



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

February 11, 2021

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

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT – INTEGRATED INSPECTION  
REPORT 05000348/2020004 AND 05000364/2020004 AND INDEPENDENT  
SPENT FUEL STORAGE INSTALLATION REPORT 07200042/2020003

Dear Ms. Gayheart:

On December 31, 2020, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Joseph M. Farley Nuclear Plant. On January 28, 2021, the NRC inspectors discussed the results of this inspection with Charles Kharri 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,

/RA/

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

Docket Nos. 05000348 and 05000364 and 07200042  
License Nos. NPF-2 and NPF-8

Enclosure:  
As stated

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SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT – INTEGRATED INSPECTION  
REPORT 05000348/2020004 AND 05000364/2020004 AND INDEPENDENT  
SPENT FUEL STORAGE INSTALLATION REPORT 07200042/2020003 dated  
February 11, 2021

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**U.S. NUCLEAR REGULATORY COMMISSION**  
**Inspection Report**

Docket Numbers: 05000348 and 05000364 and 07200042

License Numbers: NPF-2 and NPF-8

Report Numbers: 05000348/2020004, 05000364/2020004 and 07200042/2020003

Enterprise Identifier: I-2020-004-0041 and I-2020-003-0081

Licensee: Southern Nuclear Company

Facility: Joseph M. Farley Nuclear Plant

Location: Columbia, AL

Inspection Dates: October 1, 2020 to December 31, 2020

Inspectors: J. Diaz-Velez, Senior Health Physicist  
S. Downey, Senior Reactor Inspector  
B. Kellner, Senior Health Physicist  
B. Caballero, Senior Operations Engineer  
S. Freeman, Senior Reactor Analyst  
P. Meier, Senior Resident Inspector  
K. Miller, Resident Inspector  
W. Pursley, Health Physicist  
N. Staples, Senior Project Engineer  
S. Temple, Resident 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 an integrated 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.

## PLANT STATUS

Unit 1 began the report period at approximately 100 percent rated thermal power (RTP). On November 20, 2020, RTP was reduced to approximately 90 percent for planned turbine valve testing and restored to approximately 100 percent RTP on the following day. After the testing, unit 1 remained at or near 100 percent RTP through the end of the report period.

Unit 2 began the report period at approximately 100 percent RTP. On October 2, 2020, unit 2 began power coastdown for a planned refueling outage. On October 11, 2020, unit 2 was shut down and entered Mode 5 for the planned outage. Following the outage, on November 13, 2020, the unit 2 reactor was taken critical and entered mode 1 on November 14, 2020. Over a period of approximately four days, RTP was increased with various hold points for testing of the recently implemented measurement uncertainty recapture (MUR) modification. On November 18, 2020, RTP was increased and held at approximately 95% for additional MUR validation. On December 22, 2020, RTP was raised to approximately 99.3% and held there through the end of the 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 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 Disease 2019 (COVID-19), resident inspectors were directed to begin telework and to remotely access licensee information using available technology. During this time, the resident inspectors performed periodic site visits each week; conducted plant status activities as described in IMC 2515, Appendix D, "Plant Status"; observed risk-significant activities; and completed on-site portions of IPs. In addition, resident and regional baseline inspections were evaluated to determine if all or portions 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.

## REACTOR SAFETY

### 71111.04 - Equipment Alignment

#### Partial Walkdown Sample (IP Section 03.01) (2 Samples)

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

- (1) Unit 2 'B' train emergency diesel generator following safety injection and loss of offsite power testing during the unit 2 outage in October 2020 (FNP-0-SOP-38.0).
- (2) Unit 2 'A' train residual heat removal system following restoration from the 'A' residual heat removal pump motor replacement in October 2020 (Dwg D205041).

#### 71111.05 - Fire Protection

##### Fire Area Walkdown and Inspection Sample (IP Section 03.01) (3 Samples)

The inspectors evaluated the implementation of the fire protection program by conducting a walkdown and performing a review to verify program compliance, equipment functionality, material condition, and operational readiness of the following fire areas:

- (1) Fire Zone 0224-U1 for the unit 1 'A' train vital DC switchgear room on November 24, 2020 (FNP-1-FPP-1.0).
- (2) Fire Zone 0343-U1 for the unit 1 'B' 4160 volt switchgear room on November 24, 2020 (FNP-1-FPP-1.0).
- (3) Fire Zone 0334-U1 for the unit 1 'V' motor control center room on November 24, 2020 (FNP-1-FPP-1.0).

