



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

August 12, 2016

EA-16-159

Cheryl A. Gayheart, Vice President
Southern Nuclear Operating Company, Inc.
Joseph M. Farley Nuclear Plant
7388 North State Highway 95
Columbia, AL 36319

**SUBJECT: JOESEPH M. FARLEY NUCLEAR PLANT – NRC INTERGRATED INSPECTION
REPORT 05000348/2016002 and 05000364/2016002; AND EXERCISE OF
ENFORCEMENT DISCRETION**

Dear Ms. Gayheart:

On June 30, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Joseph M. Farley Nuclear Plant, Units 1 and 2. On July 20, 2016, the NRC inspectors discussed the results of this inspection with you and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

NRC inspectors documented one finding of very low safety significance (Green) in this report which involved a violation of NRC requirements. Further, inspectors documented licensee-identified violations, which were determined to be of very low safety significance, in this report. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2.a of the Enforcement Policy. If you contest the violations or significance of these NCVs, 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, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC resident inspector at Farley.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region II, and the NRC resident inspector at Farley.

In addition, the report documents one violation without an associated licensee performance deficiency. The NRC is exercising enforcement discretion for this violation in accordance with Section 2.2.4.d of the Enforcement Policy

In accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Joel T. Munday, Director
Division of Reactor Projects

Docket No(s): 05000348, 05000364
License No(s): NPF-2, NPF-8
Enclosure: Inspection Report 05000348/2016002
and 05000364/2016002
w/Attachment: Supplemental Information

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Letter to Cheryl A. Gayheart from Joel T. Munday dated August 12, 2016

SUBJECT: JOESPEH M. FARLEY NUCLEAR PLANT – NRC INTERGRATED INSPECTION
REPORT 05000348/2016002 and 05000364/2016002; AND EXERCISE OF
ENFORCEMENT DISCRETION

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.: 50-348, 50-364, 72-1014

License Nos.: NPF-2, NPF-8

Report No.: 05000348/2016002; and 05000364/2016002

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Joseph M. Farley Nuclear Plant

Location: Columbia, Alabama

Dates: April 1, 2016 through June 30, 2016

Inspectors: P. Niebaum, Senior Resident Inspector
K. Miller, Resident Inspector
J. Rivera-Ortiz, Senior Reactor Inspector (1R08)
E. Powell, Project Engineer (4OA3.3, 4OA7)

Approved by: Joel T. Munday, Director
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000348/2016002; and 05000364/2016002, April 1, 2016 through June 30, 2016; Joseph M. Farley Nuclear Plant, Units 1 and 2, Problem Identification and Resolution

The report covered a 3-month period of inspection by resident inspectors and a regional inspector. One NRC-identified violation is documented in this report. The significance of inspection findings are indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," (SDP) dated April 29, 2015. The cross-cutting aspects are determined using IMC 0310, "Aspects within the Cross-Cutting Areas," dated December 4, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated August 1, 2016. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 6. Documents reviewed by the inspectors which are not identified in the Report Details are identified in the List of Documents Reviewed section of the Attachment.

Cornerstone: Mitigating Systems

- Green: An NRC-identified non-cited violation (NCV) of Technical Specification (TS) 5.4.1 "Procedures," was identified with two examples. The licensee failed to implement and maintain surveillance test procedures for surveillance requirements (SR) 3.8.4.4 and SR 3.8.4.2. As a result, the licensee failed to perform actions to satisfy TS surveillance requirements and the battery terminal fasteners corroded and degraded over time. This event was entered into the licensee's corrective action program as condition report (CR) 10206961. The licensee conducted the surveillance tests and implemented work order (WO) 777073 to remove visible terminal corrosion, replace corroded termination hardware, and verify battery cell-to-cell and terminal connections were coated with anti-corrosion material.

The licensee's failure to implement and maintain procedures used to satisfy surveillance requirements for the Unit 1 '1B' 125VDC auxiliary building battery was a performance deficiency. The performance deficiency was more than minor because, if left uncorrected, it had the potential to result in excessive corrosion buildup on the battery cell-to-cell and terminal connections which could have impacted the ability of the battery to perform its safety-related function. The significance of the finding was of very low safety significance (Green) because it was not a design or qualification deficiency, it did not represent a loss of system safety function of a single train for greater than its Technical Specification allowed outage time, and it did not screen as potentially risk significant due to seismic, flooding, or severe weather initiating events. The inspectors determined the finding had a cross-cutting aspect of Resources in the Human Performance area, because the licensee failed to ensure procedures used to conduct TS surveillance requirements for the '1B' 125 VDC auxiliary building battery were adequate and implemented correctly. [H.1] (Section 4OA2)

Two violations of very low safety significance that were identified by the licensee have been reviewed by the NRC. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. These violations and corrective action tracking numbers are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Unit 1 started the report period at approximately 91 percent rated thermal power (RTP) due to the closure of main turbine governor valve (GV) #1. On April 1, a load reduction to 86 percent RTP was initiated to support GV #1 troubleshooting and repairs. Following repairs, the unit was returned 100 percent RTP. On April 25, a load reduction to approximately 91 percent RTP was initiated when main turbine GV #2 drifted partially closed. On April 26, power was reduced to 85 percent to support main turbine valve surveillance testing. On April 30, power was raised to approximately 100 percent following repairs to GV #2. On June 6, power was briefly lowered to 82 percent RTP to restore extraction steam to the 5A feedwater heater following main turbine governor valve testing. The unit operated at 100 percent RTP through the end of the report period.

Unit 2 started the report period at 99 percent RTP coasting down into a planned refueling outage. On April 10, the unit was shut down for the refueling outage. On May 9, the unit was restarted. On May 11, the unit was manually tripped from 29 percent RTP due to high steam generator water levels. On May 12, Unit 2 was restarted and reached 100 percent RTP on May 17. On June 15, the unit was shut down to repair a steam leak. On June 16, the unit was restarted and reached 100 percent RTP on June 17. The unit operated at 100 percent RTP through the end of the report period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

a. Inspection Scope

Summer Readiness of Offsite and Alternate AC Power System: The inspectors reviewed the licensee's procedures for operation and continued availability of offsite and onsite alternate AC power systems. The inspectors also reviewed the communications protocols between the transmission system operator and the licensee to verify that the appropriate information is exchanged when issues arise that could affect the offsite power system. The inspectors reviewed the material condition of offsite and onsite alternate AC power systems (including switchyard and transformers) by performing a walkdown of the switchyard.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

a. Inspection Scope

Partial Walkdown: The inspectors verified that critical portions of the following systems were correctly aligned by performing partial walkdowns. The inspectors determined the

correct system lineup by reviewing plant procedures and drawings listed in the Attachment.

- Unit 2, Containment Spray System, “B” Train
- Unit 1, Penetration Room Filtration System, “B” Train
- Unit 1, Component Cooling Water (CCW) System, “A” and “B” Train with 1B CCW pump out of service (OOS)
- Unit 2, Residual Heat Removal System, “A” Train

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05AQ)

a. Inspection Scope

Quarterly Inspection: The inspectors evaluated the adequacy of fire plans by comparing the fire plans to the defined hazards and defense-in-depth features specified in the fire protection program the following six fire areas.

