



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

March 22, 2022

Mr. Charles Kharrl
Site Vice President
Southern Nuclear Operating Co., Inc.
Joseph M. Farley Nuclear Plant
7388 North State Highway 95
Columbia, AL 36319-0470

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT – TRIENNIAL INSPECTION OF
EVALUATION OF CHANGES, TESTS AND EXPERIMENTS BASELINE
INSPECTION REPORT 05000348/2022010 AND 05000364/2022010

Dear Mr. Kharrl:

On February 10, 2022, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Joseph M. Farley Nuclear Plant and discussed the results of this inspection with Mr. Delson Erb, Plant Manager, and other members of your staff. The results of this inspection are documented in the enclosed report.

No findings or violations of more than minor significance were identified during this inspection.

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,

A handwritten signature in black ink, appearing to read "JB", written over a horizontal line.

Signed by Baptist, James
on 03/22/22

James B. Baptist, Chief
Engineering Branch 1
Division of Reactor Safety

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

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV

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 INSPECTION REPORT 05000348/2022010 AND 05000364/2022010
 DATED MARCH 22, 2022

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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: 05000348/2022010 and 05000364/2022010

Enterprise Identifier: I-2022-010-0021

Licensee: Southern Nuclear Operating Co., Inc.

Facility: Joseph M. Farley Nuclear Plant

Location: Columbia, AL

Inspection Dates: February 07–February 10, 2022

Inspectors: R. Kopriva, Senior Reactor Inspector
P. Meier, Senior Resident Inspector
P. Braxton, Reactor Inspector

Approved By: James B. Baptist, Chief
Engineering Branch 1
Division of Reactor Safety

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting a triennial inspection of evaluation of changes, tests, and experiments baseline 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

No findings or violations of more than minor significance were identified.

Additional Tracking Items

None.

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.

REACTOR SAFETY

71111.17T - Evaluations of Changes, Tests, and Experiments

Sample Selection (IP Section 02.01) (27 Samples)

The inspectors evaluated the following samples for compliance with Title 10, Code of Federal Regulations (CFR) 50.59, "Changes, Tests, and Experiments," from February 7–February 10, 2022:

- (1) Screen: SNC1000660, Unit 1, Design Equivalent Change Package (DECP)- Unit 1 Anchor Head Replacement
- (2) Screen: SNC1012404, Unit 2, 2C Service Water Minimum Flow Line Sleeve
- (3) Screen: SNC920821, Unit S, 2C Emergency Diesel Generator Jacket Water Heat Exchanger Tube Bundle Replacement
- (4) Screen: SNC997278, Unit 1, Design Change Package (DCP)- Unit 1 MSIP (Mechanical Stress Improvement Process)
- (5) Screen: SNC1096073, Unit 2, Service Water Header Drain and Vent Line Addition
- (6) Screen: SNC935408, Unit S, DECP to Replace Auxiliary Building Roofing
- (7) Screen: SNC1086636, Unit 1, Loss of Coolant Accident Motor Operated Valve Thermal Overload Sizing Degraded
- (8) Screen: SNC1125459, Unit 2, 2C Service Water Minimum Flow Line Reinforcement Sleeve Removal
- (9) Screen: SNC1127095, Unit 2, Turbine Driven Auxiliary Feedwater Pump Steam Admission Valve Thrust Washer Shim
- (10) Screen: SNC508548, Unit 2, Minor Design Change (MDC) to Replace the 2B Emergency Diesel Generator Intercooler Heat Exchanger Tube Bundle
- (11) Screen: SNC980617, Unit 1, Design for C-7 Setpoint Change.
- (12) Screen: SNC990743, Unit 2, 2A Charging Pump Minimum Flow Line Motor Operated Valve Hand Switch Replacement
- (13) Screen: SNC1014130, Unit 2, DECP to Provide a Test Connection for Performance of FNP-2-STP-212.21 for Q2P16V577, Q2P
- (14) Screen: SNC1047870, Unit 1, 1R29 Hand Switch Replacements
- (15) Screen: SNC706480, Unit 1, Radiation Monitor Replacement Group 9A (R24A, R24B, R25A, R25B, R35A and R35A)
- (16) Screen: SNC706481, Unit 2, Radiation Monitor Replacement Group 9B (R24A, R24B, R25A, and R25B)
- (17) Screen: SNC730101, Unit 1, DCP-U1 Main and Bypass Feed Regulating Valve Digital Positioner Upgrade.