#### 71111.08P - Inservice Inspection Activities (PWR)

##### PWR Inservice Inspection Activities Sample (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated pressurized water reactor non-destructive testing by reviewing the following examinations from November 2 to November 6, 2020:
  1. Magnetic Particle Examination
    - a. Weld APR2-3100-8R, 'A' steam generator feedwater nozzle to shell weld, ASME Class 2
    - b. Weld F1, 6" service water system pipe to elbow weld, ASME Class 3. This included a review of associated welding activities
    - c. Weld F2, 6" service water system pipe to elbow weld, ASME Class 3. This included a review of associated welding activities
  2. Ultrasonic Examination
    - a. Weld APR1-1100-1, reactor pressure vessel (RPV) flange to upper shell weld, ASME Class 1
    - b. Weld APR1-1100-5, RPV intermediate to lower shell weld, ASME Class 1
    - c. Weld APR1-4100-1DM, RPV outlet nozzle to safe-end weld, ASME Class 1
    - d. Weld APR2-3100-8R, 'A' steam generator feedwater nozzle to shell weld, ASME Class 2
  3. Visual Examination
    - a. Bare metal visual of weld APR1-4100-1DM, RPV outlet nozzle to safe-end weld, ASME Class 1
    - b. VT-3 of RPV interior surfaces, ASME Class 1

The inspectors also evaluated the licensee's boric acid control program performance.

#### 71111.11A - Licensed Operator Requalification Program and Licensed Operator Performance

### Requalification Examination Results (IP Section 03.03) (1 Sample)

The licensee completed the annual requalification operating test and biennial written examination required to be administered to all licensed operators in accordance with Title 10 of the *Code of Federal Regulations* 55.59(a)(2), "Requalification Requirements," of the NRC's "Operator's Licenses." During the week of December 14, 2020, the inspector performed an in-office review of the overall pass/fail results of the individual operating examinations, the crew simulator operating examinations, and the biennial written examinations in accordance with Inspection Procedure (IP) 71111.11, "Licensed Operator Requalification Program." These results were compared to the thresholds established in Section 3.02, "Requalification Examination Results," of IP 71111.11.

- (1) The inspectors reviewed and evaluated the licensed operator examination failure rates for the requalification biennial written exam, and the administration of the annual operating test which was completed by the licensee on December 11, 2020.

### 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)

- (1) The inspectors observed a unit 2 downpower in preparation for the unit 2 refueling outage on October 11, 2020.

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

- (1) The inspectors observed licensed operator training on the simulator involving shut-down evolutions, on October 6, 2020, in preparation for the unit 2 fall outage (FNP-2-UOP-2.4).

### 71111.12 - Maintenance Effectiveness

#### Maintenance Effectiveness (IP Section 03.01) (1 Sample)

The inspectors evaluated the effectiveness of maintenance to ensure the following structures, systems, and components (SSCs) remain capable of performing their intended function:

- (1) Unit 1 component cooling water heat exchanger leakage identified on September 29, 2020 (CR 10742170).

### 71111.13 - Maintenance Risk Assessments and Emergent Work Control

#### Risk Assessment and Management Sample (IP Section 03.01) (2 Samples)

The inspectors evaluated the accuracy and completeness of risk assessments for the following planned and emergent work activities to ensure configuration changes and appropriate work controls were addressed:

- (1) Unit 1 risk with the unit 1 'B' train emergency diesel generator inoperable during the service water repair to the piping connecting unit 1 and unit 2 service water return from the respective 'B' train emergency diesel generators on November 5 and 6, 2020 (NMP-GM-031).
- (2) Unit 1 risk during 1-2A emergency diesel generator testing and switchyard work on November 19, 2020 (NMP-GM-031).

#### 71111.15 - Operability Determinations and Functionality Assessments

##### Operability Determination or Functionality Assessment (IP Section 03.01) (2 Samples)

The inspectors evaluated the licensee's justifications and actions associated with the following operability determinations and functionality assessments:

- (1) Gas voiding in the unit 1 'A' train residual heat removal system discharge piping identified on September 16, 2020 (CR 10739390).
- (2) Unit 2 'A' train reactor trip breaker closing issue identified on November 8, 2020 (CR 10752401).

#### 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:

- (1) Implementation of the unit 2 measurement uncertainty recapture using the leading edge flow measurement system installed during the unit 2 outage in October and November, 2020 (DCP SNC971518).

#### 71111.19 - Post-Maintenance Testing

##### Post-Maintenance Test Sample (IP Section 03.01) (4 Samples)

The inspectors evaluated the following post-maintenance test activities to verify system operability and functionality:

- (1) Number 4 service water battery cell replacement on August 26, 2020 (WO SNC1110541).
- (2) Unit 2 'A' train residual heat removal pump motor replacement during the unit 2 refueling outage in October, 2020 (WO SNC633690).
- (3) Unit 2 'C' service water pump and 'A' train header isolation valve (Q2P16V507). replacement during the unit 2 outage in October, 2020 (SNC1012385; 1126422).
- (4) Unit 2 'B' emergency diesel generator service water return line leak repair performed during the unit 2 outage on November 5 and 6, 2020 (WO SNC1121637).

