



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

January 31, 2019

Mr. Dennis Madison
Site Vice President
Southern Nuclear Operating Co., Inc.
7388 North State Highway 95
Columbia, AL 36319

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT – NRC EVALUATION OF CHANGES,
TESTS, AND EXPERIMENTS REPORT NUMBER 05000348/2019010 AND
05000364/2019010

Dear Mr. Madison:

On January 17, 2019, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Joseph M. Farley Nuclear Plant, Units 1 and 2, and discussed the results of this inspection with Mr. Daniel Komm and other members of your staff. The results of this inspection are documented in the enclosed report.

The NRC inspectors did not identify any finding or violation of more than minor significance.

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 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Robert E. Williams, Jr., Acting Chief
Engineering Branch 1
Division of Reactor Safety

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

Enclosure:
Inspection Report 05000348/2019010
and 05000364/2019010

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT – NRC EVALUATION OF CHANGES, TESTS, AND EXPERIMENTS REPORT NUMBER 05000348/2019010 AND 05000364/2019010 dated January 31, 2019

* See previous page for concurrence

☒ PUBLICLY AVAILABLE ☐ NON-PUBLICLY AVAILABLE ☐ SENSITIVE ☒ NON-SENSITIVE

ADAMS: ☐ Yes ACCESSION NUMBER: **ML 19031C813** ☐ SUNSI REVIEW COMPLETE ☐ FORM 665 ATTACHED

OFFICE	RII/DRS/EB1	RII/DRS/EB1	RII/DRS/EB1	RII/DRS/EB1		
SIGNATURE	BJD4	PXB3	CAF4	REW1		
NAME	B. Davis	P. Braxton	C. Franklin	R. Williams		
DATE	1/ 29 /2019	1/ 30 /2019	1/ 29 /2019	1/ 31 /2019		
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	

OFFICIAL RECORD COPY *****DOCUMENT NAME: S:\DRS New\Eng Branch 1\BRANCH INSPECTION FILES\2017-2018-2019 CYCLE INSPECTION FOLDER FOR ALL SITES\50.59 Inspections\Farley\Report\Farley Mods

U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Numbers: 05000348 and 05000364

License Numbers: NPF-2 and NPF-8

Report Numbers: 05000348/2019010 and 05000364/2019010

Enterprise Identifier: I-2019-010-0022

Licensee: Southern Nuclear Operating Co., Inc.

Facility: Joseph M. Farley Nuclear Plant, Units 1 and 2

Location: Columbia, AL 36319

Inspection Dates: January 14, 2019 to January 17, 2019

Inspectors: P. Braxton, Reactor Inspector
B. Davis, Sr. Reactor Inspector
C. Franklin, Reactor Inspector

Approved By: Robert E. Williams, Jr., Acting 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 10 CFR 50.59 inspection at Joseph M. Farley Nuclear Plant, Units 1 and 2, 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.

No finding or violation was identified.

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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

The inspectors evaluated the following samples for compliance with Title 10, Code of Federal Regulations (CFR) 50.59, "Changes, Tests, and Experiments," from January 14, 2019 to January 17, 2019:

Changes, Tests, and Experiments (22 Samples)

