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Energy to Serve Your WorldSM

NEL-00-0149

June 5, 2000

Docket No.: 50-364

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

Joseph M. Farley Nuclear Plant
Unit 2 Licensee Event Report 2000-001-02
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. 2000-001-02 is being submitted in accordance with 50.73(a)(2)(i). This revises LER No. 2000-001-01 that was submitted April 5, 2000. There are no NRC commitments in the LER.

If you have any questions, please advise.

Respectfully submitted,

DM Morey

Dave Morey

WAS/maf ler2000-01-02.doc
Attachment

IED2

Page 2

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

Estimated burden per response to comply with this mandatory information request: 60 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503. If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

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	02	06	05	2000		050000
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)							
1			☒ 20.2201(b) ☐ 20.2203(a)(2)(v) ☒ 50.73(a)(2)(i) ☐ 50.73(a)(2)(viii)							
POWER LEVEL (10)			☐ 20.2203(a)(1) ☐ 20.2203(a)(3)(i) ☐ 50.73(a)(2)(ii) ☐ 50.73(a)(2)(x)							
100			☐ 20.2203(a)(2)(i) ☐ 20.2203(a)(2)(ii) ☐ 50.73(a)(2)(iii) ☐ 73.71							
			☐ 20.2203(a)(2)(iv) ☐ 20.2203(a)(4) ☐ 50.73(a)(2)(iv) ☐ OTHER							
			☐ 20.2203(a)(2)(iii) ☐ 50.36(c)(1) ☐ 50.73(a)(2)(v) ☐ Specify in Abstract below							
			☐ 20.2203(a)(2)(iv) ☐ 50.36(c)(2) ☐ 50.73(a)(2)(vi) ☐ or in NRC Form 366A							

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
	X				

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

On February 7, 2000 at 1430 it was determined that Farley Nuclear Plant Unit 2 may have been operating in a condition contrary to Technical Specifications. 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. However, based on the pump conditions that existed during this time period, the SW pump vendor concluded that the pumps should have been capable of operating for a minimum of 24 hours following a loss of external lube and cooling water. Since the total time period when the booster pump and the DG were both inoperable was approximately 12.5 hours (11 hours prior to identification and 1.5 hours subsequent to identification), there would have been at least one train of SW available at all times. 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 personnel error involving an incorrect interpretation in that the booster pumps were not considered required attendant equipment for the Unit 2 SW pumps. Based on subsequent evaluation, FNP has decided to treat the booster pumps as attendant equipment and appropriate procedures have been revised. Licensed and on-shift operations personnel have been sent notifications of this change in attendant equipment status.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Joseph M. Farley Nuclear Plant - Unit 2	05000364	2000	001	02	2	OF	4

TEXT (If more space is required, use additional copies of NRC Form 365A)(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 Farley Nuclear Plant Unit 2 may have been operated in a condition contrary to Technical Specifications. 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. Based on existing 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.

Cause of Event

The cause of this event was a personnel error involving an incorrect interpretation in that the booster pumps were not considered required attendant equipment for the Unit 2 SW pumps. This interpretation had been reinforced by a vendor letter in 1993 stating that a service water pump was not expected 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. Based on subsequent evaluation, FNP has decided to treat the booster pumps as attendant equipment.

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

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Joseph M. Farley Nuclear Plant - Unit 2	05000364	2000	001	02	3	OF 4

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

impeller region up through the pump shaft tube and out the packing. Although the use of this unfiltered service water for lubrication results in increased wear rates on the pump bearings, the pump vendor has indicated that bearing cooling can be supported provided packing leakoff exists. Based on the conditions that existed during this time period, the vendor concluded that the pumps should have been capable of operating for a minimum of 24 hours following a loss of external lube and cooling water. Since the total time period when the booster pump and the DG were both inoperable was approximately 12.5 hours, there would have been at least one train of SW available at all times.

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 dual unit LOSP did not occur during the time that both the B Train SW booster pump and the 1C DG were 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.

Corrective Action

Procedures have been revised to treat the SW booster pumps as attendant equipment for the Unit 2 SW system. Licensed and on-shift operations personnel have been sent notifications of this change in attendant equipment status.

Additional Information

A four-hour non-emergency report was made on February 7, 2000.

The following LERs have been submitted in the past 2 years on personnel error:

LER 2000-004-00 Unit 1, Three Spent Fuel Assemblies in Spent Fuel Pool Locations Not Allowed By Technical Specification 3.7.15

LER 2000-002-00 Unit 1, Unplanned Auxiliary Feedwater Actuation Upon Shutdown of Both Steam Generator Feed Pumps

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (5)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Joseph M. Farley Nuclear Plant - Unit 2	05000364	2000	001	02	4	OF 4

TEXT (If more space is required, use additional copies of NRC Form 365A)(17)

LER 1999-003-00 Shared, Control Room Ventilation Radiation Monitors Inoperable

LER 1999-002-00 Unit 1, Unit 1 Reactor Trip Following Loss of the 1A Steam Generator Feedwater Pump

LER 1999-001-00 Unit 1, 4160 Volt Breaker In A Non-Seismically Racked-Out Condition

LER 1999-001-00 Unit 2, Reactor Trip Due to Loss of Condenser Vacuum on Steam Dump Drain Line Failure

LER 1998-008-00 Unit 1, Reactor Vessel Support Concrete Design Basis Temperature Exceeded Due To Closed Cooling Damper

LER 1998-006-00 Shared, Penetration Room Filtration System Suction Damper Outside Design and Licensing Basis

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

LER 98-005-00 Unit 2, Technical Specification 3.0.4 Not Met During Mode Change Due To Turbine Driven Auxiliary Feedwater Pump Being Inoperable

LER 1998-004-00 Unit 2, Failure to Perform Penetration Room Filtration system Surveillance Requirements