#### 71111.20 - Refueling and Other Outage Activities

##### Refueling/Other Outage Sample (IP Section 03.01) (1 Sample)



- (1) The inspectors evaluated unit 2 refueling outage 27 from October 11, 2020 - November 15, 2020 (FNP-0-UOP-4.0).

#### 71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

#### Surveillance Tests (other) (IP Section 03.01) (2 Samples)

- (1) Unit 2 turbine auxiliary feedwater pump comprehensive test on October 8, 2020 (FNP-2-STP-22.32).
- (2) Unit 2 reverse flow test of the refueling water storage tank to charging pump check valve performed on October 16, 2020 (FNP-2-STP-4.10).

#### Containment Isolation Valve Testing (IP Section 03.01) (1 Sample)

- (1) Unit 2 containment purge exhaust and supply penetration as-left local leak rate testing during the unit 2 outage before mode 4 entry on November 6, 2020 (FNP-2-STP-627).

#### 71114.06 - Drill Evaluation

#### Drill/Training Evolution Observation (IP Section 03.02) (1 Sample)

The inspectors evaluated:

- (1) A licensed operator continuing training simulator scenario that included a drill and exercise performance indicator opportunity involving a loss of all A/C power on November 23, 2020 (LOCT As-Found 20-7).

### **RADIATION SAFETY**

#### 71124.01 - Radiological Hazard Assessment and Exposure Controls

#### Radiological Hazard Assessment (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated how the licensee identifies the magnitude and extent of radiation levels and the concentrations and quantities of radioactive materials and how the licensee assesses radiological hazards.

#### Instructions to Workers (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated radiological protection-related instructions to plant workers.

#### Contamination and Radioactive Material Control (IP Section 03.03) (3 Samples)

The inspectors evaluated licensee processes for monitoring and controlling contamination and radioactive material.

- (1) Observed licensee surveys of potentially contaminated material leaving the RCA.

- (2) Observed workers exiting the Unit 2 containment [contaminated area] during a refueling outage.
- (3) Observed workers exiting the RCA at the main RCA exit point during a refueling outage.

#### Radiological Hazards Control and Work Coverage (IP Section 03.04) (4 Samples)

The inspectors evaluated in-plant radiological conditions during facility walkdowns and observation of radiological work activities.

- (1) Reactor Vessel Nozzle Inspection Mechanical Stress Improvement Process [Locked High Rad Area (LHRA)/High Risk] under RWP 20-2783, Revisions 0 and 1.
- (2) Incore Drive Box Maintenance [High Rad Area/High Risk] under RWP 20-2437, Revision 0.
- (3) Reactor Head Lift [LHRA/High Risk] under RPW 20-2463, Revision 0.
- (4) Reactor Upper Internals Lift [LHRA/High Risk] under RPW 20-2465, Revision 0.

#### High Radiation Area and Very High Radiation Area Controls (IP Section 03.05) (3 Samples)

The inspectors evaluated licensee controls of the following High Radiation Areas and Very High Radiation Areas:

- (1) Unit 2 Containment Sump Door [Very High Rad Area/Grave Danger].
- (2) Unit 2 Containment Regenerative Heat Exchanger Fence [LHRA].
- (3) Unit 1 Volume Control Tank Room [LHRA].

#### Radiation Worker Performance and Radiation Protection Technician Proficiency (IP Section 03.06) (1 Sample)

- (1) The inspectors evaluated radiation worker and radiation protection technician performance as it pertains to radiation protection requirements.

#### 71124.03 - In-Plant Airborne Radioactivity Control and Mitigation

##### Permanent Ventilation Systems (IP Section 03.01) (2 Samples)

The inspectors evaluated the configuration of the following permanently installed ventilation systems:

- (1) Solidification Dewatering Facility Vent Blower System.
- (2) Fuel Handling Area Heating, Ventilating and Filtration System.

##### Temporary Ventilation Systems (IP Section 03.02) (2 Samples)

The inspectors evaluated the configuration of the following temporary ventilation systems:

- (1) HEPA Unit #HP-NPU-001 in Unit 2 Reactor Cavity for the Mechanical Stress Improvement Process project.
- (2) HEPA Unit #HP-NPU-012 in Unit 2 containment building at the seal table.

