



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

February 13, 2019

Dennis R. Madison
Vice President
Southern Nuclear Operating Company, Inc.
Joseph M. Farley Nuclear Plant
7388 North State Highway 95
Columbia, AL 36319

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT – NRC INTEGRATED INSPECTION
REPORT 05000348/2018004 AND 05000364/2018004

Dear Mr. Madison:

On December 31, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Joseph M. Farley Nuclear Plant, Units 1 and 2. On January 23, 2019, NRC inspectors discussed the results of this inspection with Delson Erb and other members of your staff. The results of this inspection are documented in the enclosed report.

NRC inspectors documented one finding of very low safety significance (Green) in this report. The finding involved a violation of NRC requirements. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest the violation or significance of the NCV, 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; and the NRC resident inspector at the Joseph M. Farley Nuclear Plant, Units 1 and 2.

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 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; and the NRC resident inspector at the Joseph M. Farley Nuclear Plant, Units 1 and 2.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

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

Docket Nos.: 50-348, 50-364
License Nos.: NPF-2, NPF-8

Enclosure:
IR 05000348/2018004, 05000364/2018004
w/Attachment: Supplemental Information

cc Distribution via ListServ

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

Docket Number(s): 50-348, 50-364

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

Report Number(s): 05000348/2018004; and 05000364/2018004

Enterprise Identifier: 2018-004-0038

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Joseph M. Farley Nuclear Plant

Location: Columbia, Alabama

Inspection Dates: October 1, 2018 to December 31, 2018

Inspectors: P. Meier, Senior Resident Inspector
S. Sanchez, Senior Emergency Preparedness Inspector
M. Schweg, Senior Resident Inspector
C. Fontana, Emergency Preparedness Inspector
A. Goldau, Emergency Preparedness Inspector
K. Miller, Resident Inspector
D. Mas-Penaranda, Project Engineer
J. Walker, Emergency Preparedness Inspector (trainee)
B. Caballero, Senior Operations Engineer
W. Pursley, Health Physicist Inspector
G. MacDonald, Senior Reactor Analyst

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

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring licensee’s performance by conducting baseline inspections at Joseph M. Farley, Units 1 and 2 in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC’s program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information. NRC and self-revealed findings, violations, and additional items are summarized in the table below.

List of Findings and Violations

2B Emergency Diesel Generator Oil Leak			
Cornerstone	Significance	Cross-cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000364/2018004-01 Open/Closed	H.8 – Procedure Adherence	71111.15 – Operability Determinations
A green self-revealed non-cited violation (NCV) of Technical Specification 5.4.1, “Procedures” was identified for the failure to follow procedural guidance on October 29, 2018, for work that affected the performance of the ‘2B’ emergency diesel generator. An oil leak occurred on the emergency diesel generator oil circulating pump that rendered the engine inoperable due to an improper repair on a coupling at the discharge of the pump.			

Additional Tracking Items

Type	Issue number	Title	Report Section	Status
NOV	05000348/05000364 2018013-01	Interference with the Operation of a Respirator	Other Activities	Closed

PLANT STATUS

Unit 1 started the inspection period at 70 percent of rated thermal power (RTP) and performing a power ascension following the forced outage repairs to the main steam isolation valve air actuator. On October 4, 2018, power was returned to RTP. On October 10, 2018, power was reduced to 31 percent RTP due to Hurricane Michael. On October 18, 2018, power was returned to RTP after grid restrictions were removed and Hurricane related debris in the cooling tower discharge structure was removed. Unit 1 operated at or near RTP power for the remainder of the inspection period.

Unit 2 started the inspection period at or near RTP power. On October 10, 2018, power was reduced to 31 percent RTP due to Hurricane Michael. On October 18, 2018, power was returned to RTP after grid restrictions were removed and Hurricane related debris in the cooling tower discharge structure was removed. Unit 2 operated at or near RTP power for the remainder of the inspection period.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards."

REACTOR SAFETY

71111.01 - Adverse Weather Protection

Seasonal Extreme Weather (1 Sample)

The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of seasonal cold temperatures.

Impending Severe Weather (1 Sample)

The inspectors evaluated readiness for impending adverse weather conditions for Hurricane Michael on October 10, 2018.