- Unit 2, Room 2212 – 2B 125 VDC Auxiliary Building Battery Room, Fire Area 2-016, Fire Zone 2212
- Unit 2, Room 2214 – 2A 125 VDC Auxiliary Building Battery Room, Fire Area 2-017, Fire Zone 2214
- Unit 2, Room 2224 – 2A 125 VDC Switchgear Room, Fire Area 2-018, Fire Zone 2224
- Unit 2, Room 2226 – 2B 125 VDC Switchgear Room, Fire Area 2-019, Fire Zone 2226
- Unit 2, Room 2213 – 125 VDC Battery Service Room, Fire Area 2-020, Fire Zone 2213
- Unit 2, Room 2225 – 2C 125 VDC Charger Room, Fire Area 2-020, Fire Zone 2225

The inspectors assessed the following:

- control of transient combustibles and ignition sources
- fire detection systems
- water-based fire suppression systems
- gaseous fire suppression systems
- manual firefighting equipment and capability
- passive fire protection features
- compensatory measures and fire watches
- issues related to fire protection contained in the licensee’s corrective action program
- material condition and operational status of fire protection equipment

b. Findings

No findings were identified.

1R08 Inservice Inspection Activities (IP 71111.08)a. Inspection Scope

Non-Destructive Examination Activities and Welding Activities: The inspectors conducted an onsite review of the implementation of the licensee's in-service inspection (ISI) program for monitoring degradation of the reactor coolant system boundary, risk-significant piping and component boundaries, and containment boundaries in Unit 2. The inspectors directly observed and reviewed documentation for the non-destructive examinations (NDEs) listed below that were mandated by the ASME BPV Code (Code of Record: 2001 Edition through 2003 Addenda) or Farley's Risk-Informed ISI Program to evaluate compliance with the applicable requirements, and verify that indications or defects were dispositioned in accordance with the ASME BPV Code, or an NRC-approved alternative requirement. The inspectors also reviewed the qualifications of the NDE technicians performing the examinations, to determine whether they were in compliance with the ASME BPV Code requirements.

- Ultrasonic Examination (UT) of Weld APR1-4102-3-RB, Pipe to Elbow, Safety Injection System (Accumulator), ASME Class 2, Risk-Informed ISI
- UT of Weld APR1-4102-4-RB, Elbow to Pipe, Safety Injection System (Accumulator), ASME Class 2, Risk-Informed ISI
- UT of Weld APR1-4102-2-RB, Pipe to Pipe, Safety Injection System (Accumulator), ASME Class 2, Risk-Informed ISI
- Magnetic Particle Examination (MT) of Component APR2-4201-2MS-R510 (W2), Pipe Integral Attachment, Main Steam System, ASME Class 2
- Liquid Penetrant Examination (PT) of Component APR2-1120-2CVC-R634 (W8), Excess Letdown Delay Tank, Integral Attachments, ASME Class 2

The inspectors reviewed final records for the welding activities listed below to evaluate compliance with procedures and the ASME BPV Code, Section XI and Section IX requirements. Specifically, the inspectors reviewed the work order (WO), repair and replacement plan, weld data sheets, welding procedures, procedure qualification records, welder performance qualification records, and NDE reports.

- Work Order SNC639907, Install Two New Air Operated Valves, Q2G31V033A/B (Welds 5F, 6F, and 8F)
- Work Order SNC651349, Replace Q2N23V019B 2B Motor Driven Auxiliary Feedwater Pump Recirculation Flow Control Valve and Associated Piping (Welds 2F, 3F, and 4F)

During nondestructive surface and volumetric examinations performed since the previous Unit 2 refueling outage, the licensee did not identify any relevant indications that were analytically evaluated and accepted for continued service; therefore, no NRC review was completed for this inspection procedure attribute. However, the inspectors reviewed the licensee's disposition of three recordable indications identified during the PT examination of component APR2-1120-2CVC-R634 (W8) to verify compliance with the ASME BPV Code requirements.

Pressurized Water Reactor Vessel Upper Head Penetration Inspection Activities: The licensee did not perform bare metal visual or volumetric examination of the reactor

vessel upper head penetrations in the last Unit 2 refueling outage. The inspectors confirmed the dates of the last bare metal visual and volumetric examinations to verify that no examinations were required during the 2016 Unit 2 refueling outage in accordance with the requirements of ASME Code Case N-729-1, as modified by 10 CFR 50.55a(g)(6)(ii)(D) and NRC-approved alternatives.

The licensee did not identify any relevant indications that were accepted for continued service. Additionally, the licensee did not perform any welding repairs to the vessel head penetrations since the beginning of the last Unit 2 refueling outage; therefore, no NRC review was completed for these inspection procedure attributes.

Boric Acid Corrosion Control Inspection Activities: The inspectors reviewed the licensee's boric acid corrosion control program (BACCP) activities to determine if the activities were implemented in accordance with the commitments made in response to NRC Generic Letter 88-05, "Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary Components in PWR Plants," and applicable industry guidance documents. Specifically, the inspectors performed an onsite records review of procedures, and the results of the licensee's containment walkdown inspections performed during the current refueling outage. The inspectors also interviewed plant staff and conducted an independent walkdown of accessible areas of the Unit 2 reactor building containment, to evaluate compliance with licensee's BACCP requirements, and verified that degraded or non-conforming conditions, such as boric acid leaks, were properly identified and corrected in accordance with the licensee's BACCP and the corrective action program (CAP).

The inspectors reviewed the documents listed below that addressed boric acid indications to verify that engineering evaluations and corrective actions met the applicable program requirements. The inspectors verified that the engineering evaluations properly applied applicable corrosion rates to the affected components; and properly assessed the effects of corrosion induced wastage on structural or pressure boundary integrity in accordance with the licensee procedures. The inspectors verified that corrective actions related to evidence of boric acid leakage were consistent with the requirements of the ASME BPV Code and 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action."

- Corrosion Assessment Number 1B13-2015-003, Boric Acid Indication on Equipment Q1B13V094B
- Corrosion Assessment Number 1B13-2015-002, Boric Acid Indication on Equipment Q1B13V075B
- Corrosion Assessment Number 1B13-2015-001, Boric Acid Indication on Equipment Q1B13V003
- Condition Report 10208194, Boric Acid Found on Equipment Q2E21V0039A
- Condition Report 10209404, Minor Dry Residue at Cold Leg Manway Gasket Joint, Component Q2B21H001B
- Condition Report 10209407, Minor Dry Residue at Manway Gasket Joint, Equipment Q2B31K001

Steam Generator Tube Inspection Activities: The licensee did not perform eddy current examination of the steam generator tubes during the last Unit 2 refueling outage. The inspectors reviewed the licensee's Operational Assessment to verify that for the Unit 2

steam generator tubes, no inspection activities were required during the last refueling outage in accordance with the requirements of the licensee's Technical Specifications and Nuclear Energy Institute 97-06, "Steam Generator Program Guidelines."

Identification and Resolution of Problems: The inspectors reviewed a sample of ISI-related issues entered into the CAP as nuclear condition reports (NCRs) to determine if the licensee had appropriately described the scope of the problem, and had initiated corrective actions. The inspectors performed this review to ensure compliance with 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action" requirements.

