



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

May 8, 2015

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

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT - NRC INTEGRATED INSPECTION
REPORT 05000348/2015001 AND 05000364/2015001

Dear Ms. Gayheart:

On March 31, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Joseph M. Farley Nuclear Plant, Units 1 and 2. On April 22, 2015, the NRC inspectors discussed the results of this inspection with you and other members of your staff. The inspectors documented the results in the enclosed inspection report.

NRC inspectors documented four findings of very low safety significance (Green) in this report. Three of these findings involved violations of NRC requirements. 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 or a finding not associated with a regulatory requirement 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 accordance with Title 10 of the Code of Federal Regulations 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Agency Rules of Practice and Procedures," 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

C. Gayheart

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Sincerely,

/RA/

Shane Sandal, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Docket Nos.: 50-348, 50-364
License No.: NPF-2, NPF-8

Enclosure:
IR 05000348/2015001; and 05000364/2015001
w/Attachment: Supplemental Information

cc: Distribution via ListServ

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Letter to Cheyrl A. Gayheart from Shane Sandal May 8, 2015

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT - NRC INTEGRATED INSPECTION
REPORT 05000348/2015001 AND 05000364/2015001

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.: 50-348, 50-364

License Nos.: NPF-2, NPF-8

Report No.: 05000348/2015001 and 05000364/2015001

Licensee: Southern Nuclear Operating Company, Inc.

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

Location: Columbia, AL

Dates: January 1, 2015, through March 31, 2015

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

Approved by: Shane Sandal, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Enclosure

SUMMARY

IR 05000348/2015001 and 05000364/2015001; January 1, 2015, through March 31, 2015; Joseph M. Farley Nuclear Plant, Units 1 and 2, Fire Protection; Flood Protection Measures; Problem Identification and Resolution

The report covered a 3-month period of inspection by the resident inspectors. There are four Green findings 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 June 2, 2011. 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 January 28, 2013, and revised February 4, 2015. The NRC's program for overseeing the safe operations of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

Cornerstone: Mitigating Systems

- Green. An NRC-identified NCV of Farley Nuclear Plant Unit 1 Operating License Condition 2.C.(4), and Unit 2 Operating License Condition 2.C.(6), "Fire Protection," was identified for the licensee's failure to identify deficiencies during a fire drill as required by procedure NMP-TR-425, "Fire Drill Program," Version 7.2. This violation was entered into the licensee's corrective action program as condition report (CR) 10038847 and CR 10038846.

The licensee's failure to identify deficiencies during the fire drill was a Performance Deficiency (PD). The PD was more than minor because it was associated with the Protection Against External Factors attribute (i.e., fire) of the Mitigating Systems cornerstone and adversely affected the cornerstone objective in that the failure to identify and correct fire brigade deficiencies could negatively affect the fire brigade's capability to combat an actual fire. This finding was of very low safety significance (Green) because the fire brigade demonstrated the ability to meet the required time for fire extinguishment and did not significantly affect the ability of the fire brigade to respond to the drill. The finding was associated with the cross-cutting aspect of procedure adherence in the human performance area. (H.8) (1R05)

- Green. An NRC-identified finding was identified for the licensee's failure to maintain the door for the "1B" motor-driven auxiliary feed water (AFW) pump room in a watertight configuration as required by the facility's updated final safety analysis report (UFSAR) and internal flooding assessment. This finding was entered in the licensee's corrective action program as condition report (CR) 10032693.

The licensee's failure to maintain the watertight integrity of the "1B" motor-driven AFW pump room was a Performance Deficiency (PD). The PD was more than minor because it was associated with the Mitigating Systems cornerstone attribute of Protection Against External Factors (i.e., flood hazard) and adversely affected cornerstone objective in that gaps in the watertight door for the "1B" motor-driven pump could have impacted the operation of the turbine driven AFW pump. This finding required a detailed risk review using the NRC's Farley standardized plant analysis risk (SPAR) model. The major analysis assumptions

included: a one year exposure period, the performance deficiency was modelled as a non-recoverable failure to run of the motor-driven AFW pump in the postulated flooded pump room as well as the turbine-driven AFW pump, and pipe failure data from Electric Power Research Institute (EPRI) Pipe Rupture Frequencies for Flooding Probabilistic Risk Assessments (PRAs). The finding was determined to be of very low safety significance (Green). The finding had a cross-cutting aspect of “resolution” in the problem identification and resolution area. (P.3) (1R06)

- Green. An NRC-identified NCV of Farley Nuclear Plant, Unit 1, Operating License Condition 2.C.(4), and Unit 2, Operating License Condition 2.C.(6), “Fire Protection,” was identified for the licensee’s failure to install rolling steel fire doors in the Appendix R 3-hour fire barriers between the auxiliary building and new fuel storage area for each of the two units in accordance with the Updated Final Safety Analysis Report (UFSAR). The licensee did not adequately locate fire detectors (fusible links or other type of labeled fire detection devices) associated with these doors to ensure these doors would automatically close under fire conditions. The licensee entered this violation in their corrective action program as condition report (CR) 855837.

The licensee’s failure to install the rolling steel fire doors in accordance with the approved UFSAR was a Performance Deficiency (PD). The PD was more than minor because the installed fire doors were associated with the Mitigating Systems cornerstone attribute of Protection Against External Factors (i.e., fire) and adversely affected the cornerstone objective in that the fire doors would not automatically close which could allow a fire in one area to propagate to an adjacent area. The significance of this finding was determined to be of very low safety significance (Green) because the affected fire zones contain no unique potential damage targets necessary for safe shutdown or other plant components whose loss might lead to a demand for safe shutdown (e.g., a plant trip). The cause of this finding was not associated with a cross-cutting area because it is not reflective of current licensee performance. (4OA2)

- Green. An NRC-identified NCV of Farley Nuclear Plant Unit 1 Operating License Condition 2.C.(4), and Unit 2 Operating License Condition 2.C.(6), “Fire Protection,” was identified for the licensee’s failure to install rolling steel fire doors in the Appendix R 3-hour common fire barrier for three diesel generators in accordance with the Updated Final Safety Analysis Report (UFSAR). The installed rolling steel fire doors do not have an Underwriters Laboratory (UL) label that established it as an “A” label fire door (3-hour fire rating), as stated in the UFSAR. The licensee entered this violation in their corrective action program as condition report (CR) 10029684.

