

J. R. Johnson
Vice President - Farley

**Southern Nuclear
Operating Company, Inc.**
Post Office Drawer 470
Ashford, Alabama 36312-0470

Tel 334.814.4511
Fax 334.814.4728

May 9, 2008



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Docket Nos.: 50-348

NL-08-0573

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

Joseph M. Farley Nuclear Plant – Unit 1
Licensee Event Report 2008-001-00
Emergency Diesel Generator 1B Exhaust Pipe Failure

Ladies and Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(i)(B) and 10 CFR 50.73(a)(2)(v)(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,

A handwritten signature in black ink that reads "J. R. Johnson". The signature is fluid and cursive.

J. R. Johnson
Vice President – Farley

JRJ/CHM

Enclosures: Unit 1 Licensee Event Report 2008-001-00

U. S. Nuclear Regulatory Commission

NL-08-0573

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cc: Southern Nuclear Operating Company

Mr. J. T. Gasser, Executive Vice President

Mr. J. R. Johnson, Vice President – Farley

Mr. D. H. Jones, Vice President – Engineering

RTYPE: CFA04.054; LC # 14747

U. S. Nuclear Regulatory Commission

Mr. V. M. McCree, Acting Regional Administrator

Mr. R. A. Jervy, NRR Project Manager – Farley

Mr. E. L. Crowe, Senior Resident Inspector – Farley

**Joseph M. Farley Nuclear Plant – Unit 1
Licensee Event Report 2008-001-00
Emergency Diesel Generator 1B Exhaust Pipe Failure**

Enclosure

Unit 1 Licensee Event Report 2008-001-00

LICENSEE EVENT REPORT (LER)

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.

1. FACILITY NAME Joseph M Farley Nuclear Plant – Unit 1	2. DOCKET NUMBER 05000 348	3. PAGE 1 of 4
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4. TITLE
Emergency Diesel Generator 1B Exhaust Pipe Failure

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
03	13	2008	2008	- 001 -	00	05	09	2008		05000
										05000

9. OPERATING MODE 1	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: (Check all that apply)									
	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)						
10. POWER LEVEL 100	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)						
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)						
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)						
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)						
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)						
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)						
<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER							
<input type="checkbox"/> 20.2203(a)(2)(vi)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input checked="" type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A							

12. LICENSEE CONTACT FOR THIS LER

NAME J. R. Johnson – Vice President	TELEPHONE NUMBER (Include Area Code) 334 899-5156
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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
B	EK	PSF	F010	Y					

14. SUPPLEMENTAL REPORT EXPECTED	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO			

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

On March 13, 2008 at 16:24 hours, during testing of Emergency Diesel Generator (EDG) 1B [EK], the EDG exhaust line failed. The exhaust from the EDG heated the room and resulted in actuation of the CO2 fire protection system in the 1B EDG room. The actuation of the CO2 system resulted in alarms in the control room. The EDG building System Operator notified the Control Room of unusual noise coming from the EDG 1B room and that a fog of CO2 was actuating. Main Control Room personnel unloaded and shut down EDG 1B at 16:26 hours. The presence of CO2 in the EDG building resulted in operations evacuating the building at 16:30 hours. An ALERT was declared at 16:44 hours. Later investigation revealed that a section of the exhaust piping had failed due to the section of pipe not being fully welded to the connecting flange. The exhaust system on EDG 1B was a new stainless steel system that was installed on February 9, 2008. Corrective action was taken to fully weld each of four flanges on the exhaust piping on EDG 1B. EDG 1B was returned to service March 16, 2008 at 02:54 hours. For the exhaust header replacement project, work order planning sequences for the two remaining EDGs scheduled for replacement have been enhanced to require field welding of these flanges and post maintenance testing of the connections.

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Joseph M. Farley Nuclear Plant Unit - 1	05000 348	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2	of 4
		2008	- 001	- 00		

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 13, 2008 at 16:24 hours, during testing of Emergency Diesel Generator (EDG) 1B [EK], the EDG exhaust line failed. The exhaust from the EDG heated the room and resulted in actuation of the CO2 fire protection system in the 1B EDG room. The actuation of the CO2 system resulted in alarms in the control room. The EDG building System Operator notified the Control Room of unusual noise coming from the EDG 1B room and that a fog of CO2 was actuating. Main Control Room personnel unloaded and shut down EDG 1B at 16:26 hours. The presence of CO2 in the EDG building resulted in operations evacuating the building at 16:30 hours. An ALERT was declared at 16:44 hours. The Emergency Response Organization was activated with the Technical Support Center and the Emergency Operations Response center being manned. Operations determined that no fire was present in the EDG room and implemented steps to clear the room of CO2. Later investigation revealed that a section of the exhaust piping had failed due to the section of pipe not being fully welded to the connecting flange. The exhaust system on EDG 1B was a new stainless steel system that was installed on February 9, 2008. Corrective action was taken to fully weld each of four flanges on the exhaust piping on EDG 1B. This was the first of the stainless steel exhaust systems to be installed and the other EDGs still have the original exhaust header. EDG 1B was returned to service March 16, 2008 at 02:54 hours.

