UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE N.E., SUITE 1200
ATLANTA, GEORGIA 30303-1200

April 5, 2021

Ms. Cheryl A. Gayheart
Regulatory Affairs Director
Southern Nuclear Company
3535 Colonnade Parkway
Birmingham, AL 35243

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT – BIENNIAL PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION REPORT 05000348/2021010 AND 05000364/2021010

Dear Ms. Gayheart:

On February 26, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed a problem identification and resolution inspection at your Joseph M. Farley Nuclear Plant. On February 26, 2021 the NRC inspectors discussed the results of this inspection with Chuck Kharrl Site Vice President and other members of your staff. The results of this inspection are documented in the enclosed report.

The NRC inspection team reviewed the station's corrective action program and the station's implementation of the program to evaluate its effectiveness in identifying, prioritizing, evaluating, and correcting problems, and to confirm that the station was complying with NRC regulations and licensee standards for corrective action programs. Based on the samples reviewed, the team determined that your staff's performance in each of these areas adequately supported nuclear safety.

The team also evaluated the station's processes for use of industry and NRC operating experience information and the effectiveness of the station's audits and self-assessments. Based on the samples reviewed, the team determined that your staff's performance in each of these areas adequately supported nuclear safety.

Finally, the team reviewed the station's programs to establish and maintain a safety-conscious work environment, and interviewed station personnel to evaluate the effectiveness of these programs. Based on the team's observations and the results of these interviews, the team found no evidence of challenges to your organization's safety-conscious work environment. Your employees appeared willing to raise nuclear safety concerns through at least one of the several means available.

One Severity Level IV violation without an associated finding is documented in this report. We are treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

No NRC-identified findings were identified during this inspection.

If you contest the violation or the significance or severity of the violation documented in this inspection report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement; and the NRC Resident Inspector at Joseph M. Farley Nuclear Plant.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at http://www.nrc.gov/reading-rm/adams.html and at the NRC Public Document Room in accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Alan J. Blamey, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Docket Nos. 05000348 and 05000364
License Nos. NPF-2 and NPF-8

Enclosure:
As stated

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SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT – BIENNIAL PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION REPORT 05000348/2021010 AND 05000364/2021010 dated April 5, 2021

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OFFICE	RII/DRP	RII/DRP	RII/DRP	RII/ DCO	RII/ DFFI
NAME	P. Niebaum	A. Blamey	D. Mas	D. Terry-Ward	L. Cooke
DATE	3/31/2021	04/05/2021	04/02/2021	4/02/2021	4/02/2021

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Numbers:	05000348 and 05000364
License Numbers:	NPF-2 and NPF-8
Report Numbers:	05000348/2021010 and 05000364/2021010
Enterprise Identifier:	I-2021-010-0019
Licensee:	Southern Nuclear Company
Facility:	Joseph M. Farley Nuclear Plant
Location:	Columbia, AL
Inspection Dates:	February 08, 2021 to February 26, 2021
Inspectors:	L. Cooke, Fuel Facility Inspector D. Mas-Penaranda, Senior Project Engineer, Acting P. Niebaum, Senior Project Engineer D. Terry-Ward, Construction Inspector
Approved By:	Alan J. Blamey, Chief Reactor Projects Branch 2 Division of Reactor Projects

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting a biennial problem identification and resolution inspection at Joseph M. Farley Nuclear Plant, in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to https://www.nrc.gov/reactors/operating/oversight.html for more information.

List of Findings and Violations

Pressurizer Safety Valve Lift Pressure Outside of Technical Specifications Limits due to Setpoint Drift			
Cornerstone	Severity	Cross-Cutting Aspect	Report Section
Not Applicable	Severity Level IV NCV 05000364/2021010-01 Open/Closed	Not Applicable	71152B
A self-revealed Severity Level (SL) IV NCV of Technical Specifications (T.S.) 3.4.10, "Pressurizer Safety Valves," was identified when a routine lift pressure test revealed that the Unit 2 'A' pressurizer safety valve (Q2B13V0031A) as-found set pressure was lower than allowed by T.S. Surveillance Requirement 3.4.10.1 for a duration that exceeded the condition's T.S. required action completion time.			

Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
LER	05000364/2020-002-00	LER 2020-002-00 for Joseph M. Farley Nuclear Plant Unit 2, Pressurizer Safety Valve Lift Pressure Outside of Technical Specifications Limits due to Setpoint Drift	71152B	Closed

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

Starting on March 20, 2020, in response to the National Emergency declared by the President of the United States on the public health risks of the coronavirus (COVID-19), inspectors were directed to begin teleworking. In addition, regional baseline inspections were evaluated to determine if all or portion of the objectives and requirements stated in the IP could be performed remotely. If the inspections could be performed remotely, they were conducted per the applicable IP. In some cases, portions of an IP were completed remotely and on site. The inspections documented below met the objectives and requirements for completion of the IP.