71111.04 - Equipment Alignment

Partial Walkdown (3 Samples)

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

- (1) Unit 2 component cooling water system train 'A' on October 18, 2018
- (2) Unit 1 auxiliary feedwater system on October 24, 2018
- (3) Unit 1 and Unit 2 service water system on November 21, 2018

71111.05Q - Fire Protection Annual/Quarterly

Quarterly Inspection (4 Samples)

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

- (1) Unit 1 component cooling water heat exchanger room Fire Area (FA) 1-040 on October 19, 2018
- (2) Unit 1 auxiliary feedwater system rooms FA 1-006 on October 24, 2018
- (3) Unit 2 auxiliary feedwater system rooms FA 2-006 on October 24, 2018
- (4) Unit 2 cable spreading room FA 2-040 on November 21, 2018

71111.06 - Flood Protection Measures

Internal Flooding (1 Sample)

The inspectors evaluated internal flooding mitigation protections in the service water intake structure on December 20, 2018.

71111.11 - Licensed Operator Requalification Program and Licensed Operator Performance

Operator Requalification (1 Sample)

The inspectors observed and evaluated operator continuing training simulator Event 7 - steam generator tube rupture with loss of offsite power without emergency air on November 20, 2018.

Operator Performance (1 Sample)

The inspectors observed and evaluated the Unit 1 and Unit 2 power ascension on October 1, 2018 and October 12, 2018.

Operator Exams (1 Sample)

The inspectors reviewed and evaluated requalification examination results on November 30, 2018.

71111.12 - Maintenance Effectiveness

Routine Maintenance Effectiveness (1 Sample)

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

- (1) Unit 1 turbine driven auxiliary feedwater pump steam admission valve, HV3226, unexpected steam flow on November 1, 2018.

Quality Control (1 Sample)

The inspectors evaluated maintenance and quality control activities associated with the following equipment performance issues:

- (1) Commercial grade dedication plan for number 2 diesel fuel oil (SCM-CGDP-001).

71111.13 - Maintenance Risk Assessments and Emergent Work Control (1 Sample)

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

- (1) Unit 2 elevated risk during turbine control system issues on October 2 and 3, 2018.

71111.15 - Operability Determinations and Functionality Assessments (3 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

- (1) Unit 1 turbine driven auxiliary feed water pump low oil level on September 27, 2018.
- (2) Extent of condition on emergency diesel generator high voltage on August 20, 2018.
- (3) 2B emergency diesel generator oil leak on November 27, 2018.

71111.18 - Plant Modifications (2 Samples)

The inspectors evaluated the following temporary or permanent modifications:

- (1) Replacement of Unit 1 solid state protection system power supplies (SNC705133).
- (2) Unit 2 solid state protection system reactor trip breaker low margin (SNC728693).

71111.19 - Post Maintenance Testing (3 Samples)

The inspectors evaluated the following post maintenance tests:

- (1) Turbine driven auxiliary feedwater pump steam supply valves inservice test after replacement of steam supply warmup isolation valve, HV3234A, on October 30, 2018 (FNP-1-STP-21.3).
- (2) Turbine driven auxiliary feedwater pump quarterly inservice test following inspection and rework of steam admission valve, HV3226, on November 2, 2018 (FNP-1-STP-22.16).
- (3) 2B emergency diesel generator operability test after rework of the lube oil system circulating oil pump discharge piping coupling on November 28, 2018 (FNP-2-STP-80.1).

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Routine (2 Samples)

- (1) Emergency diesel generator 1-2A monthly test on October 15, 2018 (FNP-0-STP-80.1).
- (2) Emergency diesel generator 1-2A 24 hour run on November 13, 2018 (FNP-0-STP-80.1).

In-service (1 Sample)

- (1) 2A auxiliary feedwater pump quarterly inservice test, on October 22, 2018 (FNP-2-STP-22.1).

71114.01 - Exercise Evaluation (1 Sample)

The inspectors evaluated the biennial emergency plan exercise during the week of October 29, 2018. The exercise scenario simulated a spent fuel pool level drop with a corresponding rise in radiation levels in the area. A short time later, a reactor coolant pump tripped and produced foreign material that impacted the fuel and the reactor coolant system. As pressurizer level decreases, a manual safety injection was initiated with multiple systems not actuating as required. A large break loss of coolant accident occurred with the one available spray pump tripping upon actuation, and with less than one full train of containment spray available, a Site Area Emergency was declared. Lastly, an electrical penetration inside the auxiliary building failed, creating an offsite radiological release that led to a simulated General Emergency classification and the offsite response organizations demonstrated their ability to implement emergency actions.

71114.04 - Emergency Action Level and Emergency Plan Changes (1 Sample)

The inspectors evaluated submitted emergency action level, emergency plan, and emergency plan implementing procedure changes during the week of October 29, 2018. This evaluation does not constitute NRC approval.

71114.06 - Drill Evaluation

Emergency Planning Drill (1 Sample)

The inspectors evaluated an emergency preparedness (EP) drill that involved the failure of the reactor to trip which led to an Alert, the loss of two fission product barriers which led to a Site Area Emergency and the subsequent loss of the third barrier which led to a General Emergency on October 30, 2018.