#### Use of Respiratory Protection Devices (IP Section 03.03) (1 Sample)

- (1) The inspectors evaluated the licensee's use of respiratory protection devices.

#### Self-Contained Breathing Apparatus for Emergency Use (IP Section 03.04) (1 Sample)

- (1) The inspectors evaluated the licensee's use and maintenance of self-contained breathing apparatuses.

#### 71124.04 - Occupational Dose Assessment

##### Source Term Characterization (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated licensee performance as it pertains to radioactive source term characterization.

##### External Dosimetry (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated licensee performance as it pertains to external dosimetry that is used to assign occupational dose.

##### Internal Dosimetry (IP Section 03.03) (2 Samples)

The inspectors evaluated the following internal dose assessments for actual internal exposures:

- (1) DAC-Hr assignments for individuals potentially exposed to airborne tritium during work in the 1C charging pump cubicle on 07/31/2018, Radiological Survey #132065
- (2) DAC-Hr assignments for individuals potentially exposed to airborne tritium during work in the 1A charging pump cubicle on 06/05/2020, Radiological Survey #143779

##### Special Dosimetric Situations (IP Section 03.04) (2 Samples)

The inspectors evaluated the following special dosimetric situations:

- (1) Extremity monitoring results for plant ID #2283 for period 01/01/2020 - 06/30/2020
- (2) Inspector review of licensee data determined that there were no other exposure events (skin dose, multi-badging, etc.) that occurred during the period covered by the inspection. Additionally, there were no declared pregnant workers monitored during the inspection period.

#### 71124.05 - Radiation Monitoring Instrumentation

##### Walkdowns and Observations (IP Section 03.01) (10 Samples)

The inspectors evaluated the following radiation detection instrumentation during plant walkdowns:

- (1) Area radiation monitors in the main control room, the primary chemistry sample lab and the technical support center
- (2) Area radiation monitors in the U2 containment building including the containment high range monitors.

- (3) Portable ion chambers stored 'ready for use' and/or during use in U2 containment
- (4) Extendable GM detectors stored 'ready for use' and/or during use in U2 containment
- (5) Personal contamination monitors in use at the exit to the radiologically controlled area and the waste solidification and dewatering building.
- (6) Portal monitors in use at the radiological controlled area exit and the exit from the protected area.
- (7) Continuous air monitors and air samplers in the auxiliary building and U2 containment.
- (8) Alpha and Beta smear counters in the radiation protection sample counting lab.
- (9) High Efficiency Germanium Detectors in the Chemistry lab.
- (10) Portable neutron survey instruments stored "ready for use" in the radiation protection instrument lab.

#### Calibration and Testing Program (IP Section 03.02) (14 Samples)

The inspectors evaluated the calibration and testing of the following radiation detection instruments:

- (1) Ludlum 2000, Sn#291351
- (2) GMT Telepole, Sn#6699-028
- (3) RM-20, Sn#268
- (4) Ludlum 3A, Sn#260678
- (5) Canberra GEM-5, Sn#0911-194
- (6) SAM-12, Sn#HP-GSD-028A
- (7) RO-2, Sn#580
- (8) ARGOS 5AB, Sn#HP-IPC-035A
- (9) ABPM 203, Sn#HP-LAS-096A
- (10) AMS 4, Sn#HP-LAS-103B
- (11) LoVOL, Sn#10614
- (12) Mirion Series XLB Proportional Counter, Sn#HP-LBC-001B
- (13) Ludlum 30, Sn#25017758
- (14) Canberra iSolo Alpha/Beta Counter, Sn#6059155

#### Effluent Monitoring Calibration and Testing Program Sample (IP Sample 03.03) (2 Samples)

The inspectors evaluated the calibration and maintenance of the following radioactive effluent monitoring and measurement instrumentation:

- (1) UNIT 1 - N1D11RI0013 - GAS DECAY TANKS TO WPS RADIATION MONITOR (Work Order # SNC678783).
- (2) UNIT 1 - NID21RE0002 - CONTAINMENT RADIATION MONITOR (Work Order # SNC772653 ).

### **OTHER ACTIVITIES – BASELINE**

#### 71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

#### MS06: Emergency AC Power Systems (IP Section 02.05) (2 Samples)

- (1) Unit 1 (November 1, 2019 - October 31, 2020).
- (2) Unit 2 (November 1, 2019 - October 31, 2020).

MS07: High Pressure Injection Systems (IP Section 02.06) (2 Samples)

- (1) Unit 1 (November 1, 2019 - October 31, 2020).
- (2) Unit 2 (November 1, 2019 - October 31, 2020).

MS08: Heat Removal Systems (IP Section 02.07) (2 Samples)

- (1) Unit 1 (November 1, 2019 - October 31, 2020).
- (2) Unit 2 (November 1, 2019 - October 31, 2020).

