Southern Nuclear

Regulatory Affairs

3535 Colonnade Parkway
Birmingham, AL 35243

205 992 5000

December 7, 2023

Docket Nos.: 50-348

NL-23-0892

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

Joseph M. Farley Nuclear Plant – Unit 1
Licensee Event Report 2023-003-00
Unit 1 Emergency Diesel Generator Lube Oil Pump Outlet Coupling Leak

Ladies and Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(i)(B), Southern Nuclear Operating Company is submitting the enclosed Licensee Event Report for Joseph M. Farley Nuclear Plant, Unit 1. The enclosed LER describes a condition with a support component of the emergency diesel that rendered it inoperable for longer than allowed by Technical Specification.

This letter contains no NRC commitments. If you have any questions regarding this submittal, please contact Gene Surber at (334) 661-2265.

Respectfully submitted,

Edwin Dean III
Vice President – Farley Nuclear Plant

ED/alr/cbg

Enclosure: Unit 1 Licensee Event Report 2023-003-00

cc: Regional Administrator – Region II
NRR Project Manager – Farley Nuclear Plant
Senior Resident Inspector – Farley Nuclear Plant
RTYPE: CFA04.054

Joseph M. Farley Nuclear Plant – Unit 1
Licensee Event Report 2023-003-00
Unit 1 Emergency Diesel Generator Lube Oil Pump Outlet Coupling Leak

Enclosure

Unit 1 Licensee Event Report 2023-003-00

NRC FORM 366 (10-01-2023) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 03/31/2024

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 FOIA, Library, and Information Collections Branch (T-6 A10M), U. S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by email to Infocollects.Resource@nrc.gov, and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503; email: oira_submission@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

LICENSEE EVENT REPORT (LER)

(See Page 2 for required number of digits/characters for each block)

(See NUREG-1022, R.3 for instruction and guidance for completing this form http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/)

1. Facility Name		2. Docket Number	3. Page
Joseph M. Farley Nuclear Plant Unit 1	☒ 050 ☐ 052	348	1 OF 2

4. Title

Unit 1 Emergency Diesel Generator (EDG) lube oil pump outlet coupling leak

5. Event Date			6. LER Number			7. Report Date			8. Other Facilities Involved		
Month	Day	Year	Year	Sequential Number	Revision No.	Month	Day	Year	Facility Name	☐ 050	Docket Number
02	26	2023	2023	- 003 -	00	12	07	2023	Facility Name	☐ 052	Docket Number

9. Operating Mode	10. Power Level
1	100

11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: *(Check all that apply)*

10 CFR Part 20	☐ 20.2203(a)(2)(vi)	**10 CFR Part 50**	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)	☐ 73.1200(a)
☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)	☐ 73.1200(b)
☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)	☐ 73.1200(c)
☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)	☐ 73.1200(d)
☐ 20.2203(a)(2)(i)	**10 CFR Part 21**	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(A)	**10 CFR Part 73**	☐ 73.1200(e)
☐ 20.2203(a)(2)(ii)	☐ 21.2(c)	☐ 50.69(g)	☐ 50.73(a)(2)(v)(B)	☐ 73.77(a)(1)	☐ 73.1200(f)
☐ 20.2203(a)(2)(iii)		☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ 73.77(a)(2)(i)	☐ 73.1200(g)
☐ 20.2203(a)(2)(iv)		☑ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	☐ 73.77(a)(2)(ii)	☐ 73.1200(h)
☐ 20.2203(a)(2)(v)		☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(vii)		

☐ **OTHER** (Specify here, in abstract, or NRC 366A).

12. Licensee Contact for this LER

Licensee Contact	Phone Number (Include area code)
R. Gene Surber, Licensing Manager	(334) 661-2265

13. Complete One Line for each Component Failure Described in this Report

Cause	System	Component	Manufacturer	Reportable to IRIS		Cause	System	Component	Manufacturer	Reportable to IRIS
B	R43	SPT	F010	Y						

14. Supplemental Report Expected		15. Expected Submission Date	Month	Day	Year
☑ No	☐ Yes (If yes, complete 15. Expected Submission Date)				

16. Abstract (Limit to 1326 spaces, i.e., approximately 13 single-spaced typewritten lines)

On February 26, 2023 at 23:42, with Unit 1 in Mode 1 at 100 percent power, the 1B Emergency Diesel Generator (EDG) circulating lube oil pump outlet coupling connection developed an oil leak resulting in the inoperability of the 1B EDG.