Cause of Event

The EDG 1B is a Fairbanks Morse model PC2 V-12 diesel generator rated at 4,075 kw. The original exhaust system for EDG 1B was made of carbon steel and was scheduled for replacement in February 2008 due to decarbonization of the header exhaust system. This header had been previously repaired; however the stainless steel replacement was intended as a long term refurbishment. The new exhaust system that is made of stainless steel was evaluated under the equivalence determination process and found to meet the form, fit and function of the original exhaust system. The exhaust system consists of four headers, each of which exhausts three cylinders. The headers run on top of the EDG to the end of the EDG where an elbow attaches each to the diesel's turbo charger. These elbows have a flange on each end that the investigation determined were only tack welded in the factory to allow for fit up in the field. According to the vendor, the tack welding was used to allow fit up in the field following which full seal welds were to be performed.

The event was caused by inadequate implementation of the work controls process in that clear instructions were not provided by the vendor, nor in the work package, nor by the on-site vendor representative to ensure that the need for the field welding of the flange to pipe connections was identified. Additionally, post maintenance testing instructions did not provide for verification of the integrity of the joints after installation.

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Safety Assessment

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

The Farley onsite standby power source is provided from four EDGs (1-2A, 1B, 2B, and 1C). The continuous service rating of 1C EDG is 2,850 kW and 4,075 kW for EDGs 1-2A, 1B, and 2B. EDG 1-2A and 1-C are A-Train and EDGs 1B and 2B are B-Train. Farley also has a fifth diesel generator (2C) that serves as a station blackout diesel which can be manually aligned to supply B-Train power to either unit and power Loss of Site Power (LOSP) loads. The diesel generator 2C can provide backup power to the buses supplied by 1B EDG. Procedures are in place and operators are trained on starting the 2C diesel generator for alignment to the B-Train emergency buses.

Operability of the EDG to meet the 30 day mission time: The new stainless steel exhaust system for EDG 1B, a B-Train system, was installed and the EDG was returned to service on February 10, 2008. This provides firm evidence as to when the EDG was inoperable in accordance with Technical Specifications. Review of the control room logs indicate that some redundant equipment on the A-Train was out of service for limited periods of time between February 12, 2008 and March 6, 2008. The A-Train redundant equipment that was out of service during this period was: Component Cooling Water Pump, Control Room Air Conditions and Emergency Filtration / Pressurization System, Control Room Radiation Monitor, Emergency Diesel Generators, Penetration Room Filtration System, Residuals Heat Removal Pump and Service Water System. Therefore in addition to reporting the event as a condition prohibited by Technical Specifications, the event is also being reported as a condition that could have prevented fulfillment of a safety function.

Availability of EDGs to meet the safety function for the 24 hour PRA mission time: The new exhaust system for EDG 1B was installed and the EDG was returned to service with a successful full load test on February 10, 2008. The exhaust system was again tested during the performance of the one hour full load test on March 5, 2008. On March 11, 2008, EDG 1B completed a 24 hour load run satisfactorily. The testing of EDG 1B shows that for the period of time between February 10, 2008 (when the new exhaust was installed and EDG was returned to service) and March 11, 2008 (when EDG 24 hour run was completed), the EDG would have performed its safety function for the 24 hours assumed in the Probabilistic Risk Assessment (PRA) model. Based on review of the control room logs, between March 11 and March 13, 2008, the A-Train safety related equipment was available to perform its safety function. Therefore, for the period of time that EDG 1B was degraded, the required safety function would have been met by either A-Train or B-Train EDGs. This shows that the safety and health of the public was not adversely affected.

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

Corrective Action

The exhaust pipes on EDG 1B were seal welded. EDG 1B was returned to service on March 16, 2008 at 02:54 hours following enhanced functional testing.

Work order planning sequences for the two remaining EDGs which are scheduled for exhaust system replacement have been enhanced to require field welding of these flanges and post maintenance testing of the connections.

The 1C EDG and the 2C Site Black Out Diesel Generator are both Fairbanks Morse 38TD8-1/8 Opposed Piston diesel generators rated at 2,850 kW. Industry experience has shown that the exhaust systems on these diesel generators are not susceptible to the decarbonization effect seen on the larger PC2 diesels. Therefore, SNC does not have plans at this time to replace the exhaust system on these diesel generators.

Operating experience (OE) entry was made (OE 26462) to the industry informing them of the method used by the vendor in shipping the diesel generator exhaust manifolds and the lack of clear indication on the vendor drawing that field welding of the flange joint was required.

Additional Information

LER 2005-002-00 Unit 1 Technical Specification 3.8.1 Violation due to 1F Bus Synchroscope Failure

LER 2007-001-00 Unit 1 Technical Specification 3.8.1 Violation Due to Failure of Breaker / Mechanism-Operated Cell Switch