OTHER ACTIVITIES – BASELINE

71152B - Problem Identification and Resolution

Biennial Team Inspection (IP Section 02.04) (1 Sample)

(1) The inspectors performed a biennial assessment of the licensee's corrective action program, use of operating experience, self-assessments and audits, and safety conscious work environment.

- Corrective Action Program (CAP) Effectiveness: The inspectors assessed the licensee's CAP effectiveness in identifying, prioritizing, evaluating, and correcting problems. The inspectors also conducted an in-depth CAP review of the Emergency Diesel Generators, Service Water and Auxiliary Feedwater systems.
- Operating Experience: The inspectors assessed the effectiveness of the licensee's processes for the use of operating experience.
- Self-Assessments and Audits: The inspectors assessed the effectiveness of the licensee's self-assessments and audits.
- Safety Conscious Work Environment (SCWE): The inspectors assessed the effectiveness of the licensee's programs to establish and maintain a safety conscious work environment.

INSPECTION RESULTS

Assessment	71152B
1. Corrective Action Program Effectiveness	

Problem Identification: The inspectors determined that the licensee was effective in identifying problems and entering them into the corrective action program and that there was a low threshold for entering issues into the corrective action program. This conclusion was based on a review of the requirements for initiating condition reports as described in licensee procedure NMP-GM-002, "Corrective Action Program," and management's expectation that employees were encouraged to initiate condition reports. Additionally, site management was actively involved in the corrective action program and focused appropriate attention on significant plant issues.

Problem Prioritization and Evaluation: Based on the review of condition reports, the inspectors concluded that problems were prioritized and evaluated in accordance with the condition report significance determination guidance in procedure NMP-GM-002. The inspectors determined that adequate consideration was given to system or component operability and associated plant risk. The inspectors determined that plant personnel had conducted cause evaluations in compliance with the licensee's corrective action program procedures and that cause determinations were appropriate, and considered the significance of the issues being evaluated.

Corrective Actions: Based on a review of corrective action documents, interviews with licensee staff, and verification of completed corrective actions, the inspectors determined that corrective actions were mostly timely, commensurate with the safety significance of the issues, and effective, in that conditions adverse to quality were corrected. For significant conditions adverse to quality, the corrective actions directly addressed the cause and effectively prevented recurrence. The inspectors reviewed condition reports and effectiveness reviews to verify that the significant conditions adverse to quality had not recurred. Effectiveness reviews for corrective actions to prevent recurrence were sufficient to ensure corrective actions were properly implemented and were effective.

Based on the samples reviewed, the team determined that the licensee's corrective action program complied with regulatory requirements and self-imposed standards. The licensee's implementation of the corrective action program adequately supported nuclear safety.

2. Operating Experience

The inspectors determined that the station's processes for the use of industry and NRC operating experience information and for the performance of audits and self-assessments were effective and complied with all regulatory requirements and licensee standards. The implementation of these programs adequately supported nuclear safety. The inspectors concluded that operating experience was adequately evaluated for applicability and that appropriate actions were implemented to address lessons learned as needed.

3. Self-Assessments and Audits

The inspectors determined that the licensee effectively perform self-assessments and audits to identify issues at a low level, properly evaluated those issues, and resolved them commensurate with their safety significance.

Self-assessments were generally detailed and critical. The inspectors verified that condition reports (CRs) were created to document areas for improvement and findings resulting from self-assessments and verified that actions had been completed consistent with those recommendations. Audits of the quality assurance program appropriately assessed

performance and identified areas for improvement. Generally, the licensee performed evaluations that were technically accurate.

4. Safety Conscious Work Environment

Based on interviews with plant staff and reviews of the latest safety culture survey results to assess the safety conscious work environment on site, the inspectors found no evidence of challenges to the safety conscious work environment. Employees appeared willing to raise nuclear safety concerns through at least one of the several means available.

Pressurizer Safety Valve Lift Pressure Outside of Technical Specifications Limits due to Setpoint Drift

Cornerstone	Severity	Cross-Cutting Aspect	Report Section
Not Applicable	Severity Level IV NCV 05000364/2021010-01 Open/Closed	Not Applicable	71152B

A self-revealed Severity Level (SL) IV NCV of Technical Specifications (T.S.) 3.4.10, "Pressurizer Safety Valves," was identified when a routine lift pressure test revealed that the Unit 2 'A' pressurizer safety valve (Q2B13V0031A) as-found set pressure was lower than allowed by T.S. Surveillance Requirement 3.4.10.1 for a duration that exceeded the condition's T.S. required action completion time.