The licensee’s failure to install the rolling steel fire doors in accordance with the approved UFSAR was a Performance Deficiency (PD). The PD was more than minor because it was associated with the Mitigating Systems cornerstone attribute of Protection Against External Factors (i.e., fire) and adversely affected the cornerstone objective in that a fire in the common hallway could propagate into the individual emergency diesel generator (EDG) compartments. The significance of this finding was determined to be of very low safety significance (Green) because the combustible loading on both sides of the wall was representative of a fire duration less than 1.5 hours based on Farley Nuclear Plant Fire Hazards Analysis. The cause of this finding was not associated with a cross-cutting aspect because it was not reflective of current licensee performance. (4OA2)

REPORT DETAILS

Summary of Plant Status

Unit 1 started the report period at approximately 100 percent rated thermal power (RTP) and began coasting down on March 7 for a planned refueling outage. On March 29, Unit 1 was shut down for the refueling outage and remained shut down through the end of the report period.

Unit 2 maintained approximately 100 percent RTP through the report period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

a. Inspection Scope

Impending Adverse Weather Condition: The inspectors reviewed the licensee's preparations to protect risk-significant systems from ambient sub-freezing temperatures during January 7 – 8, 2015. The inspectors evaluated the licensee's implementation of adverse weather preparation procedures and compensatory measures, including operator staffing, before the onset of the adverse weather conditions. The inspectors reviewed the licensee's plans to address the ramifications of potentially lasting effects that may result from sub-freezing temperatures. The inspectors verified that operator actions specified in the licensee's adverse weather procedure maintain readiness of essential systems. The inspectors also verified the licensee implemented periodic equipment walkdowns or other measures to ensure that the condition of plant equipment met operability requirements. Documents reviewed are listed in the Attachment.

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 three systems or trains were correctly aligned by performing partial walkdowns. The inspectors selected systems for assessment because they were a redundant or backup system or train, were important for mitigating risk for the current plant conditions, had been recently realigned, or were a single-train system. The inspectors determined the correct system lineup by reviewing plant procedures and drawings. Documents reviewed are listed in the Attachment.

- Unit 1 'B' motor-driven auxiliary feedwater (AFW) pump while the turbine-driven AFW pump was inoperable for testing and maintenance
- Unit 1 'A' train containment spray (CS) system while 'B' train was inoperable
- Unit 1 'B' train residual heat removal (RHR) system while 'A' train was inoperable

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05AQ)

a. Inspection Scope

Quarterly Inspection: The inspectors evaluated the adequacy of selected fire zone data sheets by comparing the data sheets to the defined hazards and defense-in-depth features specified in the fire protection program. In evaluating the fire data sheets, the inspectors assessed the following items:

- 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

The inspectors toured the following seven fire areas to assess material condition and operational status of fire protection equipment. Documents reviewed are listed in the Attachment.

- Unit 1 service water pump room, fire zone 72A
- Unit 1 service water pump room, fire zone 72D
- Unit 1 service water pump room, fire zone 72E
- Unit 1 service water pump room, fire zone 74
- Unit 2 service water pump room, fire zone 72B
- Unit 2 service water pump room, fire zone 72C
- Unit 2 service water pump room, fire zone 73

Annual Inspection: On March 9, 2015, the inspectors observed an announced fire drill for a simulated fire on the 155' elevation on the Unit 2 auxiliary building. The drill was observed to evaluate the readiness of the plant fire brigade to fight fires. The inspectors verified that the licensee staff identified deficiencies; openly discussed them in a self-critical manner at the drill debrief, and took appropriate corrective actions. Specific attributes evaluated were: (1) specified number of individuals responding, (2) proper wearing of turnout gear, (3) self-contained breathing apparatus available and properly worn and used, (4) control room personnel followed procedures for initiation and verification of response, (5) fire brigade leader exhibited command and had a copy of the

fire zone data sheets, (6) fire brigade leader maintained control starting at the dress-out area, (7) fire brigade response was timely and followed the appropriate access route, (8) command/control set up near the location and communications were established, (9) proper use and layout of fire hoses; (10) fire area entered in a controlled manner, (11) sufficient firefighting equipment brought to the scene, (12) search for victims and propagation of the fire into other plant areas, (13) utilization of pre-planned strategies, (14) adherence to the pre-planned drill scenario and drill objectives acceptance criteria were met, and (15) firefighting equipment returned to a condition of readiness to respond to an actual fire. Documents reviewed are listed in the Attachment.

b. Findings

Introduction: The inspectors identified a Green NCV of Farley Nuclear Plant, Unit 1 Operating License Condition 2.C.(4), and Unit 2 Operating License Condition 2.C.(6), "Fire Protection." The licensee failed to identify deficiencies during a drill as required by procedure NMP-TR-425, "Fire Drill Program," Version 7.2.

Description: On March 9, 2015, the inspectors observed the required five fire brigade members in the Fire Equipment Staging Area donning their protective equipment during a fire drill in the Unit 2 auxiliary building. The inspectors observed the fire brigade members donned their self-contained breathing apparatus (SCBA) masks without performing an adequate seal test for 10 seconds as required by procedure FNP-0-RCP-107, "Use and Operation of MSA Firehawk Self Contained Breathing Apparatus," Version 14.0. In addition, one fire brigade member did not bring their issued spectacle kit (corrective lenses). Thus, the spectacle kit was not inserted into his SCBA mask as required.

NMP-TR-425, "Fire Drill Program," Version 7.2, Section 5.9, "Drill Completion and Documentation," Subsection 5.9.8 stated "Deficiencies identified during fire drills shall be documented within the Correction Action Program." These two deficiencies observed by the inspectors were not discussed by the licensee during the post drill critique and would not have been documented in the licensee's corrective action program (CAP) as required. The inspectors shared these observations with the licensee immediately following the post-drill critique and subsequently verified that CR 10038847 and CR 10038846 were generated to document these deficiencies.

Analysis: The licensee's failure to identify deficiencies during the drill was a performance deficiency (PD). This PD was more than minor because it was associated with the Protection Against External Factors attribute (i.e., fire) of the Mitigating Systems cornerstone and adversely affected the cornerstone objective in that the failure to identify and correct fire brigade deficiencies could negatively affect the fire brigade's capability to combat an actual fire. This finding was evaluated using Inspection Manual Chapter (IMC) 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," dated July 1, 2012. The finding was of very low safety significance (Green) because the fire brigade demonstrated the ability to meet the required time for fire extinguishment during the drill and the finding did not significantly affect the ability of the fire brigade to respond to the fire drill. The finding was associated with the cross-cutting aspect of procedure adherence in the human performance area

because fire brigade members failed to follow procedural guidance during donning of the SCBA equipment. (H.8)

