



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

May 10, 2019

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

SUBJECT: FARLEY UNITS 1, 2 – NUCLEAR REGULATORY COMMISSION INTEGRATED
INSPECTION REPORT 05000348/2019001 AND 05000364/2019001

Dear Mr. Kharrl:

On March 31, 2019, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Farley Units 1, 2. On April 23, 2019 the NRC inspectors discussed the results of this inspection with 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/

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:
Inspection Report 05000348/2019001 and 05000364/2019001

cc w/ encl: Distribution via ListServ

C. Kharrl

SUBJECT: FARLEY UNITS 1, 2 – NUCLEAR REGULATORY COMMISSION INTEGRATED
INSPECTION REPORT 05000348/2019001 AND 05000364/2019001 dated
May 10, 2019

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ADAMS ACCESSION NUMBER:ML **19130A196**

OFFICE	RII/DRP	RII/DRP	RII/DRP	RII/DRP	RII/DRP	
NAME	P. Meier	K. Miller	D. Mas	N. Staples	A. Blamey	
DATE	5/6/2019	5/7/2019	5/8/2019	5/9/2019	5/10/2019	

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U.S. NUCLEAR REGULATORY COMMISSION

Inspection Report

Docket Number(s): 05000348 and 05000364

License Number(s): NPF-2 and NPF-8

Report Number(s): 05000348/2019001 and 05000364/2019001

Enterprise Identifier: I-2019-001-0024

Licensee: Southern Nuclear Operating Co., Inc.

Facility: Farley, Units 1 and 2

Location: Columbia, Alabama

Inspection Dates: January 1, 2019 to March 31, 2019

Inspectors: P. Meier, Senior Resident Inspector
K. Miller, Resident Inspector

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

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting a Quarterly inspection at Farley Units 2 and 1 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. Findings and violations being considered in the NRC's assessment are summarized in the table below.

List of Findings and Violations

No findings were identified.

Additional Tracking Items

None.

PLANT STATUS

Unit 1 began the report period at or near 100 percent rated thermal power (RTP). On February 19, the Unit 1 reactor was shut down to mode 3 to troubleshoot and repair issues with the main generator hydrogen cooler. Following this work, Unit 1 was returned to mode 1 on February 25 and achieved 100 percent RTP on March 6. Unit 1 stayed at or near 100 percent RTP for the remainder of the report period.

Unit 2 began the report period at approximately 100 percent RTP and maintained that power level for the entire report period.

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 performed plant status activities described in IMC 2515 Appendix D, "Plant Status" and conducted routine reviews using IP 71152, "Problem Identification and Resolution." 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

71111.01 - Adverse Weather Protection

Seasonal Extreme Weather Sample (IP Section 03.02) (1 Sample)

The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of seasonal cold temperatures from January 29, 2019, to January 30, 2019, for the following systems (FNP-0-SOP-0.12):

- Main Steam Valve Room
- Main Feedwater
- Auxiliary Feedwater
- Service Water

71111.04 - Equipment Alignment

Partial Walkdown (IP Section 02.01) (3 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

- (1) Unit 1 'A' train residual heat removal system while 'B' train was inoperable for testing on January 3, 2019, (P&ID D-175041).
- (2) Unit 2 'B' train penetration room filtration system while "A" train was inoperable for a maintenance outage on February 5, 2019, (P&ID D-205022).

- (3) Unit 1 'B' train residual heat removal system while 'A' train was inoperable for testing on February 6, 2019, (P&ID D-205041).

71111.05A - Fire Protection (Annual)

Annual Inspection (IP Section 03.02) (1 Sample)

The inspectors evaluated fire brigade performance on February 13, 2019.

71111.05Q - Fire Protection

Quarterly Inspection (IP Section 03.01) (4 Samples)

The inspectors evaluated fire protection program implementation in the following selected areas:

- (1) Fire area 1-040, fire zone 318, Unit 1 cable spreading room on March 25 - 28, 2019 (FNP-1-FPP-1.0).
- (2) Fire area 1-034, fire zone 317, Unit 1 penetration room and filtration system equipment room on March 25 - 28, 2019 (FNP-1-FPP-1.0).
- (3) Fire area 1-041, fire zone 335, train 'A' 4kv / 600v switchgear room on March 25 - 28, 2019 (FNP-1-FPP-1.0).
- (4) Fire area 1-041, fire zone 343, train 'A' 4kv / 600v switchgear room on March 25 - 28, 2019 (FNP-1-FPP-1.0).

71111.06 - Flood Protection Measures

Inspection Activities - Internal Flooding (IP Section 02.02a.) (1 Sample)

The inspectors evaluated internal flooding mitigation protections in the:

Unit 1 residual heat removal system heat exchanger room on March 12, 2019 (Calc # BM-99-1932-001, Internal Flood Assessment).

71111.11Q - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01) (1 Sample)

The inspectors observed and evaluated licensed operator performance in the Control Room during a Unit 1 down power to address a main generator cooler leak on February 19, 2019.

Licensed Operator Requalification Training/Examinations (IP Section 03.02) (1 Sample)

The inspectors observed and evaluated Simulator Exam Scenario, 19-1 As-Left Exam, for crew 5 involving various instrumentation failures, a reactor trip, a spurious safety injection, and an event notification on January 31, 2019.