The cause of the leak was inadequate restraints on the piping, which allowed movement of the piping and resulted in a failure of the lube oil pressure boundary by the piping separating from the coupling. An additional cause was determined to be inadequate troubleshooting from a similar issue which occurred on November 4, 2022.

To correct the issue, the existing lube oil pipe restraint for the 1B EDG was modified, and a new additional restraint was installed. The condition was later eliminated with the implementation of rigid piping. The troubleshooting process deficiencies and implementation weaknesses were corrected by revisions to the procedures that clearly define roles, responsibilities and required documentation for issue response, troubleshooting and corrective actions addressing deficient conditions.

This event is reportable under 10 CFR 50.73(a)(2)(i)(B) due to the 1B EDG being inoperable, which failed to meet the LCO in accordance with TS 3.0.1 and 3.8.1 between December 7, 2022, and March 3, 2023.

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

(See NUREG-1022, R.3 for instruction and guidance for completing this form http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/)

1. FACILITY NAME		2. DOCKET NUMBER	3. LER NUMBER		
			YEAR	SEQUENTIAL NUMBER	REV NO.
Joseph M. Farley Nuclear Plant, Unit 1	■ 050 ☐ 052	348	2023	- 003	- 00

NARRATIVE

EVENT DESCRIPTION

On February 26, 2023 at 23:42, with Unit 1 in Mode 1 at 100 percent power, the 1B Emergency Diesel Generator (EDG) [EIIS Code: DG] circulating lube oil pump outlet coupling connection [EIIS Code: LL, CPLG] developed an oil leak when the 2 inch lube oil piping became separated at the Flexmaster coupling location resulting in the inoperability of the 1B EDG. The cause of the leak was inadequate restraints on the piping, which allowed movement of the piping and resulted in a failure of the lube oil pressure boundary by the piping separating from the coupling.

EVENT ANALYSIS

The root cause analysis determined that the 1B EDG lube oil leak was caused by inadequate restraints on piping adjacent to the circulating lube oil pump outlet Flexmaster coupling connection. The lack of adequate restraints allowed movement of the adjacent piping which resulted in a failure of the lube oil pressure boundary by the piping separating from the coupling. The 1B EDG Circulating Lube Oil Pump Discharge piping moved because the designed piping restraint was inadequate to prevent movement.

An additional cause was determined to be troubleshooting process deficiencies and implementation weaknesses that led to not identifying and correcting the 1B EDG circulating lube oil system failure mode in November 2022. The February event was the second failure involving the 1B EDG coupling connection. The original leak occurred on November 4, 2022, following the replacement of a flexible coupling on the 1B EDG as part of a new preventive maintenance (PM) activity during an equipment outage. During the return to service maintenance run, the circulating lube oil pump discharge coupling separated from the oil piping causing in an oil leak. The station leaders' oversight of the lube oil leak evaluation and resolution activities was less than adequate to identify and correct the coupling assembly failure.

REPORTABILITY AND SAFETY ASSESSMENT

As a result of the inadequate trouble shooting of the November 4, 2022 1B EDG lube oil leak and coupling assembly separation, the 1B EDG was vulnerable to initiating events which could adversely affect the ability to supply emergency power. From December 7, 2022 to March 3, 2023 while the plant was in the modes of Applicability, the 1B EDG was inoperable. Based on the availability of redundant onsite power, no loss of safety function occurred during the inoperability of the 1B EDG.

This event is reportable under 10 CFR 50.73(a)(2)(i)(B) due to the 1B EDG being inoperable, which failed to meet the LCO in accordance with TS 3.0.1 and 3.8.1 between December 7, 2022, and March 3, 2023.

CORRECTIVE ACTIONS PLANNED OR COMPLETED

The following corrective actions were taken

1. In February 2023, the existing lube oil pipe restraint for the 1B EDG was modified, and a new additional restraint was installed. The condition was eliminated in October 2023 with the implementation of rigid piping.
2. Troubleshooting process deficiencies and implementation weaknesses were corrected by revisions to the procedures that clearly define roles, responsibilities and required documentation for issue response, troubleshooting and corrective actions addressing deficient conditions.

PREVIOUS SIMILAR EVENTS

There were no events from the last three years with either the same or similar cause to this event.