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program and Licensed Operator Performance (71111.11)

a. Inspection Scope

Resident Inspector Quarterly Review of Licensed Operator Regualification: The inspectors observed an evaluated simulator scenario administered to an operating crew conducted in accordance with the licensee's accredited requalification training program. The inspectors assessed the following:

- licensed operator performance
- the ability of the licensee to administer the scenario and evaluate the operators
- the quality of the post-scenario critique
- simulator performance

Resident Inspector Quarterly Review of Licensed Operator Performance: The inspectors observed licensed operator performance in the main control room during the planned reactor shutdown of Unit 2 on April 10, during a load reduction of Unit 1 to approximately 91% RTP following partial closure of main turbine governor valve #2 on April 25, and during the reactor startup of Unit 2 on May 9, 2016. The inspectors assessed the following:

- use of plant procedures
- control board manipulations
- communications between crew members
- use and interpretation of instruments, indications, and alarms
- use of human error prevention techniques
- documentation of activities
- management and supervision

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors assessed the licensee's treatment of the two issues listed below to verify the licensee appropriately addressed equipment problems within the scope of the maintenance rule (10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants"). The inspectors reviewed procedures and records to evaluate the licensee's identification, assessment, and characterization of the problems as well as their corrective actions for returning the equipment to a satisfactory condition. The inspectors also interviewed system engineers and the maintenance rule coordinator to assess the accuracy of performance deficiencies and extent of condition.

- Unit 2, 2C atmospheric relief valve (ARV) repeat maintenance preventable functional failures requiring (a)(1) plan
- Unit 2, G21-F03, Containment cooler condensate level monitoring system functional failures and (a)(1) plan

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

a. Inspection Scope

The inspectors reviewed the four maintenance activities listed below to verify that the licensee assessed and managed plant risk as required by 10 CFR 50.65(a)(4) and licensee procedures. The inspectors assessed the adequacy of the licensee's risk assessments and implementation of risk management actions. The inspectors also verified that the licensee was identifying and resolving problems with assessing and managing maintenance-related risk using the corrective action program. Additionally, for maintenance resulting from unforeseen situations, the inspectors assessed the effectiveness of the licensee's planning and control of emergent work activities.

- Unit 2, April 13, 2016, replace agastat relay in ER05 600V circuit breaker
- Unit 1, May 24, 2016, planned maintenance on the 1A component cooling water (CCW) pump
- Unit 2, June 14, 2016, evaluation of steam leak down stream of main steam isolation valves (MSIV)
- Unit 1, June 14, 2016, planned maintenance on the 1B CCW pump

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15)

a. Inspection Scope

Operability Determinations and Functionality Assessments Review: The inspectors selected the six operability determinations or functionality evaluations listed below for review based on the risk-significance of the associated components and systems. The inspectors reviewed the technical adequacy of the determinations to ensure that technical specification operability was properly justified and the components or systems remained capable of performing their design functions. To verify whether components or systems were operable, the inspectors compared the operability and design criteria in the appropriate sections of the technical specification and updated final safety analysis report to the licensee's evaluations. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. Additionally, the inspectors reviewed a sample of corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with operability evaluations.

- CR10209365, Q1R16BKRER02, Unit 1 supply circuit breaker to 600V 1R load center, tripped open
- CR10211025, Adequacy of seismically supported valve encapsulation covers
- CR10211352, Service water vacuum breaker Q2P16V679 stuck shut
- CR10216140, Units 1 & 2, 1-2A diesel generator firing pressure imbalance
- CR10213596, Inadequate historical justification for exceeding maximum total thrust condition for motor-operated main feedwater stop valve Q2N21MOV3232C
- CR10212046, Units 1 & 2 charging pump motor operated minimum flow isolation valves Q1E21MOV8109A, B, & C, and Q2E21MOV8109A, B, & C exceeding maximum total thrust condition

Operator Workaround Management: The inspectors performed a review of the licensee's operator workarounds to verify that they are identified at an appropriate threshold and addressed in a manner that manages adverse effects on operators and equipment. The inspectors verified that the licensee identified the full extent of issues, performed appropriate evaluations, and planned appropriate corrective actions regarding operator workarounds. The inspectors also reviewed compensatory actions and the cumulative effects of other operator workaround's on plant operation.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

a. Inspection Scope

For the following plant modification listed below, the inspectors:

- Verified that the modifications did not affect the safety functions of important safety systems.

- Confirmed the modifications did not degrade the design bases, licensing bases, and performance capability of risk significant structures, systems and components.
- Verified modifications performed during plant configurations involving increased risk did not place the plant in an unsafe condition.
- Evaluated whether system operability and availability, configuration control, post-installation test activities, and changes to documents, such as drawings, procedures, and operator training materials, complied with licensee standards and NRC requirements.
- Reviewed a sample of related corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with modifications.

Plant Modification

- Temporary configuration change (TCC) SNC788310, Main steam isolation valve (MSIV) Furmanite Clamp Q2N11V002B

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors either observed post-maintenance testing or reviewed the test results for the six maintenance activities listed below to verify the work performed was completed correctly and the test activities were adequate to verify system operability and functional capability.

- Work Order (WO) SNC778352, HV3235A operator air leakage
- WO SNC567505, Replace Agastat relay for 600V load center 1-2R, circuit breaker ER05
- WO SNC499763, Replace 2B Residual Heat Removal (RHR) Pump Motor
- WO SNC786443, Adjust source range NI-31
- WO SNC572114, Disassemble and inspect 2B motor driven auxiliary feedwater pump
- WO SNC526746, Perform inspection of main feedwater stop valve Q2N21MOV3232C

The inspectors evaluated these activities for the following:

- Acceptance criteria were clear and demonstrated operational readiness.
- Effects of testing on the plant were adequately addressed.
- Test instrumentation was appropriate.
- Tests were performed in accordance with approved procedures.
- Equipment was returned to its operational status following testing. Test documentation was properly evaluated.

Additionally, the inspectors reviewed a sample of corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with post-maintenance testing.

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

For the Unit 2 refueling outage from April 10, 2016 through May 11, 2016, the inspectors evaluated the following outage activities:

- outage planning
- fatigue management
- shutdown, cooldown, refueling, heatup, and startup
- reactor coolant system instrumentation and electrical power configuration
- reactivity and inventory control
- decay heat removal and spent fuel pool cooling system operation
- containment closure

The inspectors verified that the licensee:

- considered risk in developing the outage schedule
- controlled plant configuration in accordance with administrative risk reduction methodologies
- developed work schedules to manage fatigue
- developed mitigation strategies for loss of key safety functions
- adhered to operating license and technical specification requirements

Inspectors verified that safety-related and risk-significant structures, systems, and components not accessible during power operations were maintained in an operable condition. The inspectors also reviewed a sample of related corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with outage activities.

b. Findings

No findings were identified. A licensee-identified violation was dispositioned in Section 4OA7.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the six surveillance tests listed below. The surveillance test was either observed directly or test results were reviewed to verify testing activities and results provide objective evidence that the affected equipment remain capable of performing their intended safety functions and maintain their operational readiness consistent with the facility's current licensing basis. The inspectors evaluated the test activities to assess for:

- preconditioning of equipment,
- appropriate acceptance criteria,
- calibration and appropriateness of measuring and test equipment,

- procedure adherence, and
- equipment alignment following completion of the surveillance.