Description: During the Farley Nuclear Plant Unit 2 October 2020 refueling outage, pressurizer safety valve Q2B13V0031A was removed from service and sent to an off-site testing facility. On October 28, 2020, the site was notified that the as-found set pressure was at 2456 psig, which was low outside the plant T.S. allowable lift pressure setting range of 2460 psig to 2510 psig. The valve had been installed and placed in service at Farley Nuclear Plant Unit 2 during the 2017 fall outage and remained in service during three complete 18-month fuel cycles. Pressurizer safety valve Q2B13V0031A from Unit 2 was replaced with a similar operable refurbished valve during the October 2020 refueling outage. Licensee Event Report (LER) 05000364/2020-002-00, "Pressurizer Safety Valve Lift Pressure Outside of Technical Specification Limits due to Setpoint Drift," was submitted on December 21, 2020 for this event.

Corrective Actions: The valve was replaced with a similar operable refurbished valve that had been tested satisfactorily prior to its installation in the plant during the refueling outage prior to plant startup. The licensee is pursuing additional corrective actions which include valve spring replacements for all pressurizer safety valves.

Corrective Action References: Condition Report (CR) 10749764

Performance Assessment: The NRC determined this violation was not reasonably foreseeable and preventable by the licensee and therefore is not a performance deficiency. Specifically, random setpoint drift is a recognized valid phenomenon that can occur despite routine testing and maintenance.

Enforcement: Traditional Enforcement is being used to disposition this violation with no associated Reactor Oversight Process performance deficiency per section 3.10 of the Enforcement Manual.

Severity: The inspector assessed the severity of the violation using Section 6.1 of the Enforcement Policy and determined the significance is appropriately characterized as Severity Level IV, due to the inappreciable potential safety consequences. The licensee determined that the safety valve low as-found lift set-point did not have an adverse impact on reactor coolant system over-pressurization protection, since the valve continued to perform its reactor coolant system over-pressure protection function to prevent the system from exceeding the design pressure of 2485 psig. Therefore, the plant remained bounded by the accident analysis in the Final Safety Analysis Report, based on the as-found condition.

Violation: Farley Nuclear Plant unit 2 T.S. LCO 3.4.10, “Pressurizer Safety Valves,” required three operable pressurizer safety valves with lift settings between 2460 psig and 2510 psig, while the Unit is in modes 1, 2, and 3. With one pressurizer safety valve inoperable, Action Statement, Condition “A.” Required Action “A.1,” required restoration of the valve to operable status within 15 minutes. If the required action and associated completion time is not met, Action Statement, Condition “B,” required that the unit be in mode 3 within 6 hours. Contrary to the above, the licensee determined the pressurizer safety valve setting was outside the T.S. limits longer than 6 hours and 15 minutes during the last three operating cycles, between October 2017 and October 2020, while the Unit was in modes 1 and 2.

Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

Minor Violation	71152B

Minor Violation: The team identified one minor violation of 10 CFR Part 50, Appendix B, Criterion XVI “Corrective Action”, which states in part “Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations…and nonconformance's are promptly identified and corrected…”. Specifically, site procedure NMP-GM-002-001, “Corrective Action Program Instructions”, version 40.0 states in part a” Corrective Action…Ensures that conditions adverse to quality are promptly identified and corrected”. The inspector observed that the instructions in Attachment 2 of NMP-GM-002-001 provides various corrective action methods “due date and extension guidance” with no maximum number of allowable extension requests to ensure prompt corrections. The licensee’s failure to promptly correct conditions adverse to quality (CAQ) and work orders (WO) initiated under three (3) safety related condition reports (CRs) per site procedure NMP-GM-002-001 was a performance deficiency (PD).

Contrary to this requirement several condition reports CRs which were screened to corrective action reports (CARs) and WOs were identified with specific corrective actions such as correcting deficiencies to safety related calculations and the Final Safety Analysis Report (FSAR) relating to the emergency diesel generator (EDG) air intake, needing a formal analysis/evaluation for the EDGs relating to voltage and frequency, and replacing equipment for the diesel air start system relating to the safety-related to non-safety related boundaries. Specifically, two (2) CRs were open in 2016 (CRs 10201380 and CR 10206050) and one (1) CR 10206043 opened in 2016 (with issues identified at Farley in 2011) for conditions which required correcting as identified above, however the corrections are currently incomplete.

Screening: The inspectors determined the performance deficiency was minor because although the corrections are incomplete, the following documents; CR 10577000, CR10693471, CAR 266017 and eleven (11) work orders are currently in place to perform the

corrective actions. The licensee presented documented evidence to the inspectors which demonstrates that the failures to correct had no adverse impact on the EDGs or the EDG air start system.