OR01: Occupational Exposure Control Effectiveness Sample (IP Section 02.15) (1 Sample)

- (1) March 2019 to September 2020.

PR01: Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual  
Radiological Effluent Occurrences (RETS/ODCM) Radiological Effluent Occurrences Sample  
(IP Section 02.16) (1 Sample)

- (1) March 2019 to September 2020.

**OTHER ACTIVITIES – TEMPORARY INSTRUCTIONS, INFREQUENT AND ABNORMAL**

2515/194 - Inspection of the Licensee's Implementation of Industry Initiative Associated With the  
Open Phase Condition Design Vulnerabilities In Electric Power Systems (NRC Bulletin 2012-01)

Revision 0 of this TI was previously inspected, and closed, in Inspection Report 2019012 (ADAMS ML19240A829). However, a subsequent revision to the NEI Voluntary Initiative (Revision 3) provided plants the option to leave the open phase protection (OPP) system in monitoring mode only in lieu of activating the automatic trip circuitry, provided it was supported by a risk evaluation. Revision 1 (and later Revision 2) of this TI was issued to provide inspection guidance for the new option.

The inspectors reviewed licensee analyses and procedures that demonstrated operator manual actions would successfully mitigate the impact of an Open Phase Condition (OPC). The analyses were reviewed remotely, and the procedures were reviewed and walked down on site. The inspectors completed Section 03.01c of TI 2515/194, Revision 2.

The inspectors verified that modeling used for the OPC reflected the as-designed and as-built plant, assumptions made by the licensee were reasonable, and licensee procedures were adequate to successfully respond to an OPC. The inspectors also verified that human reliability analysis and recovery evaluations were done in accordance with NEI and voluntary initiative guidance.

60855.1 - Operation of an Independent Spent Fuel Storage Installation at Operating Plants

Operation of an Independent Spent Fuel Storage Installation at Operating Plants (1 Sample)

- (1) Verified that routine activities are performed in accordance with approved procedures and surveillance activities have been conducted at the specified periods on December 7, 2020 (FNP-0-STP-63.7).

92702 - Follow-Up on Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, and Orders

Follow-Up on Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, and Orders (1 Sample)

- (1) On November 20, 2019, as a result of Alternative Dispute Resolution the NRC issued Confirmatory Order (CO) EA-18-130 and EA-18-171 (ML19249B552). The CO was the result of an apparent violation of 10 CFR 53.5, "Employee Protection" at Vogtle Units 3 & 4 which contained actions for the Farley, Hatch and Vogtle Units 1 & 2 nuclear plants. During the week of November 30, 2020, the inspectors reviewed corrective actions for this CO. Because the CO was fleet wide for the Southern Nuclear Company, the corrective actions reviewed by the inspectors-included a review of corrective actions for the Hatch, Farley, and Vogtle Units 1 through 4 nuclear plants. The details can be found in inspection report 0500025/20200012, 0500026/2020012; 11/30/2020 through 12/11/2020; Vogtle Unit 3 Combined License, Vogtle Unit 4 Combined License, CO Follow-Up and SCWE inspection report.

## **INSPECTION RESULTS**

No findings were identified.

## **EXIT MEETINGS AND DEBRIEFS**

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

- On January 28, 2021, the inspectors presented the integrated inspection results to Charles Kharri and other members of the licensee staff.
- On October 23, 2020, the inspectors presented the Radiation Safety Inspection Licensee Debrief inspection results to D. Erb and other members of the licensee staff.
- On November 5, 2020, the inspectors presented the ISI Exit Meeting inspection results to Chuck Kharri, Site Vice President and other members of the licensee staff.

## DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
2515/194	Calculations	PRA-BC-F-19-004	FNP Open Phase Condition Evaluation	VERSION 1
	Procedures	FNP-1-AOP-5.2	DEGRADED GRID	Revision 20.0
		FNP-1-ARP-1.12	Main Control Board Annunciator Panel M	VERSION 77.1
		FNP-1-ARP-5.0	Unit Startup Transformers Miscellaneous Alarm Panel	VERSION 15.1
		FNP-2-AOP-5.2	DEGRADED GRID	Revision 20.0
		FNP-2-ARP-1.12	Main Control Board Annunciator Panel M	VERSION 54.2
		FNP-2-ARP-5.0	Unit Aux, Startup Transformers Miscellaneous Alarm Panel	VERSION 11.1
		NMP-OS-007-001	Conduct of Operations Standards and Expectations	VERSION 17.0
		NMP-OS-007-005	Site Specific Operations Expectations and Fleet Operations Policies	VERSION 1.0
71111.08P	Miscellaneous	Procedure Qualification Record B025	GTAW/Manual	02/11/1977
		Welding Procedure Specification 1.20N	Gas Tungsten Arc Welding/Manual	Revision 3
	NDE Reports	S20F2M001	Magnetic Particle Examination Report - Steam Generator A Feedwater Nozzle to Shell Weld	10/24/2020
		S20F2U036	Ultrasonic Examination Report - Steam Generator A Feedwater Nozzle to Shell Weld	10/24/2020
		S20F2V073	Visual Examination Report - RPV Hot Leg Safe End	10/24/2020
	Procedures	NMP-ES-019-001	Boric Acid Corrosion Control Program Implementation	Version 11.1
		NMP-ES-024-202	Visual Examination (VT-2)	Version 7.0