- (1) SNC655485 - Reactor Vessel Head Vent Restraints, Unit 1
- (2) SNC785885 - Replace Cable 2VAJ2J10A, Unit 2
- (3) SNC50287 - Emergency Diesel Generator (1A, 2A, 1B, 1C, 2C) Fuel Oil Day Tank Level Setpoint and Instrument Changes, Units 1 & 2
- (4) SNC782338 - Main Steam Valve Room "B" Bay Cracked Support Box Beam 2B9, Unit 2
- (5) SNC540332 - Residual Heat Removal Low Flow Alarm Setpoint Change Version 1.0, Unit 2
- (6) SNC368758 - Residual Heat Removal Auto-Closure Interlock Removal, Unit 1
- (7) SNC730101 - Main and Bypass Feed Regulator Valve Digital Positioner Upgrade, Unit 1
- (8) SNC612802 - Replace the Turbine Driven Auxiliary Feed Water Warm up Line Check Valve From the B Steam Generator, Unit 2
- (9) SNC632333 - 2A Steam Generator Feed Pump Radial Bearing Vibration Point Adjustment, Unit 2
- (10) SNC814800 - Turbine Driven Auxiliary Feed Water Pump: Make Temporary Modification SNC731742 Permanent, Unit 1
- (11) SNC875794 - Install Jumper on the Turbine Driven Auxiliary Feed Water Governor Valve, Unit 1
- (12) SNC386541 - Minor Design Change Will Clear temporary Modification TM343204 on Incore Thimble R-8, Unit 2
- (13) SNC594819 - Design Change Proposal for Design for Addition of Automatic Isolation Valves for the Refueling Water Storage Tank to the Refueling Water Purification Pump Adjacent to Q2G31V010, Unit 2
- (14) SNC582588 - Reactor Coolant Pump Shutdown Seal Replacement GEN III Minor Design Change, Unit 2
- (15) SNC50734 - Replace 1B Emergency Diesel Generator Governor, Unit 1
- (16) SNC73454 - Replace R2, R7, R27A/B Radiation Monitors (Group 4BB/10B), Unit 2
- (17) SNC459694 - Incipient Fire Detection Modifications, Unit 1
- (18) SNC459687 - Cable and Raceway Fire Protection, Unit 1

- (19) SNC459699 - 125 VDC Switchgear Breaker Coordination, Unit 2
- (20) SNC808954 - Replace 4KV Breakers - Train A, Unit 1
- (21) SNC902732 - Replace 4KV Switchgear Bus 2K Lightning Arrestor Power Cable - 2VADF02 Q, Unit 2
- (22) SNC561820 - Yokogawa Main Control Board Paperless Recorder Replacements, Unit 1

EXIT MEETINGS AND DEBRIEFS

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

- On January 17, 2019, the inspectors presented the 10 CFR 50.59 inspection results to Mr. Daniel Komm and other members of the licensee staff.

DOCUMENTS REVIEWED

Calculations

DOEJ-FDSNC50734-E001, Evaluation of Relay and Switches in Diesel Local Control Panel Q1H21E527, Ver. 2
DOEJ-FDSNC50734-J001, Evaluation of the Emergency Diesel Generator 1B 2301A Analog Governor Control System's Electromagnetic Capability, Ver. 1
FMEA-FDSNC50734-E001, Analysis of EDG Governor Replacement Components, Ver. 2

Drawings

D205038, P&ID Safety Injection System, Ver. 38
D205043, P&ID Spent Fuel Pool Cooling System, Ver. 30
U611509, ESI – Turbine Control Wiring Diagram, Ver. 1
U611719, Model 93AS RCP Seal, Ver. 3
U732529, ESI – Turbine Control Schematic, Ver. 3
U732533, ESI – Turbine Control Schematic, Ver. 2

Procedures

IP-ENG-001, Standard Design Process, Ver. 0
NMP-AD-008, Applicability Determinations, Ver. 20
NMP-AD-009, Licensing Document Change Requests, Ver. 15
NMP-AD-010, 10 CFR 50.59 Screening and Evaluations, Ver. 15.1
NMP-ES-041, Minor Design Change Packages, Ver. 11.1
NMP-ES-044, Preparation of Design Change Packages, Ver. 13.1
NMP-ES-084, Design Control/Configuration Management Processes, Ver. 5.1
NMP-ES-095, Interface Procedure for IP-ENG-001, "Standard Design Process", Ver. 5