Additionally, the inspectors reviewed a sample of significant surveillance testing problems documented in the licensee's corrective action program to verify the licensee was identifying and correcting any testing problems associated with surveillance testing.

Routine Surveillance Tests

- FNP-2-STP-80.14, A Train LOSP and Sequencer Load Shedding Circuit Test, Ver. 62
- FNP-2-STP-905.0, 2B 125 Volt DC Auxiliary Building Battery Inspection, Ver. 14
- FNP-2-STP-41.1B, Source Range Functional Check, Ver. 18
- FNP-2-STP-101.0, Low Power Reactor Physics Testing, Ver. 28.0

Containment Isolation Valve

- FNP-2-STP-627.0, Local Leak Rate Testing of Containment Penetrations, Ver. 58.1

In-Service Tests (IST)

- FNP-2-STP-22.32, Turbine Driven Auxiliary Feedwater Pump Comprehensive and Pre-Service test, Ver. 7

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

40A1 Performance Indicator Verification (71151)

a. Inspection Scope

The inspectors verified that the PI data complied with guidance contained in Nuclear Energy Institute 99-02, "Regulatory Assessment Performance Indicator Guideline," and licensee procedures. The inspectors verified the accuracy of reported data that were used to calculate the value of each PI.

Cornerstone: Mitigating Systems

- residual heat removal system (both units)
- cooling water system (both units)

The inspectors reviewed a sample of the performance indicator (PI) data, submitted by the licensee, for these PIs. The inspectors reviewed plant records compiled between April 2015 and March 2016 to verify the accuracy and completeness of the data reported for the station. In addition, the inspectors reviewed a sample of related corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with PI data.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152)

.1 Routine Review

The inspectors screened items entered into the licensee's corrective action program in order to identify repetitive equipment failures or specific human performance issues for follow-up. The inspectors reviewed condition reports, attended screening meetings, or accessed the licensee's computerized corrective action database.

.2 Semi-Annual Trend Review

a. Inspection Scope

The inspectors reviewed issues entered in the licensee's corrective action program and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors focused their review on work orders that were closed without any work performed, but also considered the results of inspector daily condition report screenings, licensee trending efforts, and licensee human performance results. The review nominally considered the 6-month period of January through June 2016, although some examples extended beyond those dates when the scope of the trend warranted. The inspectors compared their results with the licensee's analysis of trends. Additionally, the inspectors reviewed the adequacy of corrective actions associated with a sample of the issues identified in the licensee's trend condition reports. The inspectors also reviewed corrective action documents that were processed by the licensee to identify potential adverse trends in the condition of structures, systems, and/or components as evidenced by acceptance of long-standing non-conforming or degraded conditions.

b. Findings and Observations

No findings were identified.

.3 Annual Follow-up of Selected Issues

a. Inspection Scope

The inspectors conducted a detailed review of condition report (CR) 10198439, "U1 Aux. Bldg. battery terminal connections require cleaning."

The inspectors evaluated the following attributes of the licensee's actions:

- complete and accurate identification of the problem in a timely manner
- evaluation and disposition of operability and reportability issues
- consideration of extent of condition, generic implications, common cause, and previous occurrences
- classification and prioritization of the problem
- identification of root and contributing causes of the problem
- identification of any additional condition reports
- completion of corrective actions in a timely manner

b. Findings

Introduction: The inspectors identified a Green non-cited violation of Technical Specification (TS) 5.4.1 “Procedures,” with two examples. The licensee failed to implement and maintain surveillance test procedures for surveillance requirements (SR) 3.8.4.4 and SR 3.8.4.2. As a result, the licensee failed to perform actions to satisfy TS surveillance requirements and the battery terminal fasteners corroded and degraded over time.

Description: On March 17, 2016, the inspectors identified excessive corrosion on battery terminal fasteners on the Unit 1 safety-related “1B” 125 VDC auxiliary building battery. The licensee entered this issue into the corrective action program (CAP) as condition report (CR) 10198439. Technical Specification (TS) Surveillance Requirement (SR) 3.8.4.4 required; “Remove visible terminal corrosion, verify battery cell-to-cell and terminal connections are coated with anti-corrosion material.” Surveillance Test Procedure FNP-1-STP-905.0, “Auxiliary Building Battery Inspection,” (an inspection performed on an 18-month frequency) was used to implement SR 3.8.4.4 and was last performed by plant electricians on March 31, 2015 (WO SNC394564). The inspectors concluded that the procedure was inadequate since there was no procedural step to perform and sign-off the inspection for removal of visible terminal corrosion and coating terminal connections with NO-OX-ID grease to ensure that SR 3.8.4.4 requirements had been met. The inadequate surveillance test procedure was discussed with the licensee on March 21, 2016, and CR 10200009 was initiated to “Revise procedures FNP-1/2-STP-905.0 – Auxiliary Building Battery Inspection (Q1/2R42E002A and Q1/2R42E002B) to add a specific sign-off that provides instructions to verify SR 3.8.4.4.”

On March 23, 2016, the licensee completed their extent-of-condition review of battery surveillance tests, and identified two missed quarterly surveillance tests on the Unit 1 “1B” Auxiliary Building Battery. Surveillance Test Procedure FNP-1-STP-905.4, “Auxiliary Building Battery Quarterly Verification,” (an inspection performed on a 3-month frequency) was last performed by plant electricians on December 26, 2015 (WO SNC619191). SR 3.8.4.2 specifies: “Verify no visible corrosion at battery terminals and connectors OR Verify post-to-post battery connection resistance of each cell-to-cell and terminal connection is ≤ 150 microhms for the Auxiliary Building batteries.” Personnel performing the procedure noted that corrosion was present, but did not perform step 7.11.1. This step stated; “IF corrosion exists, verify the corroded terminals post-to-post battery connection resistance of each cell-to-cell and terminal connection is ≤ 150 microhms. See Acceptance Criteria.” An additional missed quarterly surveillance test was noted with FNP-1-STP-905.4 performed on October 10, 2015 (WO SNC599660). The licensee initiated CR 10201188 on March 23, 2016.