- (18) Screen: SNC952158, Unit 2, Replace Remote Hand Switch Q2R16HS2017HA with Krauss and Nalmer (K&N) Hand Switch
- (19) Evaluation: NCORP TE 1064469 - - Evaluations Performed to Address Long Term Cooling with Containment Sump Debris (GSI-191)
- (20) Evaluation: TE 1066707 - - Revise Final Safety Analysis Report (FSAR) Polar Crane Main Hoist Load Block Safe Path Restrictions
- (21) Evaluation: TE 1040425 - - Incorporate Auxiliary Feedwater Analysis Contained in Westinghouse Letter ALA-14-12 into Final Safety Analysis Report
- (22) Evaluation: LDCR20-008 - - Revise the Farley Nuclear Plant (FNP) License Basis for Tornado Missile Protection
- (23) Evaluation: SNC108663650 - - Bypass Thermal Overloads for Unit 1 Loss of Coolant Accident (LOCA) Motor Operated Valves
- (24) Evaluation: SNC1097052 - - Revision to Farley Containment Pressure/Temperature (P/T) Analysis to Incorporate Outstanding NSALs
- (25) Evaluation: SNC873765 - - Unit 1 Main Generator Exciter Switchgear Replacement
- (26) Evaluation: SNC892053 - - Unit 2 Main Generator Exciter Switchgear Replacement
- (27) Evaluation: SNC1030354 - - Unit 2 Radiation Monitoring System (RMS) - U2 Group 8B (RE15s)

INSPECTION RESULTS

No findings were identified.

EXIT MEETINGS AND DEBRIEFS

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

- On February 10, 2022, the inspectors presented the triennial inspection of evaluation of changes, tests and experiments baseline inspection results to Mr. Delson Erb, Plant Manager, and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date	
71111.17T	Calculations	F-RIE-TMRE-U00	Farley TMRE Model Development and Quantification - Tornado Missile Risk	1	
	Corrective Action Documents	Condition Reports	10600935, 10749757, 10837988, 10837992, 10841665		
	Corrective Action Documents Resulting from Inspection	Condition Reports	10850100, 10857908, 10857914, 10858741		
	Drawings	170 WIB		170 Wire Nuclear Field Anchor Head	11/02/1971
		SNC1012404M001		J.M. Farley Nuclear Plant - Unit 2 Piping - River Water & Service Water at Intake Structure - Sections	1
		SNC1012404M002		Service Water Pump Minimum Flow from Discharge to Wet Pit	1
		SNC1012404M003		Reinforcement Sleeve	1
		SNC1012404M004		J.M. Farley Nuclear Plant - Unit No. 2, ISI Boundary Diagram Service Water System	1
		SNC1096073M001		P&ID - River Water, Service Water and Circulation Water System	2
		SNC1096073M002		J. M Farley Nuclear Plant - Unit No. 2 Service Water Header Vent and Drain Line Details	3
		SNC1096073M003		J.M. Farley Nuclear Plant - Unit No. 2 ISI Boundary Diagram Service Water System	2
		SNC1096073M005		J.M. Farley Nuclear Plant Unit No. 2 - Manifold - Service Water System (P16)	2
		SNC920821M003		Diesel Generator Heat Exchanger No. 13096CPK - Bundle Assembly	1
	SNC920861M001: U184804, Page 1079		Heat Exchanger Assembly	33	
SNC920861M002: U184804 Page		13096 "CPK" Exchanger Assembly	33		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		1084		
		SNC935408C00	J.M. Farley Nuclear Plant Unit No.2 - Architectural - Containment and Auxiliary Bldg. - Roof Details	1
		SNC935408C001	J.M. Farley Nuclear Plant - Unit No. 1 Architectural - Containment and Auxiliary Building Roof Plan	1
		SNC935408C002	J.M. Farley Nuclear Plant - Unit No.1 Architectural - Containment and Auxiliary Building - Roof Details	1
		SNC935408C003	J.M. Farley Nuclear Plant - Unit No.1 Architectural - Containment and Auxiliary Bldg. - Roof Details	2
		SNC935408C004	J.M. Farley Nuclear Plant - Unit No.1 - Architectural - Containment and Auxiliary Building - Roof Details	1
		SNC935408C005	J.M. Farley Nuclear Plant - Unit No.1 - Architectural - CTMT and Auxiliary Bldg. Roof Plan - Fire Barrier Delineation	1
		SNC935408C007	J.M. Farley Nuclear Plant - Unit No.2 - Architectural - Containment and Auxiliary Building Roof Plan	1
		SNC935408C009	J.M. Farley Nuclear Plant - Unit No.2 - Architectural - Containment and Auxiliary Bldg. - Roof Details	2
		SNC935408C010	J.M. Farley Nuclear Plant - Unit No.2 Architectural - Containment and Auxiliary Building - Roof Details	1
		SNC935408C011	J.M. Farley Nuclear Plant - Unit No.2- Architectural - Ctmt. and Auxiliary Bldg. Roof Plan - Fire Barrier Delineation	1
		SNC935408C012	J. M. Farley Nuclear Plant - Unit No.2 - Architectural - Aux. Bldg. Sealed Watertight and Airtight Penetration Delineation Dwg. Roof Plan	1
		SNC997278C001	J.M. Farley Nuclear Plant - Unit No.1 Refueling Cavity Liner Plate - Plan at El. 155'-0", Sects. & Dets. - Containment	1
		SNC997278C002	J.M. Farley Nuclear Plant - Unit No.1 Refueling Cavity Liner Plate Wall Elevations & Sections - Containment	1
		SNC997278C003	J.M. Farley Nuclear Plant - Unit No.1 Refueling Cavity Liner Plan -Wall Elevations - Containment	1
		SNC997278C004	J. M. Farley Nuclear Plant Unit No.1 - Refueling Cavity Liner Plate Misc. Details - Containment	1
		SNC997278E001	Joseph M. Farley Nuclear Plant Unit No.1 Lighting Layout - Containment - El. 155'0" - Areas 5 & 6	1