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		NMP-ES-024-401	Magnetic Particle Examination	Version 12.0
		NMP-ES-024-516	Manual Ultrasonic Examination of Pressure Vessel Welds (Non-Appendix VIII)	Version 6.0
71124.01	ALARA Plans	RWP 20-4403	POST-JOB ALARA REVIEW  RWP 20-4403 Used Fuel Loading Outage Activities [HRA, medium risk]	04/13/2020
	Calculations	DAW 091719-V	WMG Dry Active Waste Characterization	12/04/2019
	Corrective Action Documents	CR #'s 10514682, 10553279, 10576745, 10598558, 10603243, 10605457, 10649744, 10652543, 10674501, & 10746334	Sampling of Radiation Safety Related CRs written by the Licensee during the inspection period being reviewed	Various
	Corrective Action Documents Resulting from Inspection	10747961	Radioactive Source Handling Practices	10/21/2020
	Miscellaneous		Radioactive Source Inventory List [Radioactive Standard Inspection and Inventory Check Report]	05/11/2020
			FNP Radiation Protection Exposure Report [Daily, departmental, RWP, & YTD dose, and contamination events]	10/20/2020
		1st thru 3rd Quarter 2020	Joseph M Farley Nuclear Plant Open EMS Report - Doses to a member of the public due to Gaseous Releases	09/28/2020
		Air Sample ID # 240823	Air Sample Gamma Spectroscopy Result - U2 Lower Cavity Flange	10/14/2020
		Air Sample ID # 240781	Air Sample Gamma Spectroscopy Result - CTMNT-2 Transfer Canal Inspection	10/13/2020
		Air Sample ID # 240972	Air Sample Gamma Spectroscopy Result - U2 Reactor Head Lift	10/15/2020



Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		Air Sample ID # 241251	Air Sample Gamma Spectroscopy Result - U2 Upper Cavity GA During Cavity Decon	10/20/2020
		Radiation Protection Shift Turnover	Day Shift to Night Shift and Night Shift to Day Shift - 10/19/2020 thru 10/23/2020	Various
	Procedures	FNP-2-STP-227.18	In-Containment High Range Radiation Area Monitor Q2D21RE0027A	Version 24
		NMP-GM-002	Corrective Action Program	Version 15.2
		NMP-GM-002-001	Corrective Action Program Instructions	Version 39.0
		NMP-HP-108	Issuance, Use and Collection of Personnel Dosimetry	09/16/2020
		NMP-HP-201	Personnel Dosimetry Program	11/12/2019
		NMP-HP-202	Radiological Controls for Highly Radioactive Objects	10/30/2019
		NMP-HP-300	Radiation and Contamination Surveys	Version 5.5
		NMP-HP-302-001	Radiological Key Control	Version 3.3
		NMP-HP-306	Radiological Job Coverage	Version 1.1
		NMP-HP-400	Control and Accountability of Radioactive Sources	Version 3.14
	Radiation Surveys	Survey # 144186	Negative Pressure Unit Inventory	07/08/2020
		Survey # 144606	Annual Source Inventory Survey	08/07/2020
		Survey # 145637	Semi Annual Sealed Leak Source Test	10/07/2020
		Survey # 145684	U2 Containment 155' - Initial	10/11/2020
		Survey # 145685	U2 Containment 105' O/S Biowall - Initial	10/11/2020
		Survey # 145686	U2 Containment 105' I/S Biowall - Initial	10/11/2020
		Survey # 145736	U-2 Reactor Cavity - Upper Initial survey	10/12/2020
		Survey # 145738	U-2 Reactor head shield doors posted LHRA	10/12/2020
		Survey # 145754	U-2 Reactor head after insulation removal	10/12/2020
		Survey # 145761	U-2 Aux Bldg 121' - Post Crud Burst	10/12/2020
		Survey # 145766	U-2 Aux Bldg 100' - Post Crud Burst	10/12/2020
		Survey # 145766	U-2 Aux Bldg 83' - Post crud burst	10/12/2020
		Survey # 145795	U-2 Pressurizer - All elevations	10/13/2020
		Survey # 145804	U2 Containment Transfer Canal	10/13/2020
		Survey # 145827	U-2 Seal Table	10/13/2020