Analysis: The licensee’s failure to implement and maintain procedure FNP-1-STP-905.0 to meet the surveillance requirement SR 3.8.4.4 (on March 31, 2015) and procedure FNP-1-STP-905.4 to meet the surveillance requirement SR 3.8.4.2 (on October 10, 2015, and December 26, 2015) for the Unit 1 “1B” 125 VDC auxiliary building battery was a performance deficiency. The performance deficiency was more than minor because if left uncorrected, the performance deficiency had the potential to lead to a more significant safety concern. Specifically, the inadequate surveillances resulted in corrosion buildup on the battery cell-to-cell and terminal connections. Uncorrected excessive corrosion had the potential to degrade the battery cell-to-cell and terminal connections that could have led to the inability of the battery to perform its safety-related

function following a design basis event. The significance of this finding was evaluated using IMC 0609, Appendix A, "The Significance Determination Process (SDP) for findings at Power" dated June 19, 2012. This finding was determined to be of very low safety significance (Green) because it was not a design or qualification deficiency, it did not represent a loss of system safety function of a single train for greater than its Technical Specification allowed outage time, and it did not screen as potentially risk significant due to seismic, flooding, or severe weather initiating events. The inspectors determined the finding had a cross-cutting aspect of Resources in the Human Performance area, because the licensee failed to ensure procedures used to conduct TS surveillance requirements for the '1B' 125 VDC auxiliary building battery were adequate and implemented correctly. [H.1]

Enforcement: Technical Specifications 5.4.1, "Procedures," required, in part, that written procedures shall be established, implemented and maintained covering activities recommended in Regulatory Guide (RG) 1.33, Revision 2, Appendix A. Section 8.b of RG 1.33, Appendix A, specified, in part, that procedures for surveillance tests should be written (implementing procedures are required for each surveillance listed in the technical specifications). Section 8.b (1)(q) required specific procedures for Emergency Power tests. Contrary to the above, on two occasions, the licensee failed to maintain and implement Emergency Power test surveillance procedures for the Unit 1 '1B' 125 VDC Auxiliary Building Battery. In the first example, on March 31, 2015, the licensee failed to maintain adequate guidance in procedure FNP-1-STP-905.0 to meet the surveillance requirement SR 3.8.4.4 for the Unit 1 'B' auxiliary building battery. In the second example, on October 10, 2015, and on December 26, 2015, the licensee failed to perform FNP-1-STP-905.4, as written, resulting in surveillance requirement SR 3.8.4.2 not being satisfied for the Unit 1 '1B' 125 VDC auxiliary building battery. This event was entered into the licensee's corrective action program with CR 10206961. The licensee implemented WO 777073 to remove visible terminal corrosion, replace corroded termination hardware, and verify battery cell-to-cell and terminal connections were coated with anti-corrosion material. Because this finding was of very low safety significance and was entered into the corrective action program, this violation was treated as an NCV, consistent with the Enforcement Policy. NCV 05000348/2016002-01, "Failure to Perform TS Surveillance Requirements for Safety-Related Batteries."

4OA3 Follow-up of Events (71153)

.1 Unit 2 Reactor Manually Tripped From 29% Power

a. Inspection Scope

The inspectors responded to a Unit 2 manual reactor trip that occurred on May 11, 2016, due to "hi-hi" steam generator water level. Steam generator levels began to rise following the start of a second condensate pump. The hi-hi steam generator level setpoint was reached causing the only running main feedwater pump to trip, a main feedwater isolation, and an automatic turbine trip. Auxiliary feedwater automatically started as expected. The reactor was manually tripped per procedure. All other systems responded properly for the event and there were no complications. The plant was stable in Mode 3 following the trip.

The inspectors discussed the preliminary cause of the trip with the licensee and reviewed unit parameters and system response to verify that equipment responded to the reactor trip as designed. The inspectors also reviewed parts of the licensee's post-

trip review. The inspectors reviewed the initial licensee event notification to verify that it was timely and accurate in accordance with regulatory requirements.

b. Findings

No findings were identified.

.2 (Closed) Licensee Event Report 05000348 and 05000364/2015-005-00 and 2015-005-01, Condition Prohibited by Technical Specifications Due to Turbine Driven Auxiliary Feedwater Design Issue

a. Inspection Scope

The LER describes an issue with the Unit 1 and Unit 2 turbine driven auxiliary feedwater (TDAFW) pumps. On Nov. 20, 2015, during a planned surveillance test, the Unit 1 TDAFW pump over sped and tripped resulting in a start failure. The overspeed trip was caused by a design issue introduced to the governor control system in April 2015. The same design change was implemented on the Unit 2 TDAFW pump governor control system in January 20, 2015. This condition made both units' TDAFW pumps inoperable because they were vulnerable to an overspeed trip since the design changes were made. The inspectors reviewed the LER, associated CR 10149716 and apparent cause determination report (CAR) 261488 to understand the cause and review the corrective actions. The inspectors also evaluated the issue for any performance deficiencies.

b. Findings

Description: On November 20, 2015, the Unit 1 TDAFW pump over sped and tripped on startup during surveillance testing. The licensee determined a previous design change that adjusted the MPU override timer setting from 10 seconds to 600 seconds resulted in a governor controller speed set point conflict that revealed itself during the performance of the test. The licensee implemented the set point change after consulting with the vendor as a corrective action to address previous issues with the setting of the MPU override timer. This new failure mode was not anticipated when the TDAFW pump governor controller MPU timer setpoint was changed in April 2015 on Unit 1, and January 2015 on Unit 2. After the modification was made on each unit, several successful starts were performed to validate the setpoint adjustment before the pumps were returned to service. Additionally, the TDAFW pumps had been successfully started 19 times on Unit 1 and 15 times on Unit 2 for surveillances, post-maintenance testing, and troubleshooting while the condition existed. Once discovered, the licensee implemented another design change to adjust the low idle speed setpoint to minimize the potential for turbine speed overshoot on startup.

Enforcement: Farley Unit 1 and 2 Technical Specification (TS) limiting condition for operation (LCO) 3.7.5, "Auxiliary Feedwater (AFW) System," required three operable AFW trains while the Unit is in modes 1, 2 or 3. With one AFW pump train inoperable, LCO 3.7.5. Condition B required restoration of the AFW train to operable status within 72 hours and within 10 days from discovery of failure to meet the LCO. Contrary to this requirement, Unit 1 operated from May 3, 2015, until November 22, 2015, with the Unit 1 turbine driven AFW inoperable. Unit 2 operated from January 10, 2015, until November 22, 2015, with the Unit 2 turbine driven AFW inoperable. A regional senior reactor analyst (SRA) performed a detailed risk evaluation to evaluate the risk increase

associated with the condition. No failures occurred on Unit 2, therefore the condition did not result in a risk increase for Unit 2. The evaluation for Unit 1 was performed using the NRC Farley SPAR model with input from the licensee's NFPA 805 Fire PRA model for the fire external event risk. The major analysis assumptions for Unit 1 included a 200 day exposure interval, recovery credit for local manual overspeed trip reset evaluated using the NRC SPAR-H human reliability analysis method, and an overspeed trip startup failure probability determined from plant specific data. The dominant risk sequence was a total loss of service water resulting in a plant trip and failure of the motor driven auxiliary feedwater (MDAFW) pumps, with failure of the turbine driven AFW pump due to the overspeed trip condition on startup with failure of the operator to accomplish overspeed trip reset which would lead to loss of core heat removal and core damage. The result of the detailed risk evaluation was an increase in risk due to the condition of $<1.0 \text{ E-6/ year}$. The inspectors concluded that the violation was of very low safety significance (Green) and consistent with a Severity Level IV violation.

The NRC exercised enforcement discretion (Enforcement Action EA-16-159) for this violation in accordance with sections 2.2.4.d and 3.5 of the NRC's Enforcement Policy because the impact of the design change was not within the licensee's ability to foresee and correct beforehand. The inspectors reached this conclusion due to the number of successful TDAFW pump starts following implementation of the design change and the specific vendor recommendation to adjust the MPU override timer setting to greater than 30 seconds. This issue was entered into the licensee's corrective action program as CR 10149716.