Enforcement: Farley Nuclear Plant, Unit 1, Operating License Condition 2.C.(4), and Unit 2, Operating License Condition 2.C.(6), "Fire Protection," required that the licensee implement and maintain in effect all provisions of the approved fire protection program (FPP) as described in the Final Safety Analysis Report (FSAR) for the facility, which implements the fire protection requirements of 10CFR 50.48 and 10 CFR 50 Appendix R. According to the UFSAR Appendix 9B, Fire Protection Program, Section 9B.2.4.3, Fire Brigade Drills, periodic drills of the fire brigade are performed to evaluate the fire brigade effectiveness, time to respond, and selection, placement, and use of both fixed and portable equipment. Contrary to the above, the licensee failed to implement and maintain in effect all provisions of the approved fire protection program as described in the FSAR for the facility. Specifically, on March 9, 2015, the licensee failed to identify deficiencies during the drill to ensure that the fire brigade properly donned personal protective equipment (PPE) as required by procedure NMP-TR-425, "Fire Drill Program," Version 7.2. Because this finding was of low safety significance (Green) and was entered into the licensee's CAP as CR 10038847 and CR 10038846, this violation is being treated as a non-cited violation (NCV), consistent with the NRC Enforcement Policy and is identified as NCV 05000348, 364/2015001-01, Failure to identify deficiencies during a fire drill.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

The inspectors reviewed related flood analysis documents and walked down the area(s) listed below containing risk-significant structures, systems, and components susceptible to flooding. The inspectors verified that plant design features and plant procedures for flood mitigation were consistent with design requirements and internal flooding analysis assumptions. The inspectors also assessed the condition of flood protection barriers and drain systems. In addition, the inspectors verified the licensee was identifying and properly addressing issues using the corrective action program. Documents reviewed are listed in the Attachment.

- Unit 1 – Auxiliary Building, Auxiliary Feedwater Area, 100' Elevation (Rooms 189, 190, 191, 192, 193, 194 and 195)

b. Findings

Introduction: A Green NRC-identified finding was identified for the licensee's failure to maintain the door for the "1B" motor-driven auxiliary feed water (AFW) pump room in a watertight configuration as required by the facility's updated final safety analysis report (UFSAR) and internal flooding assessment.

Description: According to section 3K.4.2.2.4, "Flooding," a flooding event initiated from either motor-driven AFW (MDAFW) pump room will be "localized by the watertight door at the entrance to the affected space." Also, section 9.3.3, "Design Evaluation," stated,

“The watertight rooms protect each pump from flooding from outside the room.” Farley document, BM-99-1932-001, “Internal Flooding Assessment,” Ver. 5, concluded a threat of flooding from outside the two MDAFW pump rooms would not exist since these rooms are protected by watertight doors.

The turbine-driven AFW (TDAFW) pump was located in a separate room but in the vicinity of the two MDAFW pumps. It does not have a door at the entrance to the room, but a six-inch curb is designed to keep water out of the room. On February 26, 2015, the inspectors observed gaps in the watertight door (door 176) for the “1B” motor-driven AFW pump room. By March 2, 2015, the licensee determined gaps in the seal of door 176 measured 3/32 of an inch. On March 9, 2015, the licensee determined a 3/32 inch gap existed in the “1A” motor driven AFW pump room door (door 174). According to the licensee’s evaluation DOEJ-FX-CR10032693-M001 and corrective action report (CAR) 255504, a postulated leak that began in the “1B” motor-driven pump discharge pipe would have leaked past the gaps in door 176 and impacted the operation of the turbine-driven AFW pump. The resultant water height in the turbine-driven AFW pump room would have been 5.4 inches above the floor. The governor control panel for the turbine driven AFW pump was mounted on the floor in the pump room. Because the governor control panel is not water tight, proper operation of the turbine driven AFW pump would have been affected at a water level of 5.4 inches. The seal for door 176 was replaced on February 27, 2015, under work order SNC 640549. Additional door repairs were pending because gaps existed in door 176 and door 174. An extent-of-condition inspection schedule of the remaining watertight doors in both units’ auxiliary building has been developed.

Analysis: The failure to maintain the “1B” MDAFW pump room door watertight as required in the UFSAR and as assumed in the internal flooding assessment was a performance deficiency. The performance deficiency was more than minor because it was associated with the Mitigating Systems cornerstone attribute of Protection Against External Factors (i.e., flooding) and adversely affected the cornerstone objective in that gaps in the watertight door for the “1B” MDAFW pump room could have impacted the operation of the TDAFW pump. This finding was evaluated using Inspection Manual Chapter (IMC) 0609, Appendix A, “Determining the Significance of Reactor Inspection Findings for At-Power Situations,” dated July 1, 2012. This finding required a detailed risk review by a regional senior risk analyst (SRA) in accordance with Exhibit 4 under the External Events Screening Questions. A detailed risk evaluation was performed by a regional SRA using the NRC’s Farley SPAR model. The major analysis assumptions included: a one year exposure period, the performance deficiency was modelled as a non-recoverable failure to run of the MDAFW pump in the postulated flooded pump room as well as the TDAFW pump, and pipe failure data from EPRI Pipe Rupture Frequencies for Flooding PRAs. The dominant sequence was service water piping flooding in the “B” MDAFW pump room which resulted in failure of the “B” MDAFW pump and the TDAFW pump due to the performance deficiency, random failures of the “A” MDAFW pump, main feedwater unavailable due to the plant shutdown or trip required by the flooding, and failure of the operator to implement feed and bleed leading to core damage due to a loss of core heat removal. The detailed risk evaluation determined that the performance deficiency represented an increase in core damage frequency of $<1 \text{ E-6/year}$; a GREEN finding of very low safety significance. The inspectors determined the finding had a cross-cutting aspect of “resolution” in the problem identification and resolution area,

because previous opportunities existed to identify gaps in the door seals and maintain these doors watertight. (P.3)

Enforcement: This finding does not involve enforcement action because no violation of a regulatory requirement was identified. Because this finding is of very low safety significance and was entered in the licensee's corrective action program as CR 10032693, it is identified as FIN 05000348/2015001-02, Failure to maintain AFW pump room watertight doors.

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

Annual Review: The inspectors verified the readiness and availability of the "1B" component cooling water (CCW) heat exchanger to perform its design function by reviewing reports of those tests, verifying the licensee uses the periodic maintenance method outlined in the plant specific commitment and verifying critical operating parameters through direct observation or by reviewing operating data. Additionally, the inspectors verified that the licensee had entered any significant heat exchanger performance problems into the corrective action program and that the licensee's corrective actions were appropriate. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

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

a. Inspection Scope

Resident Inspector Quarterly Review of Licensed Operator Requalification The inspectors observed an evaluated simulator scenario conducted for training of an operating crew for requalification 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
- simulator performance

Resident Inspector Quarterly Review of Licensed Operator Performance: The inspectors observed licensed operator performance in the main control room on March 29, 2015 during the Unit 1 load reduction and plant shutdown for a planned refueling outage. 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

Documents reviewed are listed in the Attachment.

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. Documents reviewed are listed in the Attachment.