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		SNC997278E002	Joseph M. Farley Nuclear Plant Unit No.1 - Underwater Lighting Fixtures - Aux Bldg. & Ctmt. - El 155'0"	1
		SNC997278E003	J.M. Farley Nuclear Plant Unit No.1 - Underwater Lighting Fixtures Aux. Bldg. and Containment - El. 155'0"	1
		SNC997278E004	Bill of Material for Drawings - D-177536 - Underwater Lighting Fixtures Aux. Bldg. and Containment - El. 155'0"	1
		SNC997278M001	Farley Nuclear Plant - Unit No. 1 - Reactor Coolant System - B13 - Containment Building - El. 105'9" - Loop 1	1
		SNC997278M002	Farley Nuclear Plant - Unit No.1 - Reactor Coolant System - B13 - Containment Bldg. - El.105'9" - Loop 2	1
		SNC997278M003	Farley Nuclear Plant - Unit No. 1 - Reactor Coolant System - B13 - Containment Building - El. 105'9"	1
		SNC997278M004	Farley Nuclear Plant - Unit No. 1 - Reactor Coolant System - B13 - Hanger Isometric - Ctmt. Bldg. El. 124'3"	1
		SNC997278M005	Farley Nuclear Plant - Unit No.1 - Reactor Coolant System - B13 - Piping Isometric - Ctmt. El. 124'3"	1
	Engineering Changes	DCP/SNC997278: LDCR 2020-001	Farley Unit 1 Reactor Vessel Nozzles Mechanical Stress Improvement Process (MSIP)	1
		SNC1000660	DECP- U1 Anchor Head Replacement	1
		SNC1012404	Design Equivalent Chang Package - Unit 2, 2C Service Water Mini Flow Line Sleeve	0
		SNC1096073	Unit 2 Service Water Header Drain and Vent Line Addition	2
		SNC920821	2C Emergency Diesel Generator Jacket Water Tube Bundle Replacement	1
		SNC935408	AUX Building Roof Replacement	1
	Engineering Evaluations	SNC997278	Farley Unit 1 Reactor Vessel Nozzles Mechanical Stress Improvement Process (MSIP)	3
		DECP SNC1096073 - Applicability Determination	Service Water Header Drain and Vent Addition	2
		DOEJ-FDSNC935408-C001	Evaluation of the Farley Unit 1 and 2 Auxiliary Buildings for Roof Replacement and Temporary Equipment Live Loads	1