.3 (CLOSED) Licensee Event Report (LER) 05000364/2015-002, Entry Into a Condition Prohibited By Technical Specifications due to all Containment Cooling Level Monitoring Systems Inoperable

a. Inspection Scope

This LER describes an issue with the Unit 2 containment cooler level monitoring systems as required by Technical Specifications 3.4.15, "RCS Leakage Detection Instrumentation". On Nov. 12, 2015 during a planned maintenance outage, the licensee discovered that all RCS leakage detection instrumentation had been inoperable for a period longer than allowed by the Technical Specifications. The inspectors reviewed this LER, associated condition report and root cause report module to evaluate the cause(s) of the issue and the planned corrective actions.

b. Findings

A licensee-identified violation was dispositioned for this issue in Section 4OA7 of this report.

.4 Unit 2 Maintenance Outage

a. Inspection Scope

The inspectors observed a Unit 2 reactor shutdown to Mode 3 to repair a steam leak downstream of the main steam isolation valves on June 15, 2016. The inspectors monitored the licensee's assessment of plant risks associated with a shutdown as well

as the repair of the steam leak. The inspectors also observed portions of the power ascension to 100 percent RTP.

b. Findings

No findings were identified.

4OA5 Other Activities

.1 Operation of an Independent Spent Fuel Storage Installation (ISFSI) (60855.1)

a. Inspection Scope

The inspectors performed a walkdown of the onsite ISFSI on June 30, 2016. The inspectors also reviewed surveillance records to verify that daily surveillance requirements were performed as required by technical specifications.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

On July 20, 2016, the resident inspectors presented the inspection results to Ms. Cheryl Gayheart and other members of the licensee's staff. The inspectors confirmed that proprietary information provided or examined during the inspection period was properly controlled.

4OA7 Licensee-Identified Violations

The following violations of very low safety significance (Green) or Severity Level IV were identified by the licensee and are violations of NRC requirements which meet the criteria of the NRC Enforcement Policy, for being dispositioned as a Non-Cited Violation.

- Technical Specifications 5.4.1, "Procedures," required, in part, that written procedures shall be established, implemented and maintained covering activities recommended in Regulatory Guide (RG) 1.33, Revision 2, Appendix A. Section 3.f of RG 1.33 Appendix A recommended in part, that instructions for changing modes of operation should be prepared for containment. Licensee procedure FNP-2-STP-34.1, "Containment Inspection (Post Maintenance)," required in part no loose debris present in containment which could be transported to the containment sump. Contrary to the above, the licensee failed to adequately implement the procedure used to ensure the Unit 2 containment was free of loose material while in Mode 3. On May 7, 2016, the licensee identified approximately 145 square feet of loose debris in the Unit 2 containment following maintenance. These items were removed from containment. On May 10, 2016, the licensee evaluated the impacts on the Unit 2 containment sump and determined a margin of approximately six square feet remained before containment sump screen functionality would be impacted. This was based on a fraction of the material reaching the sump screens due size of loose materials, location of the material in containment relative to the location of the sump screens and the amount of obstructions along the postulated flow paths. The finding

was determined to be Green, very low safety significance, because the finding did not represent an actual loss of function for greater than the TS allowed outage time. The licensee entered this issue into the corrective action program as CRs 10220077 and 10220301.

- Technical Specifications 3.4.15, “RCS Leakage Detection Instrumentation,” required that one containment atmosphere particulate radiation monitor, and one containment air cooler condensate level monitor (CCLM) or one containment atmosphere gaseous radiation monitor be operable in Modes 1 through 4. Contrary to those requirements, on August 7, 2015, Unit 2 was in Mode 1 when the licensee entered into a condition where all of the required monitors were inoperable, and failed to comply with the required actions of limiting condition for operation (LCO) 3.0.3. According to root cause report (CAR 261364), the licensee determined that CCLM system was inoperable on July 6, 2015, when the containment sump in leakage exceeded approximately one gallon per minute (gpm). On August 7, 2015, the licensee removed radiation detectors R-11 (particulate) and R-12 (gaseous) from service for maintenance. The radiation detectors in conjunction with all four containment cooler level indicators being inoperable met the entry conditions for Condition E of Technical Specifications 3.4.15, which required entry into LCO 3.0.3 immediately. This condition existed for 7 hours and 54 minutes, which exceeded the requirement of LCO 3.0.3 to be in Mode 3 within 7 hours. It was later confirmed that the “A”, “B” and “D” CCLMs were inoperable due to clogged drain lines and the “C” CCLM was tagged out for troubleshooting and repair on August 6, 2015. The inspectors determined that the licensee had previous opportunities to prevent the inoperability of the CCLM system due to the clogged drain lines. According to CAR 261706, a corrective action from February 2007 was not implemented which was a preventive maintenance task to clean and inspect the drain lines and level transmitter sensing lines. The finding was determined to be Green, very low safety significance, because the finding was not associated with loss of coolant accident (LOCA), plant transient, or support systems initiators. The licensee entered this issue into the corrective action program as CR 10155638.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel:

J. Andrews, Site Projects Manager
K. Baity, Site Design Manager
J. Carroll, Shift Operations Manager
V. Flowers, Performance Improvement Manager
B. Freeman, Engineering Supervisor
D. Gard, Operations Outage Manager
C. Gayheart, Site Vice President
S. Henry, Operations Director
J. Horn, Maintenance Director
R. Hruby, Engineering Director
J. Hutto, Plant Manager
L. Shaffield, Assistant Maintenance Director
D. Simmons, EP Supervisor
B. Taylor, Regulatory Affairs Manager
E. Williford, Licensing Supervisor
D. Brown, NDE Level III
T. Campbell, Engineering
S. Champion, ISI Program Coordinator
J. Collier, Licensing Engineer
K. King, BACCP Coordinator

LIST OF REPORT ITEMS

Opened and Closed

NCV 05000348/2016002-01 Failure to Perform TS Surveillance Requirements for Safety-Related Batteries (4OA2)

Closed

LER 05000348 and 05000364/
2015-005-00 and -01 Condition Prohibited by Technical Specifications Due to Turbine Driven Auxiliary Feedwater Design Issue (4OA3.2)

LER 05000364/2015-002-00 Entry Into a Condition Prohibited By Technical Specifications due to all Containment Cooling Level Monitoring Systems Inoperable (4OA3.3)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures:

NMP-AD-014, Requirements for Compliance with NERC Standards, Ver. 6.1

NMP-AD-014-GL01, Guidelines for Compliance with NERC Standards, Ver. 6.0
 FNP-1-UOP-3.1, Power Operation, Ver. 124
 FNP-2-SOP-36.2, 4160V AC Electrical Distribution System, Ver. 33.2
 FNP-1-STP-27.1, AC Source Verification, Ver. 38.2
 FNP-1-ARP-1.12, Annunciator Response Procedure, Main Control Board Panel M, Ver. 64
 FNP-1-ARP-1.13, Annunciator Response Procedure, Main Control Board Panel N, Ver. 22.1
 FNP-0-ARP-2.2, Annunciator Response Procedure, Emergency Power Board Board Panel W, Ver. 34
 FNP-1-AOP-5.2, Degraded Grid, Ver. 16.1
 NMP-OS-020, Station Response to Southern Company System Alert Conditions, Ver. 1.2

