

The following LERs have been submitted in the past 2 years on inadequate procedure:

LER 1998-005-00 Unit 1, Automatic Start of B Train Penetration Room Filtration Due to Filling the Spent Fuel Transfer Canal

LER 1998-003-00 Unit 1, Waste Gas Decay Tank Hydrogen and Oxygen Exceeded Concentration Limits

LER 1998-001-00 Unit 1, Inadequately Performed Surveillance Due To Improper Calculation of E-Bar

LER 1998-006-00 Unit 2, Containment Penetration Overcurrent Protective Devices Energized Due to Inadequate Procedure