- Unit 2, FT-485, 2B Steam Generator Flow Transmitter, sensing line weld failure, (a)(1) analysis of event
- Unit 1, 1A residual heat removal (RHR) pump room door failed seal test, TE 908296

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 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. Documents reviewed are listed in the Attachment.

- Unit 1, January 14, 2015, entered FNP-1-AOP-8.0, during planned maintenance troubleshooting in 125vdc power supply for steam jet air ejectors.
- Unit 1, January 27, 2015, planned maintenance on the “2C” diesel generator (DG), “1B” residual heat removal (RHR) pump surveillance test
- Unit 1, February 23, 2015, planned maintenance on the “1B” DG and 1B high head safety injection (HHSI) pump
- Unit 1, March 5, 2015, elevated green risk for main steam valve room entry

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15)

a. Inspection Scope

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 deficiencies associated with operability evaluations. Documents reviewed are listed in the Attachment.

- Unit 2, Failure of Containment Sump Water Level indication (wide Range) LR3594B, CR10031061
- Unit 1, ‘A’ Residual Heat Removal (RHR) pump watertight door degraded seal, CR 10014719
- Unit 1, degraded seal of ‘B’ motor-driven auxiliary feedwater (AFW) pump room watertight door, CR 10032693
- Unit 2 component cooling water (CCW) to residual heat removal (RHR) pump seal cooler relief valve set-pressure above shell side design pressure, CR 10027796
- Units 1 and 2 Turbine Building Service Water Isolation Valves, CR 10036745
- Unit 1, Raceway 1VBHF-39B cable tray supports, CR 10045712

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)a. Inspection Scope

The inspectors verified that the two plant modifications listed below did not affect the safety functions of important safety systems. The inspectors confirmed the modifications did not degrade the design bases, licensing bases, and performance capability of risk significant structures, systems and components. The inspectors also verified modifications performed during plant configurations involving increased risk did not place the plant in an unsafe condition. Additionally, the inspectors 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. In addition, the inspectors reviewed a sample of related corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with modifications. Documents reviewed are listed in the Attachment.

- Work Order SNC628280, Temp Mod to Eliminate Unintended Controlled Shutdown Signal of Unit 2 TDAFWP During Pump Start per TCC SNC628279, Ver. 2.0
- Work Order SNC635160, Temp Mod to provide a means to measure packing leak-off rate from Unit 1 valve V134A per TCC SNC635147, Ver. 1.0

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.

- WO SNC628280, Temp Mod to Eliminate Unintended Controlled Shutdown Signal of Unit 2 TDAFWP During Pump Start per TCC SNC628279, Ver. 2.0
- WO SNC499635, 1C EDG – Shutdown Inspection – 24-Month
- WOs SNC516265, 516267, 1B component cooling water (CCW) heat exchanger tube cleaning and eddy-current testing
- WOs SNC636742, 744, 745, 746, 1B EDG fuel oil check valve replacement
- WO SNC644564, Troubleshooting of 1C EDG automatic transfer switch
- WO SNC649158, Replace the 1C EDG speed switch

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. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

For the Unit 1 refueling outage scheduled from March 29, 2015 to April 25, 2015, the inspectors evaluated the following outage activities during this report period:

- outage planning
- shutdown and cooldown

The inspectors verified that the licensee:

- considered risk in developing the outage schedule
- 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. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)a. Inspection Scope

The inspectors reviewed the six surveillance tests listed below and either observed the test or reviewed test results to verify testing adequately demonstrated equipment operability and met technical specification and licensee procedural requirements. The inspectors evaluated the test activities to assess for preconditioning of equipment, procedure adherence, and equipment alignment following completion of the surveillance. Additionally, the inspectors reviewed a sample of related corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with surveillance testing. Documents reviewed are listed in the Attachment.

Routine Surveillance Tests

- FNP-0-STP-80.2, "Diesel Generator 1C Operability Test", Ver. 65.0
- FNP-2-STP-80.18, "Diesel Generator 1C 1000 kW Load Rejection Test", Ver. 21.0
- FNP-1-STP-11.2, 1B RHR Pump Quarterly Inservice Test, Ver. 61.0
- FNP-1-STP-11.1, 1A RHR Pump Quarterly Inservice Test, Ver. 60.0

Inservice Tests

- FNP-2-STP-23.1, 2A Component Cooling Water Pump Quarterly Inservice Test, Ver. 36.3

Reactor Coolant System Leak Detection

- FNP-1-STP-9.0, RCS Leakage Test, Ver. 51.1

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill/Training Evaluation (71114.06)a. Inspection Scope

The inspectors observed the emergency preparedness training evolutions conducted on February 25, 2015. The inspectors observed licensee activities in the technical support center (TSC) to evaluate implementation of the emergency plan, including event classification, notification, and protective action recommendations. The inspectors evaluated the licensee's performance against criteria established in the licensee's procedures. Additionally, the inspectors attended the critique to assess the licensee's effectiveness in identifying emergency preparedness weaknesses and verified the identified weaknesses were entered in the corrective action program where appropriate. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

The inspectors reviewed a sample of the performance indicator (PI) data, submitted by the licensee, for the Unit 1 and Unit 2 PIs listed below. The inspectors reviewed plant records compiled between January 2014 and December 2014 to verify the accuracy and completeness of the data reported for the station. The inspectors verified that the PI data complied with guidance contained in Nuclear Energy Institute (NEI) 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. 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. Documents reviewed are listed in the Attachment.

Cornerstone: Initiating Events

- unplanned scrams per 7,000 critical hours (Units 1 and 2)
- unplanned power changes per 7,000 critical hours (Units 1 and 2)
- unplanned scrams with complications (Units 1 and 2)

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 followup. The inspectors reviewed condition reports, attended screening meetings, or accessed the licensee's computerized corrective action database.

.2 Annual Followup of Selected Issues

a. Inspection Scope

The inspectors conducted a detailed review of the following condition reports:

- CR 855837, NRC questioned functionality of fire doors 432 and 2432
- CR 10029684, NRC questioned lack of labels on EDG rolling fire doors

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

Documents reviewed are listed in the Attachment.

b. Findings

- 1) Introduction: An NRC-Identified Green NCV of Farley Nuclear Plant, Unit 1 Operating License Condition 2.C.(4), and Unit 2 Operating License Condition 2.C.(6), "Fire Protection," was identified for the licensee's failure to install rolling steel fire doors in the Appendix R 3-hour fire barriers between the auxiliary building and new fuel storage area for each of the two units in accordance with the Updated Final Safety Analysis Report (UFSAR). The licensee did not adequately locate fire detectors (fusible links or other type of labeled fire detection devices) associated with these doors to ensure these doors would automatically close under fire conditions.