Drawings:

D-173000, Units 1 & 2 Low Voltage Switchyard Layout, Ver. 9
 D-177001, Unit 1 Single Line Electrical Auxiliary System (Emergency 4160 & 600V), Ver. 23

Documents:

SNC NUC-001, NUC-001 Nuclear Plant Interface Coordination for Southern Nuclear Operating Company, Ver. 2.0
 FNP-1-STP-80.16, Degraded Grid Voltage and Loss of Voltage Protection Relays Operability Test Modes 1, 2, 3, & 4, Ver 29.0 conducted on January 28, 2016
 Condition Report 10231532

Section 1R04: Equipment Alignment

Drawings:

D-205038, Unit 2 P&ID – Safety Injection System, Sht. 3, Ver. 32
 D-175022, Unit 1 P&ID – Penetration Room Filtration System, Ver. 30.0
 D-175002, Sheet 1, Unit 1 P&ID – Component Cooling Water System, Ver. 49.0
 D-175002, Sheet 2, Unit 1 P&ID – Component Cooling Water System, Ver. 28.0
 D-205041, Unit 2 P&ID – Residual Heat Removal System, Sheet 1, Ver. 19
 D-205038, Unit 2 P&ID – Safety Injection System, Sheet 2, Ver. 24
 D-205038, Unit 2 P&ID – Safety Injection System, Sheet 1, Ver. 39

Procedures:

FNP-2-SOP-9.0, Containment Spray System, Ver. 37.2
 FNP-2-SOP-9.0A, Containment Spray System, Ver. 8.0
 FNP-1-SOP-60.0A, Penetration Room Filtration System, Ver. 6.0
 NMP-MA-010, Erecting, Modifying, and Disassembling Scaffolding, Ver. 3.2
 NMP-MA-010-001, Permanent Scaffolding Installation, Modification, and Removal Process, Ver. 1.3
 FNP-1-SOP-23.0, Component Cooling Water System, Ver. 94.2
 FNP-1-SOP-23.0A, Component Cooling Water System, Ver. 13.0
 FNP-2-SOP-7.0A, Residual Heat Removal System, Ver. 10

Section 1R05: Fire Protection Annual/Quarterly

Drawings:

D170909, Unit 1 - Fire Protection Sprinkler System 1A-36, West Corridor Ortho, Rev. 5
 D170873, Sheet 1, Unit 1 – Fire Protection – P&ID, Sprinkler System 1A-36, Rev. 13
 U217754, Unit 2 – Piping Drawing Sprinkler System 2A-36, Auxiliary Building Corridor, Battery Service Rooms & Mezzanine Area – Rooms, Auxiliary Building Room, Rev. A2
 D205048, Sheet 10, Unit 2 – Fire Protection – P&ID, Sprinkler System 2A-36 & 2A-48 Auxiliary Building, Rev. 8

Documents:

U187597, Instruction Manual – Addition to Fire Protection Sprinkler System, Ver. 3.0
 Work Orders: SNC573372, SNC 559567, SNC86842, SNC 441036, SNC461249, SNC83325,
 SNC374072, SNC525264, SNC525265
 Condition Reports 10230050, 10230166, 10230170, and 10230249

Procedures:

FNP-2-FPP-1.0, Unit 2 Auxiliary Building Pre-Fire Plan, Ver. 1.0
 FNP-2-FSP-405.0, Preaction Sprinkler System (Annual), Ver. 18.0
 FNP-2-FSP-65.2A, Fire Doors Functional Inspection Auxiliary Building Train “A”, Ver. 4.0
 FNP-2-FSP-65.2B, Fire Doors Functional Inspection Auxiliary Building Train “B”, Ver. 1.0
 FNP-2-FSP-65.0A, Fire Doors and Dampers Functional Inspection Train “A”, Ver. 1.0
 FNP-2-FSP-65.0B, Fire Doors and Dampers Functional Inspection Train “B”, Ver. 1.1
 FNP-2-FSP-63.03, Visual Inspection of Penetration Fire Barriers (Auxiliary Building 121’ El.
 Battery Charging Room Area, Cable Chase), Ver. 6.0
 FNP-2-FSP-307.0 – Smoke Detectors – Biennial Operability and Adjustment, Ver. 17.0
 FNP-2-FSP-307.0S – Fire Surveillance Procedure Data Package, Zone 2A-32 – Non-Train
 Smoke Detectors, Ver. 17.0
 FNP-2-FSP-307.0T – Fire Surveillance Procedure Data Package, Zone 2A-32 – A-Train Smoke
 Detectors, Ver, 17.0
 FNP-2-FSP-307.0U – Fire Surveillance Procedure Data Package, Zone 2A-32 – B-Train Smoke
 Detectors, Ver. 17.0

Section 1R08: Inservice Inspection ActivitiesProcedures

NMP-ES-024-301, Liquid Penetrant Examination Color Contrast and Fluorescent, Version 11.1
 NMP-ES-024-401, Magnetic Particle Examination, Version 10.0
 NMP-ES-024-501, PDI Generic Procedure for the Ultrasonic Examination of Austenitic Pipe
 Welds (Appendix VIII), Version 6.0
 Welding Procedure Specification 1.20N, Revision 3
 Welding Procedure Specification 8.20N, Revision 6

Corrective Action Documents

CAR 261548, Incorrect Acceptance Criteria Calculated for Reactor Vessel Exam, 11/23/15
 CAR 264727, Follow Up and Address 2R24 NRC ISI Inspection Open Item, 4/22/16
 CR 10037098, Sulzer Pump Discharge Head Welds not in Compliance with ASME III, 3/7/15
 CR 10047824, License Renewal Inspection Detected Wall Thinning on Emergency Water Tank,
 3/30/15
 CR 10052288, SG 1C FOSAR Results, 4/8/15
 CR 10057423, License Renewal OTI – 1R26 Inadequate Code Coverage on UT Exam of Class
 1 Butt Weld, 4/18/15
 CR 10059772, Welding Errors – Missed Fit-Up Inspection and Incorrect Welding, 4/22/15
 CR 10068180, Welding Errors During Piping Replacement - SNC525541, 5/11/15
 CR 10099949, ISI Program Health Report Color Change from White to Yellow, 7/23/15
 CR 10145218, Weld 5 on Unit 2 Steam Generator C Failed PT, 11/10/15
 CR 10150396, Incorrect Acceptance Criteria Calculated For Reactor Vessel Exam, 11/23/2015
 CR 10208195, Loss of Outsurge on the Pressurizer during the Performance of FNP-2-SOP-2.4,
 4/11/16
 CR 10209186, U2 Containment Expansion Joints Need to be Sealed, 4/12/2016
 CR 544459, SNC72369 Q2P16V571 Temp Patch Is Leaking, 11/06/12
 CR 805010, Service Water Leakage, 11/16/14