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		Survey # 145831	U2 CTMNT x-fer canal blind flange	10/14/2020
		Survey # 146106	Move upper internals to vessel	10/19/2020
		Survey # 146130	Waste Evaporator Feed Filter Changeout	10/20/2020
		Survey # 146143	U2 Reactor Cavity	10/20/2020
	Radiation Work Permits (RWPs)	RWP 20 -2463	Reactor head lift and set in support of the outage [LHRA Access, high risk]	Revision 0
		RWP 20-2101	Administration Activities by ADM, SEC, IT, NOS, S&H, NRC, INPO, TRN, PI, Work MGM, Containment Coordinators & O&S personnel... [HRA Access, Medium Risk]	Revision 0
		RWP 20-2301	Radiation Protection Activities to support work in High Radiation Areas [HRA Access, Medium Risk]	Revision 0
		RWP 20-2435	Incore drive box maintenance and grooming [HRA Access, medium risk]	Revision 0
		RWP 20-2437	Incore drive box maintenance [HRA Access, high risk]	Revision 0
		RWP 20-2783	Reactor Vessel Nozzle Inspection Mechanical Stress Improvement Process [Locked High Rad Area(LHRA)/High Risk]	Revisions 0 and 1
	Self-Assessments	TE# 1036107	Self-Assessment Topic/ Title: RP Occupational Inspection	04/28/2020
71124.03	Calibration Records	FNP HEPA ID#NPU-001	HEPA Unit Certification	02/05/2020
		HP-VAC-033	Vacuum Certification for Vacuum #HP-VAC-033	01/04/2020
	Corrective Action Documents	CRs # 10105147, 10491521, 10516028, 10583566, 10619841, and 10719240	CRs # 10105147, 10491521, 10516028, 10583566, 10619841, and 10719240	Various
	Miscellaneous	Breathing Air Report	TRI Air Testing, INC Report #392-475-9 for Bauer Compressed Air System	06/01/2020
		Breathing Air Report	TRI Air Testing, INC Report #398-740-1 for Bauer Compressed Air System	08/20/2020
		List of MSA SCBA Users	List of MSA SCBA Users (Including Qualifications and Curriculum)	09/25/2020
		NMP-HP-305	Farley Nuclear Plant Alpha Source Term Characterization	03/09/2020

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Report	
	Procedures	NMP-HP-301	Airborne Radioactivity Sampling and Evaluation	Rev. 4.2
		NMP-HP-305	Alpha Radiation Monitoring	Rev. 5.11
		NMP-HP-501	Radiological Respiratory Protection Program	Rev. 1.3
		NMP-HP-501-001	Instruction for Selection and Use of Respiratory Protection Equipment for Radiological Protection	Rev. 1.5
		NMP-HP-501-002	Control, Issuance, and Return of Radiological Respiratory Protection Equipment	Rev. 2.2
		NMP-HP-501-003	Inspection, Repair, and Storage of Non-SCBA Respiratory Protection Equipment	Rev. 1.1
		NMP-HP-501-004	Inspection, Repair and Storage of Self-Contained Breathing Apparatus	Rev. 1.6
		NMP-HP-501-005	Inspection, Repair and Storage of the MSA G1 SCBA	Rev. 2.0
		NMP-HP-504	Quantitative Fit Testing of Individuals For Respirator Use	Rev. 4.1 and 4.2
		NMP-HP-509	Selection and Control of Portable Ventilation Units	Rev. 1.4
		NMP-HP-515	3M Versaflo Powered Air Purifying Respirator (PAPR) Use and Control	Rev. 1.4
	Radiation Surveys	141676	Effectiveness Review of Respiratory Protection Program	01/03/2020
		144828	Compressed Breathing Air Quality	08/20/2020
		145183	Breathing Air Box Filter Changeout	09/15/2020
		145346	Monthly Respiratory Protection Mask Inventory and Inspection	09/25/2020
		145581	Respiratory Equipment Surveillances	10/07/2020
		145590	Vacuum Cleaner Inventory	10/07/2020
	Self-Assessments	18-0444	Post-Job ALARA Review	12/31/2018
		18-4403	Post-Job ALARA Review	11/09/2018
		18-4404	Post-Job ALARA Review	11/09/2018
		NMP-GM-003F18 (TE#1036107)	Check-In Self-Assessment (CISA)	07/06/2020
	Work Orders	SNC1001016	B-train Penetration Room Filtration Performance Test	04/02/2020
		SNC1001206	B TRN CONTROL ROOM EMERGENCY VENTILATION CHARCOAL	04/03/2020