Description: Each unit has a new fuel storage area which was separated from the Auxiliary Building by an Appendix R 3-hour rated fire barrier. Rolling steel fire doors in the Appendix R fire barriers provided access to the new fuel storage areas which were required to close automatically in the event of a fire in either adjacent fire area. Both doors were class 'A' labeled 3-hour rated assemblies installed in openings 10 feet wide and 10 feet high. The inspectors examined both fire doors on August 22, 2014, with licensee engineering personnel. The inspectors identified that there was no raceway near the ceiling for the sash cable and the fusible links on either side of the opening were located near the top of the opening rather than near the ceiling of the adjacent rooms. The inspectors concluded that a fire in either fire area separated by the fire barriers would not cause the fire doors to close automatically because no fire detectors (fusible links or other type of labeled fire detection devices) associated with the doors were installed at the ceiling. Also, these areas did not contain an automatic fire suppression system to extinguish a potential fire if the rolling fire doors did not automatically close.

The licensee developed a fire model and documented the analysis in CR 10010146. This analysis used a 650 kW transient fire to demonstrate that the fusible links as presently installed would not function to automatically close the rolling steel fire doors. Following this evaluation, the licensee maintained the Unit 1 and 2 doors closed and initiated a fire watch when the doors were opened.

UFSAR Appendix 9B, Fire Protection Program, Section 9B.4.1.5, Doors, specified that fire doors have been designed in accordance with the guidelines of Appendix A to Branch Technical Position (BTP) Auxiliary Power Conversion Systems Branch (APCSB)

9.5-1 and it is the intent of the regulations to ensure openings in fire barriers are protected by doors which are either closed or will be closed under fire conditions. The rolling steel fire doors were purchased in accordance with NFPA-80, Fire Doors & Windows – 1973 Edition.

Analysis: The licensee's failure to install the rolling steel fire doors in accordance with the UFSAR is a performance deficiency (PD). This PD is more than minor because the installed fire doors were associated with the Mitigating Systems cornerstone attribute of Protection Against External Factors (i.e., fire) and adversely affected the cornerstone objective in that the fire doors would not automatically close which could allow a fire in one area to propagate to an adjacent area. The significance of this finding was evaluated using IMC 0609, Appendix F, Fire Protection Significance Determination Process, dated September 20, 2013. Using IMC 0609, Appendix F, Attachment 1, Fire Protection Significance Determination Process Worksheet, the inspectors determined that the finding was of very low safety significance (Green) because the affected fire zones contain no unique potential damage targets necessary for safe shutdown or other plant components whose loss might lead to a demand for safe shutdown (e.g., a plant trip). The cause of this finding was not associated with a cross-cutting area because it is not reflective of current licensee performance.

Enforcement: Farley Nuclear Plant Unit 1 Operating License Condition 2.C.(4), and Unit 2 Operating License Condition 2.C.(6), stated, in part, that the licensee shall implement and maintain in effect all provisions of the approved fire protection program (FPP) as described in the Final Safety Analysis Report for the facility, which implements the fire protection requirements of 10 CFR 50.48 and 10 CFR 50 Appendix R. UFSAR Appendix 9B, Fire Protection Program, Section 9B.4.1.5, Doors, specifies that fire doors have been designed in accordance with the guidelines of Appendix A to BTP APCSB 9.5-1 and it is the intent of the regulations to ensure openings in fire barriers are protected by doors which are either closed or will be closed under fire conditions. Contrary to the above, the licensee failed to implement and maintain in effect all provisions of the approved FPP. Specifically, the inspectors determined that the rolling steel fire doors (432 and 2432) would not automatically close in the event of a fire as required. Because the licensee entered this violation in their CAP as CR 855837 and because the deficiency had low safety significance, this finding will be treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy and is identified as NCV 05000348,364/2015001-03, Failure to Ensure Rolling Fire Doors would automatically close.

- 2) Introduction: A NRC-identified Green NCV of Farley Nuclear Plant, Unit 1 Operating License Condition 2.C.(4), and Unit 2 Operating License Condition 2.C.(6), "Fire Protection" was identified for the licensee's failure to install rolling steel fire doors in the Appendix R 3-hour common fire barrier for three diesel generators in accordance with the Updated Final Safety Analysis Report (UFSAR). The installed rolling steel fire doors did not have an Underwriters Laboratory (UL) label or certificate of inspection for oversized doors identifying it as an "A" label fire door (3-hour fire rating), as stated in the UFSAR.

Description: There are five emergency diesel generator compartments arranged side by side (east to west) with the generators at the north end and the diesel engines and

auxiliaries at the south end of the compartments. A common Appendix R 3-hour rated fire barrier at the south end of all five compartments separated them from a common hallway (South Hallway, Fire Area 71). Each of the five compartments was provided with a rolling steel fire door at the south end (in the Appendix R fire barrier) which were to close automatically in conjunction with actuation of an automatic total flooding carbon dioxide fire extinguishing system contained in each of the five compartments. According to the UFSAR Appendix 9B, Fire Protection Program, Section 9B.4.1.5, Doors, fire doors have been designed in accordance with the guidelines of Appendix A to Branch Technical Position (BTP) Auxiliary Power Conversion Systems Branch (APCSB) 9.5-1. UFSAR 9B.1.1.1 states this appendix has been developed to document the evaluation of the FNP fire protection program against Appendix A to BTP APCS 9.5-1 and Appendix R to 10 CFR Part 50. UFSAR 9B, Attachment A, Fire Hazards Analysis for Fire Area 71, states that doors to various diesel generator rooms are UL class A rated. The inspectors identified that three of these doors, D-702, D-708, and D-711, did not have UL labels. The failure to install 3-hour rated fire doors could affect the fire protection defense in depth strategy involving the confinement of fires that do occur because it could allow smoke and heat to migrate beyond the room of fire origin and affect adjacent fire areas. The licensee established compensatory measures including an hourly fire watch.

The rolling steel fire doors were purchased in accordance with National Fire Protection Association (NFPA)-80, Fire Doors & Windows – 1973 Edition. NFPA-80, Section 1-3, Listed and Labeled Products, Sub-Section 1-3.1, Definitions, Paragraph 1-3.1.3, Labeled, is defined as equipment or materials to which has been attached a label, symbol, or other identifying mark of a nationally recognized testing laboratory that maintains periodic inspection of production of labeled equipment or materials and by whose labeling is indicated in compliance with nationally recognized standards or tests to determine suitable usage in a specified manner. NFPA-80, Section 1-4, Classification of Wall Openings and Fire Protection Rating of Doors, Shutters and Windows, Subsection 1-4.3, specifies that three-hour fire doors (A rating) are for use in walls separating buildings or dividing a single building into fire areas. NFPA-80, Section 1-5, Classification and Types of Doors, Sub-Section 1-5.1, Classifications, Paragraph 1-5.1.1, specifies that only labeled doors shall be used. Paragraph 1-5.1.3, states that testing laboratories may provide a label or certification of inspection for doors larger than the maximum sizes indicated in Appendix B (120 sq. ft. with maximum dimension 12'-0"). Doors exceeding those size limitations have not been subjected to the Standard Fire Test. In certain cases the testing laboratory may be prepared to furnish a label or certificate of inspection for oversize doors. They do not indicate that the doors are capable of furnishing standard fire protection, but only that they conform to the requirements of design, materials, and construction as established by the individual listings. Authorities having jurisdiction shall be consulted as to the size of oversize doors which will be acceptable in a given location.