Enforcement: This failure to comply with Appendix B, Criterion XVI "Corrective Action", constitutes a minor violation that is not subject to enforcement action in accordance with the NRC's Enforcement Policy. The licensee-initiated CR 10778495 to document the past and current condition.

EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

- On February 26, 2021, the inspectors presented the biennial problem identification and resolution inspection results to Chuck Kharrl Site Vice President and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71152B	Corrective Action Documents	CARs 276759, 276755, 278404, 277843, 276877, 278481, 276976, 277019, 278606, 277171, 275983, 275921, 276128, 276655, 275876, 276523, 276612, 275596, 276145, 276577, 276800, 277026, 276600		
		CRs 10644961, 10641732, 10744009, 106544744, 10707028, 10749764, 10609393, 10654920, 10658025, 10588757, 10604978, 10624235, 10633466, 10633640, 10636234, 10653756, 10654885, 10655132, 10655489,		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		10657055, 10662496, 10663023, 107-6096, 10708523, 10735066, 10743901, 10749261, 10750965, 10644538, 10670626, 10670635, 10660991, 10672756, 10593185, 10593155, 10594732, 10636199, 10604403, 10600523, 10613474, 10636205, 10617176, 10596093, 10617880, 10599553, 10619203, 10612463, 10599965, 10603790, 10611001, 10582127, 10582227, 10586769, 10629240,		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		10634364, 10634455, 10600849, 10604313, 10654581, 10749846, 10751510, 10337680, 10606871, 10629379, 10662410, 10627909		
	Corrective Action Documents Resulting from Inspection	CR 10774018, 10774019, 10775710, 10775727, 10775732, 10775738, 10775744, 10775944, 10775972, 10777657, 10778495, 10779715, 10779718, 10779723, 10779719, 10779721, 10779722, 10780173.		
	Engineering Evaluations	TEs 1051217, 1051669, 1075506,		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		1075437, 1063571, 1057041, 1071950, 10749764, 1057166, 1057396, 1057401, 1054623, 1054681, 1068515, 1073314, 1075301, 1075302, 1075429, 1051674, 1057999, 1057997, 1040038, 1040777, 1040772, 1056778, 1038713, 1041784, 1042727, 1046740, 1045204, 987283, 1041166, 1054064, 1077791, 1073161, 1077984, 1036894, 1052636,		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		1042312, 1048217		
	Miscellaneous		Units 1 and 2 Service Water System Health Report	12/01/2020
			MREP Meeting #20-03, agenda and minutes	02/26/2020
			MR(a)(3) report package August 1, 2018 - December 31, 2019	
			MREP meeting #20-13, agenda and minutes	11/17/2020
			Micro Alara Planning Checklist for SNC1000055, Transport and Storage of Tri-Nuke Filters from Drumming Room to SDF	04/04/2019
			Micro Alara Planning Checklist for SNC954731, Changeout and Transport of Tri-Nuc Filters	08/28/2019
			Micro Alara Plan for SNC 1079015, Tri-Nuc Filter C/O and Storage	01/14/2021
			PMCR 91408	
			D204935 Control Penetration EB01 Outside CTMT	
			D204936 Control Penetration EB01 Inside CTMT	
			IER L3-19-3R	
			Plant Farley Radiation Protection Work Plan, U1 and U2 SFP Tri Nuclear Filter Changeout dated	03/14/2018
		Eval-F-P16-04787	a1 Evaluation for U2 Service Water System	06/18/2019
		LDCR 20-008	Revise the FNP Licensing Basis for Tornado Missile Protection	
		N11-F02	Maint. Rule Scoping Document for Main Steam System	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		T-92 NWS Test Procedure,	Spring Data Sheet Rev. 3	11/09/2020
	Procedures	MIS-17-032	Unit 2 Fifth 10-Year Interval, Valve Inservice Testing Basis Document	2
		NMP-ES-027	Maintenance Rule Program	10.2
		NMP-FLS-016-001	Control of Radiological Diving Operations	3.0
		NMP-GM-002	Corrective Action Program	15.2
		NMP-GM-002-001	Corrective Action Program Instructions	40
		NMP-GM-002-002	Effectiveness Review Instructions	5.3
		NMP-GM-029	Equipment Obsolescence Management Process	2.2
		OS-BP-001	Operations Performance Indicators	5.1
	Work Orders	SNC1122354, SNC791149, SNC855711, SNC1014732, SNC1033130, SNC1055920, SNC1022226, SNC 1012250, SNC 1014288, SNC 1012726, SNC 1052891		