J. R. Johnson
Vice President – Farley

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December 4, 2009

SOUTHERN COMPANY
Energy to Serve Your World℠

Docket Nos.: 50-364

NL-09-1910

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

Joseph M. Farley Nuclear Plant – Unit 2
Licensee Event Report 2009-001-00
Service Water Pump Seismic Supports Degraded

Ladies and Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(ii)(B), 10 CFR 50.73(a)(2)(v)(D), and 10 CFR 50.73(a)(2)(vii)(D) Southern Nuclear Operating Company (SNC) is submitting the enclosed Licensee Event Report.

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

Sincerely,

J. R. Johnson
Vice President – Farley

JRJ/CHM

Enclosure: Units 2 Licensee Event Report 2009-001-00

cc: Southern Nuclear Operating Company
Mr. J. T. Gasser, Executive Vice President
Mr. J. R. Johnson, Vice President – Farley
Mr. P. M. Marino, Vice President – Engineering
RTYPE: CFA04.054

U. S. Nuclear Regulatory Commission
Mr. L. A. Reyes, Regional Administrator
Mr. R. E. Martin, NRR Project Manager – Farley
Mr. E. L. Crowe, Senior Resident Inspector – Farley

Joseph M. Farley Nuclear Plant – Unit 2
Licensee Event Report 2009-001-00
Service Water Pump Seismic Supports Degraded

Enclosure

Units 2 Licensee Event Report 2009-001-00

NRC FORM 366 (9-2007) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 08/31/2010

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@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 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)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
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4. TITLE

Service Water Pump Seismic Supports Degraded

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
										05000
10	**06**	**2009**	**2009**	**- 001 -**	**00**	**12**	**04**	**2009**	FACILITY NAME	DOCKET NUMBER **05000**

9. OPERATING MODE

1

10. POWER LEVEL

100

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: *(Check all that apply)*

☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(i)(C)	☒ 50.73(a)(2)(vii)
☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☒ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ OTHER
☐ 20.2203(a)(2)(vi)	☐ 50.73(a)(2)(i)(B)	☒ 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

NAME	TELEPHONE NUMBER (Include Area Code)
J. R. Johnson – Vice President	**334 899-5156**

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

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
E	**BI**	**SPT**	**S450**	**Y**					

14. SUPPLEMENTAL REPORT EXPECTED

☐ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☒ NO

15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR

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

On October 6, 2009 after completing repairs to the Unit 2 B-Train Service Water System (SW) Pump [BI] Seismic Supports, Southern Nuclear (SNC) identified that the Unit 2 A-Train SW Pump Seismic Supports did not meet the design requirements to support operability of the SW pumps during a seismic event. Efforts to replace seismic supports for the five Unit 2 SW Pumps were completed on October 10, 2009. New seismic supports and mounting bolts were installed for each pump. A corrective action from the Root Cause Evaluation to inspect the seismic supports for Unit 1 and Unit 2 SW Pumps, on an established frequency, has been entered into the sites Corrective Action Program.

As an extent of condition review, Unit 1 SW Pump seismic supports were also inspected. Results demonstrated that the Unit 1 supports met the design requirements to support operability of the Unit 1 SW Pumps. A corrective action from the Root Cause Evaluation to replace the seismic supports has been entered into the sites Corrective Action Program.

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

Description of Event

On August 02, 2009, while swapping Service Water (SW) pumps [BI] (start of 2E/secure of 2C) in preparation for the train swap (B-Train to A-Train), plant personnel heard sounds that resulted in a decision to secure the 2E SW Pump shortly after being started. As soon as the 2E SW pump was secured, the sound stopped. Investigation discovered that the seismic support assembly for the 2E SW pump was no longer capturing the pump column. Inspection of the underwater seismic support assembly indicated the lower two of the four wall plate bolts were degraded and missing the nuts. SNC determined that the two remaining wall plate bolts would support the required torque and the seismic support assembly would perform its design function. A Prompt Determination of Operability was completed to document that the 2E SW pump seismic support assembly was operable but degraded.

SNC established a plan to inspect the remaining Unit 2 SW pump seismic supports to determine the extent of condition that was found on 2E SW pump. Additional vendor support was required to perform the inspections (contract divers). SNC Engineering developed a plan for replacing any degraded seismic supports. Material was procured, supports fabricated and underwater support was arranged. The plan was ready to implement the first week of October 2009.