Based on the physical dimensions of all three doors, they are defined by NFPA-80 as "oversize doors." The inspectors witnessed a recent manual closure of Fire Door D-702 on December 17, 2014. Immediately after starting to manually close the door with the chain operator, the door curtain lowered less than one foot before stopping. The curtain needed to travel over eight feet to close. An endlock which had been factory-riveted to the third from the bottom interlocking curtain slat had broken free and wedged in the door track. The door had to be physically agitated to get it closed, then the obstruction

(loose endlock) was removed. The two rivets that originally retained the malleable cast iron endlock remained firmly in the galvanized steel slat. There is no assurance that this door would have closed automatically, based on this condition. The licensee informed the inspectors that Fire Doors D-708 and D-711 were also recently inspected and found to have no UL Label fastened to the door. These three rolling steel doors were installed during original plant construction and the pre-licensing phase of the two nuclear units.

Analysis: The licensee's failure to install the rolling steel fire doors in accordance with the approved UFSAR is a performance deficiency. This PD is more than minor because it was associated with the Mitigating Systems cornerstone attribute of Protection Against External Factors (i.e., fire) and adversely affected the cornerstone objective in that a fire in the common hallway could propagate into the individual emergency diesel generator (EDG) compartments. The significance of this finding was evaluated using IMC 0609, Appendix F, "Fire Protection Significance Determination Process", dated September 20, 2013, because the performance deficiency affected fire protection defense-in-depth strategies involving fire confinement. Using IMC 0609, Appendix F, Attachment 1, "Fire Protection Significance Determination Process Worksheet," the inspectors determined that the finding was of very low safety significance (Green) because the combustible loading on both sides of the wall was representative of a fire duration less than 1.5 hours based on FNP Fire Hazards Analysis. The cause of this finding was not associated with a cross-cutting area because it is not reflective of current licensee performance.

Enforcement: Farley Nuclear Plant Unit 1 Operating License Condition 2.C.(4), and Unit 2 Operating License Condition 2.C.(6), stated, in part, that the licensee shall implement and maintain in effect all provisions of the approved fire protection program (FPP) as described in the Final Safety Analysis Report for the facility, which implements the fire protection requirements of 10 CFR 50.48 and 10 CFR 50 Appendix R. According to the UFSAR Appendix 9B, Fire Protection Program, Section 9B.4.1.5, Doors, fire doors have been designed in accordance with the guidelines of Appendix A to Branch Technical Position (BTP) Auxiliary Power Conversion Systems Branch (APCSB) 9.5-1. UFSAR 9B.1.1.1 states this appendix has been developed to document the evaluation of the FNP fire protection program against Appendix A to BTP APCS 9.5-1 and Appendix R to 10 CFR Part 50. UFSAR 9B, Attachment A, Fire Hazards Analysis for Fire Area 71, states that doors to various diesel generator rooms are UL class A rated. Contrary to the above, the licensee failed to implement and maintain in effect all provisions of the approved FPP. Specifically, since original plant construction, the inspectors determined that the licensee had failed to install rolling steel fire doors with UL labels (D-702, D708, and D-711) in accordance with the requirements of NFPA-80, Fire Doors & Windows – 1973 Edition, Section 1-5, Classification and Types of Doors, Sub-Section 1-5.1, Classifications, Paragraph 1-5.1.1, that specifies that only labeled doors shall be used. The licensee had installed rolling steel fire doors that do not have an Underwriters Laboratory (UL) label fastened to it, identifying it as an "A" label fire door (3-hour fire rating), as stated in the Farley Nuclear Plant UFSAR. Because the licensee included this deficiency in their corrective action program as CR 10029684 and because the deficiency had low safety significance, this finding will be treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy and is identified as NCV 05000348,364/2015001-04, Failure to Ensure DG Rolling Fire Doors Were Labeled Fire Doors.

4OA6 Meetings, Including Exit

On April 22, 2015, 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 returned or properly controlled.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee:

J. Andrews, Maintenance Director
E. Berry, Site Systems Manager
T. Burdeshaw, Engineering Supervisor
J. Carroll, Shift Operations Manager
J. Collier, Licensing Engineer
H. Cooper, Engineering Programs Supervisor
D. Drawbaugh, EP Supervisor
D. Gard, Operations Outage Manager
C. Gayheart, Site Vice President
S. Henry, Operations Director
J. Hutto, Plant Manager
V. Locke, Performance Improvement Supervisor
R. Martin, Regulatory Affairs Manager
J. McLean, Licensing Engineer
K. Miller, Performance Improvement
D. Reed, Operations Support Manager
L. Shaffield, Assistant Maintenance Director
D. Simmons, EP Specialist
K. Baity, Engineering Design Manager
B. Taylor, Nuclear Oversight Supervisor
C. Thornell, Site Projects Manager
C. Westberry, Engineering Project Manager
T. Youngblood, Engineering Director

LIST OF REPORT ITEMS

Opened and Closed

NCV 05000348,364/2015001-01, Failure to identify deficiencies during a fire drill (Section 1R05)
FIN 05000348/2015001-02, Failure to maintain AFW pump room watertight doors
(Section 1R06)
NCV 05000348,364/2015001-03, Failure to ensure rolling fire doors would automatically close.
(Section 4OA2.2)
NCV 05000348,364/2015001-04, Failure to ensure DG rolling fire doors were labeled fire doors.
(Section 4OA2.2)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures:

FN-P-0-SOP-0.12, Cold Weather Contingencies, Ver. 22.0
FN-P-1-EMP-1383.01, Freeze Protection Inspections, Ver. 21.0
FN-P-2-EMP-1383.01, Freeze Protection Inspections, Ver. 16.0

Documents:

SNC534892, Winter Readiness Freeze Protection Installation
 IRT F-15-001, Farley Issue Response Team (IRT) Closure Checklist, NMP-GM-001-F04
 CRs 10014405, 10016385, 10008800, 10008821, 10008918, 10010499

Section 1R04: Equipment AlignmentDrawings:

D-175007, Auxiliary Feedwater System P&ID, Ver. 33.0
 D-175038, Unit 1 P&ID Safety Injection System, Sheet 1, Ver. 42.0
 D-175038, Unit 1 P&ID Safety Injection System, Sheet 2, Ver. 23.0
 D-175038, Unit 1 P&ID Safety Injection System (Containment Spray), Sheet 3, Ver. 27.0
 D-175041, Unit 1 P&ID Residual Heat Removal System, Sheet 1, Ver. 18.0

Procedures:

FNP-1-SOP-22.0A, Auxiliary Feedwater System, Ver. 14.0
 FNP-1-SOP-9.0A, Containment Spray System, Ver. 9.0
 FNP-1-SOP-7.0A, Residual Heat removal System, Ver. 10.0

Section 1R05: Fire Protection

CRs 10038847, 10038846

Drawings:

A-508651, Service Water Intake Structure, Sheet 08, Ver. 6.0
 A-508651, Service Water Intake Structure, Sheet 07, Ver. 8.0
 A-508651, Service Water Intake Structure, Sheet 09, Rev. 1

Procedures:

NMP-TR-425, Fire Drill Program, Ver. 7.2
 FNP-0-RCP-107, Use and Operation of MSA Firehawk Self Contained Breathing Apparatus,
 Ver. 14.0
 FNP-0-TCP-9.6, Respirator Quantitative Fit Testing Using the Porta Count Fit Tester, Ver. 11.0.
 NMP-TR-425-F02, Drill Exercise Completion Sheet, Drill No. 20150309, Ver. 4.1

Section 1R06: Flood Protection

CRs 10044975, 10032693, 10038189, 10039268, 10039270, 10037857, 10033772, 10028531

Drawings:

D-176003, Unit 1 Architectural – Containment & Auxiliary Building – Floor Plan Elev. 100'-0" and
 105'-6", Sheet 1, Ver. 27.0
 D-175007, Unit 1 P&ID – Aux. Feedwater System, Sheet 1, Ver. 33.0
 D-170117, Unit 1 P&ID – Condensate and Feedwater System, Sheet 2, Ver. 32.0
 D-175003, Unit 1 P&ID – Service Water System, Sheet 2, Ver. 45.0
 D-176026, Unit 1, Auxiliary Building Door Schedule, Sheet 1, Ver. 37.0
 D-175005, Unit 1, Aux. Bldg. Drains, Non-Rad. Sheet 1, Ver. 28.

Documents:

DOEJ-FX-CR10032693-M001, Evaluation of the potential effect of flooding to the 1B MDAFW pump room, the TDAFW pump room adjacent rooms due to internal water sources, Ver. 1 and 2

BM-99-1932-001, Internal Flooding Assessment, Rev. 1

Technical Evaluations (TE) 913535, 913534

Corrective Action Report (CAR) 255504, Immediate Determination of Operability (IDO) Units 1 and 2 Internal Flooding Notebook, PRA Model Revision 9, March 2010

Procedures:

FN-1-ARP-3.2, Annunciator Response Procedure – Balance of Plant Panel Annunciator Panel N, Ver. 32.1

Section 1R07: Heat Sink PerformanceProcedures:

NMP-ES-012, Heat Exchanger Program, Ver. 8.0

NMP-ES-012-GL01, Heat Exchanger Program Heat Exchanger Inspection, Testing and Condition Assessment, Ver. 3.0

NMP-ES-012-GL01, Attachment 1, As-Found Inspection Report of 1B CCW heat exchanger, 2/11/2015

NMP-ES-012-GL03, Heat Exchanger Program Eddy Current Testing (ECT) Strategic Plan for Farley, Ver. 1.0

NMP-MA-027, Heat Exchanger Tube Plugging, Ver. 1.0

NMP-ES-024-701, Eddy Current Testing of Heat Exchanger Tubing, Ver. 3.1

Documents:

NDE Technology Inspection Summary Report for Farley Unit 1, 1B Component Cooling Water Heat Exchanger, February 2015

Farley Unit 1 CCW System 4Q2014 System Health Report

SM-C080146901-001, Units 1 & 2 Component Cooling Water (CCW) Heat Exchanger Proto-Hx Computer Model, Ver. 2.0

A181000, Functional System Description, Component Cooling Water, Ver. 26.0

Section 1R11: Licensed Operator Regualification and Licensed Operator PerformanceDocuments:

Operations Training Simulator Exam Scenario, Extended Scenario #4, Dated Feb. 6, 2015

Unit 1 BEACON Loadswing Summary Report, dated March 25, 2015

Procedures:

NMP-TR-416, Licensed Operator Continuing Training Program Administration, Ver. 5.6
 NMP-TR-416-F01, As Found Evaluation From, Ver. 4.1
 NMP-OS-007, Conduct of Operations, Ver. 10.2
 NMP-OS-007-001, Conduct of Operations Standards and Expectations, Ver. 14.3
 FNP-0-SOP-0.0, General Instructions to Operations Personnel, Ver. 160.0
 FNP-0-TCP-17.3 Licensed Operator Continuing Training Program Administration, Revision 36.0
 FNP-1-UOP-2.1, Shutdown of Unit from Minimum Load to Hot Standby, Ver. 74.0
 FNP-1-UOP-2.4, Planned Reactor Shutdown and Cooldown to Cold Shutdown, Ver. 17.0
 NMP-OS-001, Reactivity Management Program, Ver. 18.1

Section 1R12: Maintenance Effectiveness

CRs 10000301, 10032693, 10036184, 2009106669
 CAR 248906

Documents:

MDC SNC622893
 Work Orders (WO) SNC494986, SNC495484, 494985
 DOEJ-FX-CR10014719-M001, Evaluation of the potential effect of flooding to the 1A RHR pump room and adjacent rooms due to internal water sources, Ver. 2.0
 TEs 908926, 313796, 812530, 311678, 910371

Procedures:

NMP-ES-027, Maintenance Rule Program, Ver. 3.1
 NMP-ES-027-001, Maintenance Rule Implementation, Ver. 4.0
 NMP-ES-021, Structural Monitoring Program for the Maintenance Rule, Ver. 7.2

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

NMP-GM-031, On-Line Configuration Risk Management Program, Ver. 2.0
 NMP-GM-031-001, Online Maintenance Rule (a)(4) Risk Calculations, Ver. 2.1
 FNP-1-SOP-8.0, Partial Loss of Condenser Vacuum, Ver. 22.0
 FNP-0-AOP-21.0, Severe Weather, Rev. 41.0

Documents:

Operator's Risk Report for Unit 1, January 14, 2015
 Operator's Risk Report for Unit 1, January 27, 2015
 Operator's Risk Report for Unit 1, February 23, 2015
 Operator's Risk Report for Unit 1, March 5, 2015
 CR10012443, CAR249508
 TE 907932

Section 1R15: Operability Determinations and Functionality Assessments

CRs 10031061, 10014719, 10032693, 10033651, 10033772, 10027796, 10036745, 806979, 817502, 10045712