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		SNC992763	Control Room Emergency Ventilation Charcoal Absorber Sampling and Testing	04/17/2020
		SNC992767	Penetration Room Filtration Charcoal Absorber Sampling and Testing	04/23/2020
		SNC992769	A-train Penetration Room Filtration Performance Test	04/23/2020
		SNC994900	Control Room Emergency Ventilation Performance Test for A Train	04/17/2020
		SNC998070	B TRN CONTROL RM VENTILATION TEST	04/03/2020
71124.04	Corrective Action Documents	CRs # 10488412, 10494275, 10509743 and 10725840	CRs # 10488412, 10494275, 10509743 and 10725840	Various
	Miscellaneous	DAW 091919-V	Dry Active Waste Sample Report	09/17/2019
	Procedures	NMP-HP-100	Bioassay Program	Rev. 1.2
		NMP-HP-101	In-Vivo Bioassay and Internal Dose Assessment	Rev. 3.1
		NMP-HP-102	In-Vitro Bioassay	Rev. 1.2
		NMP-HP-103	Skin Dose Assessment	Rev. 3.2
		NMP-HP-104	Use and Calibration of Whole Body Counters	Rev. 4.1
		NMP-HP-104-008	Resolving Unidentified Peaks and Assignment of Dose	Rev. 1.0
		NMP-HP-104-009	Whole Body Counter Computer Startup, Logon and Shutdown With Apex-InVivo	Rev. 3.2
		NMP-HP-104-010	Whole Body Counter Daily Quality Control Checks With Apex-InVivo	Rev. 2.0
		NMP-HP-104-011	Performing Whole Body Counts Using Apex-InVivo	Rev. 3.2
		NMP-HP-105	Comparison of OSLD and Ed Dosimetry Results	Rev. 1.4
		NMP-HP-106	Investigation of Exposures Exceeding Fleet Administrative Limits	Rev. 2.1
		NMP-HP-108	Issuance, Use, and Collection of Personnel Dosimetry	Rev. 2.1
		NMP-HP-108-001	Instructions for Issuing and Activating Dosimetry and Updating Dose Records in HIS-20	Rev. 2.2
		NMP-HP-108-002	Use of EDE (Effective Dose Equivalent) Methodologies	Rev. 3.2
		NMP-HP-109	Investigation, Evaluation and Management of Damaged, Lost, Malfunctioning or Alarming Dosimetry	Rev. 2.6
		NMP-HP-201	Personnel Dosimetry Program	Rev. 2.6

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Radiation Surveys	2H18 PERIMETER OSL EXPOSURE REPORT	2H18 PERIMETER OSL EXPOSURE REPORT	02/27/2019
71151	Corrective Action Documents		Electronic Dosimeter Condition Reports: CR 10603790, CR10657167, CR10657410, 10735779, & 10746697	Various
	Miscellaneous		Electronic Dosimeter Dose and Dose Rate Alarm Logs March 1, 2019 thru September 25, 2020	09/25/2020
		1st thru 3rd Quarter 2020	Joseph M Farley Nuclear Plant Open EMS Report - Doses to a member of the public due to Liquid Releases	09/28/2020
		1st thru 3rd Quarter 2020	Joseph M Farley Nuclear Plant Open EMS Report - Doses due to Radio-Iodines, Tritium, and Particulates in Gaseous Releases	09/28/2020
		1st thru 3rd Quarter 2020	Joseph M Farley Nuclear Plant Open EMS Report - Air Doses Due To Gaseous Releases	09/28/2020
		1st thru 4th Quarter 2019	2019 Joseph M Farley Nuclear Plant Open EMS Report - Annual Radioactive Effluent Release Report, Air Doses Due To Gaseous Releases	03/25/2020
		1st thru 4th Quarter 2019	2019 Joseph M Farley Nuclear Plant Open EMS Report - Annual Radioactive Effluent Release Report, Doses to a member of the public due to Liquid Releases	03/25/2020
		1st thru 4th Quarter 2019	2019 Joseph M Farley Nuclear Plant Open EMS Report - Annual Radioactive Effluent Release Report, Doses due to Radio-Iodines, Tritium, and Particulates in Gaseous Releases	03/25/2020
	Procedures	NMP-AD-029	Preparation and Reporting of Regulatory Assessment Performance Indicator Data and the Monthly Operating Report	Version 2.0
		NMP-AD-034	Key Performance Indicators	Version 10.0