Inspection of the 2E SW pump support discovered that the retaining bolts were loose. SNC decided to replace the seismic support and the mounting bolting for 2E SW pump. The 2D SW pump was found to be in an operable condition with the four mounting bolts being intact. The top two mounting bolts were found to have adequate torque value while the two lower bolts were in place but not fully torqued. An engineering evaluation showed that this was an acceptable configuration to justify operability of 2D SW pump.

With 2D and 2E SW pumps operable, the B-Train SW System was considered operable and inspection activities moved on to the A-Train pumps 2A, 2B and 2C (the swing SW Pump 2C was aligned to A-Train). On October 6, 2009 at 17:45, the Unit 2 SW system A-Train was removed from service for inspection. The 2A, 2B and 2C SW pump seismic supports base plate bolting was determined to require replacement due to the inability to establish required torque on the nuts of the mounting bolts. At this point SNC had one operable train of SW pumps (2D and 2E) and entered a 72 hour Limiting Condition for Operation (LCO) for the A-Train SW pumps being inoperable. On October 8, 2009, SNC submitted a request for a one time Emergency Technical Specifications (TS) amendment to allow an additional 96 hours to complete repairs to the A-Train SW Pumps. This amendment was approved on October 9, 2009 as Unit 2 TS Amendment 177. On October 9, 2009 at 22:42, A-Train SW was returned to service with 2B and 2C SW pumps being declared operable. Efforts to replace seismic supports for the five Unit 2 SW Pumps were completed on October 10, 2009 at 15:15. New seismic supports and mounting bolts were installed for each pump.

Reporting Requirements Review

The SW system provides a heat sink for the removal of process and operating heat from safety related components during a Design Basis Accident (DBA) and/or transient. During normal operation, and a normal shutdown, the SW system also provides this function for various safety related and non-safety related components. The principal safety related function of the SW system is the removal of decay heat from the reactor via the Component Cooling Water System. The SW system consists of two separate, 100% capacity, safety related, cooling water trains. Each train consists of two 50% capacity pumps, one shared 50% capacity spare pump, piping, valves, and instrumentation. Train A contains SW Pumps A and B, and Train B contains SW Pumps D and E. SW Pump C is a swing pump. Four pumps are normally in operation on each unit, with one (swing) pump not in service. In the event of failure of a pump, plant operators must manually align the swing pump to the train containing the failed pump, maintaining two pumps per train.

At the point of discovery that the Unit 2 A-Train pumps seismic supports would not withstand a seismic event, the Unit 2 B-Train pumps seismic supports had been repaired. Therefore, SNC determined that no reporting requirements under 10 CFR 50.72 had been met. SNC has determined that prior to the repair of Unit 2 B-Train SW pump seismic supports; a condition existed in which four of the five SW pumps in Unit 2 did not meet the design requirements to withstand a seismic event. SNC has determined that this condition is reportable under the following sections of 10 CFR 50.73:

10 CFR 50.73(a)(2)(ii)(B), "Any event or condition that resulted in the nuclear power plant being in an unanalyzed condition that significantly degraded plant safety."

10 CFR 50.73(a)(2)(v)(D), "Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident."

10 CFR 50.73(a)(2)(vii)(D), "Any event where a single cause or condition caused … two independent trains … to become inoperable in a single system designed to mitigate the consequences of an accident."

Cause of Event

During the initial installation of the carbon steel seismic supports in a raw water system, SNC failed to establish appropriate monitoring of these supports to identify degradation.

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
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NARRATIVE *(If more space is required, use additional copies of NRC Form 366A)* **(17)**

Safety Assessment

This event had no adverse effect on the safety and health of the public.

SNC has not experienced any seismic events that challenged the operability of the SW Pumps. SW trains remained available to meet TS requirements with the exception of during a seismic event. Therefore, the safety and health of the public was not adversely affected by the degraded condition of the SW Pumps seismic supports.

Corrective Action

The seismic support for each SW Pump (2A, 2B, 2C, 2D and 2E) has been removed and new bolting and supports installed. A corrective action from the Root Cause Evaluation to inspect the seismic supports for Unit 1 and Unit 2 SW Pumps, on an established frequency, has been entered into the sites Corrective Action Program.

As an extent of condition review, Unit 1 SW Pump seismic supports were also inspected. Results demonstrated that the Unit 1 supports were adequate and operability of the Unit 1 SW Pumps was confirmed. A corrective action from the Root Cause Evaluation to replace the Unit 1 seismic supports has been entered into the sites Corrective Action Program.

Additional Information

Previous Similar Events

None were identified.