Drawings:

D-203096, Emergency Loads Diagram, Sheets 1 and 2, Ver. 10
 D-204889, Connection Diagram, SPDS Computer Power Distribution Equip., Sheets 1 and 2 Ver. 1.0
 D-506556, Integrated Plant Computer Main Cabinet Interconnect Diagram, Sheets 3, 4 and 7
 D-176003, Unit 1 Architectural – Containment & Auxiliary Building – Floor Plan Elev. 100'-0" and 105'-6", Sheet 1, Ver. 27.0
 D-175007, Unit 1 P&ID – Aux. Feedwater System, Sheet 1, Ver. 33.0
 D-170117, Unit 1 P&ID – Condensate and Feedwater System, Sheet 2, Ver. 32.0
 D-170119, Unit 1 P&ID – Service Water System, Sheet 1, Ver. 35.0
 D-200013, P&ID, River Water, Service Water and Circulating Water Systems, Shee2, Ver. 22.0

Documents:

A181002, Functional System Description, Residual Heat Removal/Low Head Safety Injection, Ver 45.0
 CAR 249590, Immediate Determination of Operability (IDO)
 DOEJ-FX-CR10014719-M001, Evaluation of the potential effect of flooding to the 1A RHR pump room and adjacent rooms due to internal water sources, Ver. 2.0
 U418156, Instruction Manual RHR Pumps, Ver. 4.0
 NUREG-75/034, Safety Evaluation Report Joseph M. Farley Nuclear Plants Units 1 and 2, May 2, 1975
 CAR 255504, Immediate Determination of Operability (IDO) for CR 10032693
 DOEJ-FX-CR10032693-M001, Evaluation of the potential effect of flooding to the 1B MDAFW pump room, the TDAFW pump room adjacent rooms due to internal water sources, Versions 1 and 2
 BM-99-1932-001, Internal Flooding Assessment, Rev. 1
 CAR 255115, Immediate Determination of Operability (IDO) for CR10027796
 Limitorque Maintenance Update 92-01
 CAR 210211, Immediate Determination of Operability for SW to Turbine Building isolation Valves
 SM-90-1653-017, Torque Requirements for Redundant Turbine Building Isolation Valves, Ver. 3.0
 TEs 912156, 817653, 820926

Procedures:

NMP-AD-012, Operability Determination and Functionality Assessments, Ver. 12.3
 FNP-0-SOP-0.13, Recording Limiting Conditions for Operations, Ver. 30.0
 NMP-OS-007-001, Conduct of Operations Standards and Expectations, Ver. 14.3
 FNP-1-ARP-3.2, Annunciator Response Procedure – Balance of Plant Panel Annunciator Panel N, Ver. 32.1

Section 1R18: Plant ModificationsDocuments:

NMP-ES-084-005-F01, TCC SNC628279, Temporary Configuration Change Form, TCC Ver. 2.0
 NMP-AD-008-F01, TCC SNC628279, Applicability Determination – Ver. 2.0
 NMP-AD-010-F01, TCC SNC628279, 10 CFR 50.59 Screening/Evaluation, Ver. 2.0

NMP-ES-035-006-F01, TCC SNC628279, Fire Protection Program and Safe Shutdown Analysis Checklist, Ver. 2.0

NMP-ES-084-005-F01, TCC SNC635147, Temporary Configuration Change Form, TCC Ver. 1.0

NMP-ES-035-006-F01, TCC SNC635147, Fire Protection Program and Safe Shutdown Analysis Checklist, Ver. 1.0

NMP-AD-008-F01, TCC SNC635147, Applicability Determination – Ver. 1.0

NMP-AD-010-F01, TCC SNC635147, 10 CFR 50.59 Screening/Evaluation, Ver. 1.0

NMP-ES-042-F02, TCC SNC635147, Design Verification Summary, Ver. 1.0

NMP-ES-084-001-F04, TCC SNC635147, Design Change/Modification Impact Review Form, Ver. 1.0

Drawing TMSNC635147.DWG

CRs 796381, 897986, 10009536, 10019167

TE 901202

WOs SNC565084, SNC 618339, SNC628280, SNC635160

Procedures:

NMP-AD-008, Applicability Determinations, Ver. 18.0

NMP-AD-010, 10 CFR 50.59 Screenings and Evaluations, Ver. 13.0

NMP-ES-084, Design Control/Configuration Management Process, Ver. 3.2

NMP-ES-035-006, Fire Protection Program and Safe Shutdown Analysis Checklists/Reviews, Ver. 6.0

FNP-2-STP-22.16, Turbine Driven Auxiliary Feedwater Pump Quarterly Inservice Test, Ver. 66.2

Section 1R19: Post Maintenance Testing

Procedures:

NMP-MA-014-001, Post Maintenance Testing Guidance, Ver. 3.0

FNP-2-STP-22.16, Turbine Driven Auxiliary Feedwater Pump Quarterly Inservice Test, Ver. 66.2

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Drawings:

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Documents:

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Main Control Room Logs

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Section 1R20: Refueling and Other Outage Activities

Procedures:

FPN-1-UOP-2.1, Shutdown of Unit from Minimum Load to Hot Standby, Ver. 74.0
 FPN-1-UOP-2.4, Planned Reactor Shutdown and Cooldown to Cold Shutdown, Ver. 17.0
 FPN-1-UOP-4.1, Controlling Procedure for Refueling, Ver. 63.0
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Documents:

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Section 1R22: Surveillance Testing

Procedures:

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 FPN-2-STP-80.18, Diesel Generator 1C 1000 kW Load Rejection Test, Ver. 21.0
 FPN-2-STP-23.1, 2A Component Cooling Water Pump Quarterly Inservice Test, Ver. 36.3
 FPN-1-STP-11.2, 1B RHR Pump Quarterly Inservice Test, Ver. 61.0
 FPN-1-STP-11.1, 1A RHR Pump Quarterly Inservice Test, Ver. 60.0
 FPN-1-STP-9.0, RCS Leakage Test, Ver. 51.1

Documents:

Unit 1 Fourth 10-Year Interval Pump Inservice Testing Basis Document, Ver. 3.0
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 DOEJ-FXSNC10020022-M001, Evaluation of ECCS Leakage at Plant Farley Using the AST
 LOCA Model, Ver. 1.0
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Section 1EP6: Drill/Training Evaluation

Documents:

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 Farley Emergency Notification Form, Scenario 1, Message 2, dated 2/25/2015
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Section 40A1: Performance Indicator Verification

Procedures:

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 Operating Data, Ver. 15.0

Documents:

Selected Unit 1 and Unit 2 Control Room Logs from December 2013 through December 2014
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Section 40A2: Problem Identification and Resolution

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