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Energy to Serve Your World<sup>SM</sup>  
NL-04-0957

May 28, 2004

Docket No.: 50-364

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

Joseph M. Farley Nuclear Plant – Unit 2  
Licensee Event Report 2004-001-00  
Technical Specification 3.7.8 Violation Due to  
Operation with One Train of Service Water Inoperable

Ladies and Gentlemen:

Joseph M. Farley Nuclear Plant – Unit 2 Licensee Event Report (LER) No. 2004-001-00 is being submitted in accordance with 10 CFR 50.73(a)(2)(i)(B).

This letter contains no NRC commitments. If you have any questions, please advise.

Sincerely,

A handwritten signature in black ink, appearing to read "L. M. Stinson".

L. M. Stinson

LMS/WAS/sdl

Enclosure: Licensee Event Report 2004-001-00

cc: Southern Nuclear Operating Company  
Mr. J. B. Beasley, Jr., Executive Vice President  
Mr. D. E. Grissette, General Manager – Plant Farley  
RTYPE: CFA04.054; LC# 14049

U. S. Nuclear Regulatory Commission  
Dr. W. D. Travers, Regional Administrator  
Mr. S. E. Peters, NRR Project Manager – Farley  
Mr. C. A. Patterson, Senior Resident Inspector – Farley

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<b>NRC FORM 366</b> (7-2001)	<b>U.S. NUCLEAR REGULATORY COMMISSION</b>	<b>APPROVED BY OMB NO. 3150-0104</b> Estimated burden per response to comply with this mandatory information collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose 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.	<b>EXPIRES 7-31-2004</b>						
<b>LICENSEE EVENT REPORT (LER)</b> (See reverse for required number of digits/characters for each block)									
<b>FACILITY NAME (1)</b> Joseph M. Farley Nuclear Plant - Unit 2		<b>DOCKET NUMBER (2)</b> 05000364	<b>PAGE (3)</b> 1 OF 3						
<b>TITLE (4)</b> Technical Specification 3.7.8 Violation due to Operation with One Train of Service Water Inoperable									
<b>EVENT DATE (5)</b>			<b>LER NUMBER (6)</b>						
MO	DAY	YEAR	YEAR SEQUENTIAL NUMBER REV NO						
3	30	2004	2004 - 001 - 00						
<b>REPORT DATE (7)</b>			<b>OTHER FACILITIES INVOLVED (8)</b>						
MO	DAY	YEAR	FACILITY NAME DOCKET NUMBER						
05	28	2004	FACILITY NAME DOCKET NUMBER						
<b>OPERATING MODE (9)</b> N	<b>THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) (11)</b>								
<b>POWER LEVEL (10)</b> 00	20.2201(b)		20.2203(a)(3)(ii)	50.73(a)(2)(ii)(B)	50.73(a)(2)(ix)(A)				
	20.2201(d)		20.2203(a)(4)	50.73(a)(2)(iii)	50.73(a)(2)(x)				
20.2203(a)(1)		50.36(c)(1)(i)(A)		50.73(a)(2)(iv)(A)	73.71(a)(4)				
20.2203(a)(2)(i)		50.36(c)(1)(ii)(A)		50.73(a)(2)(v)(A)	73.71(a)(5)				
20.2203(a)(2)(ii)		50.36(c)(2)		50.73(a)(2)(v)(B)	<b>OTHER</b> Specify in Abstract below or in NRC Form 366A				
20.2203(a)(2)(iii)		50.46(a)(3)(ii)		50.73(a)(2)(v)(C)					
20.2203(a)(2)(iv)		50.73(a)(2)(i)(A)		50.73(a)(2)(v)(D)					
20.2203(a)(2)(v) X		50.73(a)(2)(i)(B)		50.73(a)(2)(vii)					
20.2203(a)(2)(vi)		50.73(a)(2)(i)(C)		50.73(a)(2)(viii)(A)					
20.2203(a)(3)(i)		50.73(a)(2)(ii)(A)		50.73(a)(2)(viii)(B)					
<b>LICENSEE CONTACT FOR THIS LER (12)</b>									
<b>NAME</b> D. E. Grissette, General Manager Nuclear Plant			<b>TELEPHONE NUMBER (Include Area Code)</b> 334-899-5156						
<b>COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)</b>									
CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
B	EA	CBL	R098	Y					
<b>SUPPLEMENTAL REPORT EXPECTED (14)</b>						<b>EXPECTED SUBMISSION DATE (15)</b>	<b>MONTH</b>	<b>DAY</b>	<b>YEAR</b>
<b>YES (If yes, complete EXPECTED SUBMISSION DATE).</b>				<b>X NO</b>					
<b>ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)</b>									
<p>On March 30, 2004, with the unit defueled, it was determined that Unit 2 had been operated in violation of Technical Specification 3.7.8 in that the 2E Service Water Pump failed to start on a Safety Injection Signal during routine surveillance testing. Investigation determined that a splice in the wire carrying the auto start signal had corroded and failed. This failure occurred some time after the last satisfactory surveillance test performed during the fall 2002 refueling outage. There is no firm evidence of when the failure occurred. However, due to the slow degradation rate assumed for the failed conductor, it is likely that the length of time the failure existed exceeded the 72 hour allowed outage time for the B Train of Service Water. The manual start function of the pump was unaffected by this failure.</p> <p>This event was due to the incorrect assembly of splice insulation in a cable pull box during initial construction. Lack of proper sealing of the insulation sleeves over the spliced conductor allowed water intrusion to corrode the conductor.</p> <p>The splice in the affected cable was repaired and the autostart function of the 2E Service Water pump was tested satisfactorily. The preventive maintenance task for pull box inspection and water removal has been revised to include a visual inspection of insulation sleeves on cable splices in the pull boxes. This type of degradation is a long term phenomenon; therefore, a sample of cable splices in pull boxes on both units will be disassembled and inspected to identify the onset of degradation prior to failure. If degradation is identified in the sample, appropriate preventive maintenance tasks will be developed and implemented. This action will be completed by the end of the next refueling outage on each unit.</p>									