CR 887428, Startup Issue - Provide Documentation for Continued Operation with Items Not Retrieved From All 3 SG, 10/30/14
TE 944944, Revise Farley 2007 ROV ISI Final Report, 12/23/2015

Other Documents

ALA-14-83, Transmittal of SG-SGMP-14-26, "Farley 2R23 Steam Generator Condition Monitoring and Operational Assessment," November 7, 2014
ALA-14-84, Transmittal of LTR-SGDA-14-54, "Evaluation of Foreign Objects in the Secondary Side of the Farley Unit 2 Steam Generators – Fall 2014 2R23 Outage" and Transmittal of EVAL-14-81, November 7, 2014
Certificate of Calibration for Thermometers, Serial Numbers 15620446, 29880013, 27280520, and 29880021
Certificate of Compliance for NDE Consumables, Batch Numbers: 15F15K (Cleaner), SKL-SP2 (Penetrant), 15F11K (Developer), 09A083 (Red Powder), and 15E016 (Ultrage II)
Certificate of Conformance for Calibration Blocks ALA-67, A18551, and 048606
Certificate of Conformance for UT Transducers Serial Numbers 009KTR, 00TBPP, 010YMF, and 05-1565
Check-In Self-Assessment (CISA) Plan and Report, 2R24 ISI NRC Routine Baseline Inspections, 12/23/2015
Corrosion Assessment 1B13-2015-003, Boric Acid Indication on Q1B13V094B, 9/30/15
NDE Report S16F2M001, Magnetic Particle Examination Report for Component APR2-4201-2MS-R510 (W2), 4/19/16
NDE Report S16F2P006, Liquid Penetrant Examination Report for Component APR2-1120-2CVC-R634 (W8), 4/29/16
NDE Report S16F2U084, UT Calibration/Examination Report for Component APR-4102-2-RB, 4/19/16
NDE Report S16F2U085, UT Calibration/Examination Report for Component APR-4102-3-RB, 4/19/16
NDE Report S16F2U086, UT Calibration/Examination Report for Component APR-4102-4-RB, 4/19/16
Personnel Qualification Records for M. Grell, D. Hancock, G. Gbemudu, D. Lesnjak, M. Bellury, J. N. Bumpus, and W. D. Williams
Pressure Test 160.7-1A, Pressure Testing of Piping and Components, Outage 2R23, WO SNC390020, 11/12/2014
Ultrasonic Instrument Linearity Reports S16F2L001 and S16F2L005
WO SNC727414, Replace Piping Assembly Between Weld-O-Let and Valve Q2N11V0014C, 11/9/15
Welding Procedure Qualification Records B025 and B06

Section 1R11: Licensed Operator Requalification Program

Documents:

F-LT-SG-S0302, LOCT 14-16 Segment 16-3 Simulator Exercise Guide, Ver. 0
Condition Report 10227757

Procedures:

NMP-TR-416, Licensed Operator Continuing Training Program Administration, Ver. 6
NMP-TR-214, Systematic Approach to Training Development Phase, Ver. 9.3
NMP-OS-007, Conduct of Operations, Ver. 11
NMP-OS-007-001, Conduct of Operations Standards and Expectations, Ver. 14.3
FNP-0-SOP-0.0, General Instructions to Operations Personnel, Ver. 161
NMP-EP-110-GL01, FNP EALs – ICs, Threshold Values and Basis, Ver. 9.0

Section 1R12: Maintenance EffectivenessDocuments:

MREP Meeting 15-15 agenda and minutes, Nov. 11, 2015

Technical Evaluations 956741, 957918, 958974, 938366

Work Order SNC727564

Condition Reports 10199766, 10213071, 10216111, 10223608, and 10137196

Procedures:

NMP-ES-027, Maintenance Rule Program, Ver. 4

NMP-ES-027-001, Maintenance Rule Implementation, Ver. 6

Section 1R13: Maintenance Risk Assessments and Emergent Work EvaluationProcedures:

NMP-GM-031, On-Line Configuration Risk Management Program, Ver. 3.0

NMP-GM-031-001, Online Maintenance Rule (a)(4) Risk Calculations, Ver. 3.0

NMP-DP-001, Operational Risk Awareness, Ver. 14.2

NMP-OS-010, Protected Train/Division and Protected Equipment Program, Ver. 7.2

Documents:

Tagout 2-PDT-R24-R16-13032, Q2R16BKRER05, Supply from SS Transformer 2R

Tagout 1-DT-16-P17-00349(001), Q1P17P001B, 1B CCW Pump

Condition Reports 10209365

Section 1R15: Operability Determinations and Functionality AssessmentsDrawings:

D-202831, Unit 2 Elementary Diagram 600V Buses 1R and 1S, Ver. 5

D-172831, Unit 1 Elementary Diagram 600V Buses 1R and 1S, Ver. 3

D-177677, Unit 1 Single Line Protection and Metering 600V LC 1R, Ver. 2

D-207001, Unit 1 Single Line – Electrical Auxiliary System, Ver. 20

D-177000, Unit 1 Single Line – Electrical Auxiliary System, Ver. 28

D-177001, Unit 1 Single Line – Electrical Auxiliary System, Ver. 20

D-200013, Unit 2 P&ID – River Water, Service Water and Circulating Water Systems, Sheet 2, Ver. 22.0

Documents:

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 FNP-2-STP-644.18, Service Water Vacuum Breaker Full Stroke Test and Inspection, Ver. 2.0
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Section 1R18: Plant ModificationsDrawings:

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Procedures:

FNP-2-SOP-17.0, Appendix 4, Main Steam Line Isolation Valve Partial Stroke Using Local Observation, Ver. 58.0
 NMP-ES-084-001-F04, Design Change/Modification Impact Review Form, Ver. 1.1
 NMP-ES-084-005, Temporary Configuration Change Process, Ver. 2.4
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Section 1R20: Refueling and Other Outage Activities

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 FNP-2-UOP-3.1, Power Operation, Ver. 111
 FNP-2-STP-35.0, Reactor Coolant System pressure and Temperature/Pressurizer Temperature Limits Verification, Ver. 22
 FNP-2-STP-29.2, Shutdown Margin Calculation (TAVG < 547F), Ver. 35.0
 FNP-2-STP-29.3, Shutdown Margin Verification With Control Rods at the Rod Insertion Limit, Ver. 12.0
 FNP-2-SOP-1.6, Draining the RCS, Ver. 49
 FNP-2-SOP-7.0, Residual Heat Removal System, Ver. 96
 FNP-0-UOP-4.0, General Outage Operations Guidance, Ver. 52
 FNP-2-UOP-1.2, Startup of Unit from Hot Standby to Minimum Load, Ver. 103.0
 FNP-2-STP-114, Determination of Moderator Temperature Coefficient at ARO Hot Zero Power and at 100% Power, Ver. 22.0
 FNP-2-STP-101.0, Low Power Reactor Physics Testing, Ver. 28.0
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 FNP-2-STP-627.0, Local Leak Rate Testing of Containment Penetrations, Ver. 58
 FNP-2-STP-905.0, Auxiliary Building Battery Inspection, Ver. 14.0
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 FNP-0-M-151.0, NRC Mitigating Systems Performance Index (MSPI) Basis Document, Ver.
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Section 40A5: Other Activities

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