71114.08 - Exercise Evaluation – Scenario Review (1 Sample)

The inspectors reviewed and evaluated in-office, the proposed scenario for the biennial emergency plan exercise at least 30 days prior to the day of the exercise.

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators (PI) submittals listed below for the period from October 1, 2017, through October 1, 2018. (6 Samples)

- (1) Unit 1 mitigating systems performance indicator (MSPI) - emergency ac power
- (2) Unit 2 MSPI - emergency ac power
- (3) Unit 1 MSPI - high pressure safety injection
- (4) Unit 2 MSPI - high pressure safety injection
- (5) Unit 1 MSPI - heat removal, auxiliary feedwater
- (6) Unit 2 MSPI - heat removal, auxiliary feedwater

The inspectors verified licensee performance indicators submittals listed below for the period from January 1, 2017, through June 30, 2018. (3 Samples)

- (1) EP01: drill & exercise performance
- (2) EP02: emergency response organization drill participation
- (3) EP03: alert & notification system reliability

71152 - Problem Identification and Resolution

Annual Follow-up of Selected Issues (1 Sample)

The inspectors reviewed the licensee's implementation of its corrective action program related to the following issues:

- (1) Unit 1 reactor make up pump train B functional failure condition report (CR)10543648

OTHER ACTIVITIES – TEMPORARY INSTRUCTIONS, INFREQUENT AND ABNORMAL

92702 Follow up On Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, Confirmatory Orders, and Alternative Dispute Resolution Confirmatory Orders

The inspectors reviewed the licensee's response to notice of violation (NOV) 05000348/2018013, 05000364/2018013, enforcement action (EA) -17-187 and determined that the reason, corrective actions taken and planned to address recurrence, and the date when full compliance was achieved for this violation is adequately addressed and captured on the docket. No findings were identified. The violation, NOV 05000348/05000364 2018013-01, Interference with the Operation of a Respirator, (EA-17-187), is closed.

INSPECTION RESULTS

2B Emergency Diesel Generator Oil Leak			
Cornerstone	Significance	Cross-cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000364/2018004-01 Open/Closed	H.8 – Procedure Adherence	71111.15 – Operability Determinations
<p>A green self-revealed non-cited violation (NCV) of Technical Specification 5.4.1, “Procedures” was identified for the failure to follow procedural guidance on October 29, 2018, for work that affected the performance of the ‘2B’ emergency diesel generator (EDG). An oil leak occurred on the ‘2B’ EDG oil circulating pump discharge coupling that rendered the EDG inoperable due to an improper repair on the pump discharge coupling.</p>			
<p><u>Description:</u></p> <p>A two gallons per minute (gpm) oil leak occurred on the ‘2B’ EDG oil circulating pump discharge during a Technical Specification surveillance run (Fast Start) on November 27, 2018. This rendered the emergency diesel inoperable based on the rate of the oil leak. With an 845 gallon sump capacity, the max run time of the emergency diesel generator, without manual intervention, would be 5 to 7 hours. The design basis mission time is 7 days.</p> <p>Previous to the November 27 incident, tool-pouch maintenance was used on October 29, 2018, to stop a 150 drops per minute (dpm) leak on a Flexmaster coupling located on the discharge of the ‘2B’ EDG oil circulating pump. The maintenance personnel applied additional torque to the coupling with permission from the Unit Supervisor. On November 27, 2018, after the 2 gpm oil leak was discovered, investigation revealed that the coupling was torqued to a higher value than recommended by the vendor procedures. The investigation also revealed that the piping joined by the coupling was misaligned greater than recommended by the vendor procedures. The misalignment occurred when the coupling was replaced as part of routine maintenance of the diesel on February 28, 2018.</p> <p>The Flexmaster coupling is designed to absorb a certain amount of vibration and accommodate some misalignment between the two adjoining pipes. However, the vendor instructions provide limits on torqueing and on the allowable misalignment. The alignment of the adjoined piping was outside the vendor limits of 4 degrees based on visual observation. The torqueing was definitively exceeded. The excessive torqueing provided additional strain on the already degraded coupling assembly. This, along with the vibration of the diesel and the additional oil pressure experienced while running the engine, caused the 2 gpm oil leak.</p> <p>NMP-GM-006-001, “Minor Maintenance and Tool-Pouch Work Procedure”, is a Southern Nuclear Corporate procedure applicable to Farley. The procedure implements a portion of the station’s quality assurance requirements for maintenance in accordance with the quality assurance program and Technical Specification 5.4.1 which requires procedures covering maintenance activities listed in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. The procedure defines ‘tool-pouch’ as a methodology by which work is accomplished that does not require work documents to be initiated. The procedure specifically prohibits tool pouch work for torqueing safety related components. Despite this, tool pouch work was used to over tighten the pump discharge coupling on October 29, 2018, which eventually resulted in the 2 gpm leak and inoperable EDG on November 27, 2018.</p>			