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		DOEJ-FDSNC935408-M001	Effects on Control Room Habitability from Auxiliary Building Roof Resurfacing Chemicals	1
		DOEJ-FDSNC935408-M002	CREFS Charcoal Adsorber Impact from Application of Roofing Products Containing Volatile Organic Compounds on the Auxiliary Building Roof	1
		DOEJ-FDSNC935408-M003	X/Q Evaluation for Chemical Releases While Reroofing the Auxiliary Building at Farley	1
		NCORP TE 1064469: 10 CFR 50.59 Evaluation	Evaluations Performed to Address Long-Term Cooling with Containment Sump Debris (GSI-191)	03/08/2021
		SNC1012404 - Applicability Determination	Unit 2 Service Water (SW) Mini Flow Line Leak	1
		SNC1012404 - Screening	Unit 2 Service Water (SW) Mini Flow Line Leak	1
		SNC997278 - Applicability Determination	DCP Farley Unit 1 Reactor Vessel Nozzles Mechanical Stress Improvement Process (MSIP)	1
		SNC997278: 10 CFR 50.59 Screening	Application of the Mechanical Stress Improvement Process (MSIP) to Unit 1 Reactor Vessel Nozzles	1
		TE 1040425: 10 CFR 50.59 Screening	Incorporate AFW Analysis Contained in Westinghouse letter ALA-14-12	11/14/2019
		TE 1040425: 10 CFR 50.59 Evaluation	Incorporate AFW Analysis Contained in Westinghouse Letter ALA-14-12 into FSAR	11/13/2019
		TE 1066707: 10 CFR 50.59 Evaluation	Revise FSAR Polar Crane Main Hoist Load Block Safe Path Restrictions.	06/19/2020
	Miscellaneous	FE-S-18-001	Specification for Generator Exciter Switchgear Replacement	Rev. 2

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			for Joseph M. Farley Nuclear Plant- Units 1 & 2	
		NCORP TE 106469, LDCR No.: 2021-002	Licensing Document Change Request: Evaluations Performed to Address Long-Term Cooling with Containment Sump Debris (GSI-191)	02/22/2021
		NMP-ES-084-007-F01	Configuration Control Activity Worksheet: Roof Replacement & Appurtenances (Insulated Fluid-Applied Roofing System and Smoke/ Heat Ventilator Replacement) for Turbine, Service abuilding, & Auxiliary Building (EI 175'-0")	1
		NMP-ES-084-007-F01	Configuration Control Activity Worksheet: Specification for Membrane Roofing, Lightweight Concrete Fill and Flashing for Farley Nuclear Plant - Auxiliary Buildings - Units 1 and 2	1
		NMP-ES-084-007-F01	Configuration Control Activity Worksheet: Sikalastic -641 LO-VOC Roofing System Product Data Sheets 47 Pages (Including this Sheet) Liquid Applied Single Component Fully Reinforced LO-VOC, Low-Odor System with Fiberglass or Polyester Reinforcement	1
		TE 1066707: LDCR No.: 2020-020	Licensing Document Change Request: Revise FSAR Polar Crane Main Hoist Load Block Safe Path Restrictions.	06/02/2020
		U-612859	ABB Reliability and Availability Report- Farley Unit 2	
		U-737825	ABB Reliability and Availability Report- Farley Unit 1	Rev. 1
		U-737831	ABB Unitrol 6000 Failure Mode and Effects Analysis	Rev. 1
		Westinghouse Letter: ALA-14-12	Sothern Nuclear Operating Company Joseph M. Farley Nuclear Plant, Transmittal of LTR-TA-13-159, "Farley Units 1 and 2 Feedline Break Analysis Results and FSAR Markups for a Reduced AFW Flow Rate (105 gpm)"	03/24/2014
	Procedures	IP-ENG-001	Standard Design Process (EB-17-06)	Revision 2
		IP-ENG-001-DAR	Design Attribute Review - Engineering Disciplines	11/12/2018
		NMP-AD-008	Applicability Determinations	Version 22.1
		NMP-AD-009	Licensing Document Change Requests	17
		NMP-AD-010	10 CFR 50.59 Screenings and Evaluations	Version 17.1
		NMP-AD-025	Quality Assurance and Non-Quality Assurance Records Administration	9

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		NMP-ES-035-006	Fire Protection Program Impact Screen and Detailed Reviews	Rev. 13
		NMP-ES-095	Interface Procedure for IP-ENG-001, "Standard Design Process"	Version 9.1