71111.12 - Maintenance Effectiveness

Routine Maintenance Effectiveness Inspection (IP Section 02.01) (2 Samples)

The inspectors evaluated the effectiveness of routine maintenance activities associated with the following equipment and/or safety significant functions:

- (1) U1 main generator hydrogen cooler leak on February 19, 2019 (WO SNC999419).
- (2) Unit 1 and Unit 2 emergency diesel generators (NMP-ES-002, revision 22).

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (4 Samples)

The inspectors evaluated the risk assessments for the following planned and emergent work activities:

- (1) High voltage switchyard high-risk work on January 18, 2019 (NPM-GM-031).
- (2) Unit 2 elevated risk while the 2C emergency diesel generator was out of service for maintenance on January 22, 2019 (NPM-GM-031).
- (3) Unit 1 and Unit 2 elevated risk while the spent fuel pool cooling, the 2B Emergency Diesel Generator, and Unit 1 water-based fire suppression and hose stations were out of service for maintenance on January 28, 2019 (NPM-GM-031).
- (4) Unit 1 main generator hydrogen cooler leak on February 19, 2019 (NPM-GM-031).

71111.15 - Operability Determinations and Functionality Assessments

Sample Selection (IP Section 02.01) (5 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

- (1) Cracks on the 2A vital DC battery cells identified on January 13, 2019 (CR 10570713).
- (2) Gas accumulation monitoring on Units 1 and 2 at charging pump suction piping high points on February 4, 2019 (CR 10578892).
- (3) Unit 1 ('B' train) motor driven auxiliary feedwater pump failure to start from the main control board following local start surveillance on January 30, 2019 (CR 10576713).
- (4) Unit 2 'B' train emergency diesel generator sequencer logic failed to reset while testing on January 17, 2019 (CR 10576737).
- (5) Unit 1 and Unit 2 movable incore detector systems and heat flux hot channel factor and nuclear enthalpy rise hot channel factor (CR 10586445 / 10586321).

71111.18 - Plant Modifications

Temporary Modifications and/or Permanent Modifications (IP Section 03.01 and/or 03.02) (1 Sample)

The inspectors evaluated the following temporary or permanent modifications:

Unit 1 'A' main steam isolation valve steam leak repair on February 25, 2019 (WO SNC1001137).

71111.19 - Post Maintenance Testing

Post Maintenance Test Sample (IP Section 03.01) (6 Samples)

The inspectors evaluated the following post maintenance tests:

- (1) After replacement of EL09, feeder circuit breaker, in motor control center 1L on January 2, 2019 (WO SNC837324).
- (2) '2A' Charging Pump Quarterly Inservice Test, after replacement of the pump mini-flow check valve, Q2E21V0121A, on January 9, 2019 (WO SNC785642).
- (3) '2C' Emergency Diesel Generator operability test, after completion of a planned maintenance outage on January 26, 2019 (WO SNC586812).
- (4) Unit 2 'A' battery charger DC voltage sensing board calibrations on February 11, 2019 (WO SNC952450).
- (5) Unit 2 'A' penetration room filtration system suction damper dual indication repair on February 11 - 15, 2019 (WO SNC997132).
- (6) Unit 2 'C' Charging Pump speed increaser bearing replacement 3/19-3/30 (WO SNC883382 & WO SNC966089).

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

In Service Testing (IST) (IP Section 03.01) (1 Sample)

Unit 1 'C' Charging Pump Inservice test (FNP-1-STP-4.3) on January 2, 2019.

Surveillance Testing (IP Section 03.01) (4 Samples)

- (1) Unit 1 'B' train Residual Heat Removal Pump Quarterly Inservice Test (FNP-1-STP-11.2), on January 3, 2019.
- (2) Unit 1 Turbine Driven Auxiliary Feedwater Pump quarterly Inservice test (FNP-1-STP-22.16), on January 10, 2019.
- (3) Unit 1 'B' Train Motor Driven Auxiliary Feedwater Pump surveillance testing from the hot shutdown panel control station (FNP-1-STP-73.1, Appendix M) on January 31, 2019.
- (4) Unit 2 'B' train sequencer operability test (FNP-2-STP-226.1) on January 17, 2019.

71114.06 - Drill Evaluation

Drill and/or Simulator-Based Licensed Operator Requalification Training (IP Section 02.01) (1 Sample)

The inspectors observed and evaluated a simulator-based licensed operator requalification involving complications to manually trip the reactor, a spurious safety injection, and an event notification on January 31, 2019.

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

IE01: Unplanned Scrams per 7000 Critical Hours Sample (IP Section 02.01) (2 Samples)

- (1) Unit 1 (January 1, 2018 - December 31,2018)
- (2) Unit 2 (January 1, 2018 - December 31,2018)

IE03: Unplanned Power Changes per 7000 Critical Hours Sample (IP Section 02.02) (2 Samples)

- (1) Unit 1 (January 1, 2018 - December 31,2018)
- (2) Unit 2 (January 1, 2018 - December 31,2018)

IE04: Unplanned Scrams with Complications (USwC) Sample (IP Section 02.03) (2 Samples)

- (1) Unit 1 (January 1, 2018 - December 31,2018)
- (2) Unit 2 (January 1, 2018 - December 31,2018)

INSPECTION RESULTS

No findings were identified.

EXIT MEETINGS AND DEBRIEFS

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

- On April 23, 2019, the inspector presented the quarterly resident inspector inspection results to Daniel Komm and other members of the licensee staff.