Plant Modifications

SNC386541, Disposition of TM SNC343204, Ver. 1
SNC582588, Unit 2 RCP Shutdown Seal Generation III Installation, Ver. 1
SNC594819, U2 Addition of Auto Isolation Valves between RWST and RWPP Loop, Ver. 4
SNC612802, Replacement Valve for Q2N12V0004A, Ver. 1
SNC632333, 2A SGFP Radial Bearing Vibration Point Adjustment, Ver. 1
SNC814800, Reduce TDAFW Low-idle Setpoint to 800 RPM, Ver. 1
SNC875794, Disable Unit 1 Thermal Overload Switch for the Turbine Driven Auxiliary Feedwater Pump Governor Valve Positioner, Ver. 2
SNC875795, Disable Unit 2 Thermal Overload Switch for the Turbine Driven Auxiliary Feedwater Pump Governor Valve Positioner, Ver. 2
SNC368758, Residual Heat Removal Auto Closure Interlock Elimination, Ver. 2
SNC730101, Unit 1 Main and Bypass Feedwater Reg Valve Positioner Replacement, Ver. 5
SNC655485, Reactor Vessel Head Vent Restraint, Ver. 1
SNC785885, 2VAJ2J10A Cable Replacement, Ver. 1
SNC50287, Emergency Diesel Generator (1-2A, 1B, 1C, 2C) Fuel Oil Day Tank Level Setpoint and Instrument Changes, Ver. 1
SNC782338, Unit 2 Main Steam Valve Room "B" Bay Cracked Support Box Beam 2B9, Ver. 2
SNC540332, Unit 2 Residual Heat Removal Low Flow Alarm Setpoint Change, Ver. 1
SNC561820, Unit 1 Yokogawa Main Control Board Paperless Recorder Replacement, Ver. 1
SNC902732, Unit 2 Replace 4KV Switch Gear Bus 2K Lightning Arrestor Power Cable - 2VADF02, Ver. 1
SNC808954, Unit 1 Replace 4KV Breakers - Train A, Ver. 1
SNC459699, Unit 2 125 VDC Switch Gear Breaker Coordination, Ver. 1

SNC459687, Unit 1 Cable and Raceway Fire Protection, Ver. 1
SNC459694, Unit 1 Incipient Fire Detection Modifications, Ver. 1
SNC50734, Unit 1 Replace 1B Emergency Diesel Generator Governor, Ver. 1
SNC73454, Unit 2 Replace R2, R7, R27A/B Radiation Monitors (Group 4BB/10B), Ver. 1

Miscellaneous Documents

25411-000-30R-M10G-00001, Addition of Automatic Isolation Valves for Refueling Water Storage Tank Supply to Refueling Water Purification Pump, Ver. 1
DOEJ-FXNSC632333-J001, Report for the Farley 2A SGFP 2R23 Startup Vibration Analysis, Ver. 1
FMEA-FMSNC582588-M001, FMEA for the Unit 2 RCP Shutdown Seal Generation III, Ver. 1
FM-S-13-002, Specification for RWST Air Operated Isolation 2-inch Ball Valves for Nuclear Service, Ver. 2
PWROG-14001-P, PRA Model for the Generation III Westinghouse Shutdown Seal, Ver. 1
TR-FSE-14-1-P, Use of Westinghouse SHIELD® Passive Shutdown Seal for FLEX Strategies, Ver. 1
U262093, Auxiliary Feedwater Pump Turbine Drive Manual, Ver. 14
U277859, TDAFWP Turbine Instruction Manual, Ver. 11
U735869, Design and Seismic Stress Analysis per ASME B&PV Code Section III, Subsection NC, Class 2 for 2" ANSI 150# Ball Valve, Ver. 1
U-733472, Fairbanks Morse Report No. R-5.00-4417(3) - Failure Modes and Effects Analysis/Governor System Upgrade (Emergency Diesel Generator 1-2A. 1B, 2B, 1C& 2C), Ver. 5
U-733473, Fairbanks Morse Report No. R-5.00-4417(4) - Failure Modes and Effects Analysis/Failures While Powered (Emergency Diesel Generator 1-2A. 1B, 2B, 1C& 2C), Ver. 5

Condition Reports

368275
10571598
10572554

Work Orders

SNC343223
SNC758181
SNC73454