**LICENSEE EVENT REPORT (LER)**

FACILITY NAME (1)	DOCKET (2) NUMBER	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Joseph M. Farley Nuclear Plant - Unit 2	05000364	2004	- 001	- 00	2 OF 3

NARRATIVE (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 March 30, 2004, with the unit defueled, the 2E Service Water Pump [BI] failed to start on a Safety Injection Signal during routine surveillance testing.

It was determined that a splice in the wire carrying the auto start signal [EA] had corroded and failed. The affected cable splice included an insulating sleeve over each of four conductor splices, and an insulating jacket over the entire cable splice. Water was found inside the splice when the outer jacket was removed from the cable. Individual sleeves were found to be installed with less than the vendor's current recommended seal length, or to not be fully shrunk around the wire. Failure of the jacket to be fully shrunk around the wire allowed water to enter the cable and corrode the splice over time. The four splices in the cable containing the one failed conductor were inspected. Other conductors in this cable, at the location of the failed splice, also showed some signs of corrosion. Possible sources of water were rainwater, or condensation from the high humidity environment of the pull box. The installed pull box drain system was noted to be functioning properly.

Corrosion of this splice resulted in failure of the auto start signal to the 2E Service Water Pump. This failure occurred some time after the last satisfactory surveillance test performed during the fall 2002 refueling outage. There is no firm evidence of when the failure occurred. However, due to the slow degradation rate assumed for the failed conductor, it is likely that the length of time the failure existed exceeded the 72 hour allowed outage time for the B Train of Service Water. The manual start function of the pump was unaffected by this failure.

The entire cable splice was repaired and insulated properly. An additional splice in the affected cable in another pull box was inspected satisfactorily. The pump was satisfactorily retested to verify proper auto start function.

Cause of Event

This event was due to incorrect assembly of splice insulation in a cable pull box during initial construction. Lack of proper sealing of the insulation sleeves over the spliced conductor allowed water intrusion to corrode the conductor.

LICENSEE EVENT REPORT (LER)

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Joseph M. Farley Nuclear Plant - Unit 2	05000364	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3	OF 3
		2004	- 001	- 00		

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

Safety Assessment

The manual start function of the pump was unaffected by this failure. Plant procedures direct operator verification of auto start functions. Had an auto start been demanded and failed, the pump would have been promptly recovered by operator action from the control room. Therefore, the health and safety of the public were unaffected by this event.

This event does not represent a Safety System Functional Failure.

Corrective Action

The splice in the affected cable was repaired and the autostart function of the 2E Service Water pump was tested satisfactorily.

The preventive maintenance task for pull box inspection and water removal has been revised to include a visual inspection of insulation sleeves on cable splices in the pull boxes.

This type of degradation is a long term phenomenon; therefore, a sample of cable splices in pull boxes on both units will be disassembled and inspected to identify the onset of degradation prior to failure. If degradation is identified in the sample, appropriate preventive maintenance tasks will be developed and implemented. This action will be completed by the end of the next refueling outage on each unit.

Additional Information

No similar LERs have been submitted in the past two years.