Corrective Action(s): The coupling was replaced with a new one utilizing the Flexmaster instructions. A post maintenance run of the engine validated the leak was repaired. A Corrective Action Report was assigned to the maintenance group to determine and fix the causes for the inappropriate use of the tool-pouch maintenance.

Corrective Action Reference(s): CR10557856 / Corrective Action Report (CAR) 275281

Performance Assessment:

Performance Deficiency: The licensee failed to follow NMP-GM-006-001, Minor Maintenance and Tool-Pouch Work Procedure, on October 29, 2018 for work that affected the performance of safety related equipment which resulted in the inoperability of the 2B emergency diesel generator.

Screening: The inspectors determined the performance deficiency was more than minor because it adversely affected the equipment performance attribute of the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage).

Significance: The inspectors assessed the significance of the finding using IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The finding was not a deficiency affecting the design or qualification of a structure, system, or component; and did not represent a loss of system and/or function. It was determined that the finding may have represented an actual loss of a least a single train for greater than its Technical Specification allowed outage time and a detailed risk analysis was performed by a regional Senior Risk Analyst in accordance with IMC 0609 Appendix A. The risk assessment used the NRC Farley SPAR model and external fire risk from Farley's Fire PRA model. The major analysis assumptions included a 29 day exposure period, performance deficiency considered as a common cause failure, credit for EDG operation for a 5 hour period, limited recovery credit, and no flex credit. The dominant sequence was a station blackout sequence consisting of a site-wide weather related Loss of Off-site Power (LOOP) with successful reactor shutdown, random failure to run of the 1C and 2C EDGs, failure of the 2B EDG due to the performance deficiency, failure to operate the turbine driven auxiliary feedwater pump long term, and failure to recover offsite power or an EDG leading to a loss of core heat removal and core damage. The risk increase resulting from the performance deficiency was an increase in core damage frequency less than 1.0E-6/year, which is a Green finding of very low safety significance. The relative short exposure period, remaining mitigation equipment, and recovery potential minimized the risk.

Cross-cutting Aspect: The inspectors determined the finding had a cross-cutting aspect of the Procedure Adherence area because the individuals involved did not follow the work management procedure regarding tool-pouch maintenance when repairing the leak on the coupling. Work was performed on a safety related component with no formal instructions or guidance. As a result, the workers unknowingly over-tightened the coupling which ultimately caused it to fail resulting in an excessive oil leak and an inoperable emergency diesel generator. [H.8]

Enforcement:

Violation: Technical Specifications 5.4.1.a requires, in part, written procedures shall be implemented covering the applicable procedures recommended in Regulatory Guide 1.33,

Revision 2, Appendix A, February 1978. Section 9.a of Appendix A of Regulatory Guide 1.33 that requires in part, maintenance that can affect the performance of safety-related equipment should be properly performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances.

Contrary to the above, the 2B emergency diesel generator circulating oil pump coupling repair performed on October 29, 2018, was done without specific work procedures or instructions. NMP-GM-006-001 specifically prohibits tool pouch work for torquing on safety-related components. Despite this, tool pouch work was used to tighten the coupling resulting in a 2 gpm oil leak and the 2B EDG being inoperable.

Disposition: This violation is being treated as a Non-Cited Violation, consistent with Section 2.3.2 of the Enforcement Policy.

EXIT MEETINGS AND DEBRIEFS

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

The inspectors confirmed that proprietary information was controlled to protect from public disclosure.

- On November 1, 2018, the lead inspector presented the emergency preparedness exercise inspection results to Mr. D. Madison, and other members of the licensee staff.
- On January 23, 2019 the inspector presented the quarterly baseline inspection results to Delson Erb, and other members of the licensee staff.

DOCUMENTS REVIEWED

71111.01: Adverse Weather Protection

Procedures:

NMP-GM-025, Seasonal Readiness Process, Ver. 5.0
FNP-0-AOP-21, Severe Weather, Rev. 46.1
NMP-OS-017, Severe Weather, Ver. 1.1
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-0-SOP-0.12, Cold Weather Contingencies, Ver. 23.0

Condition Reports:

10544348 10544354 10544339 10544334 10544365 10544703
10545178

Documents:

Regulatory Guide 1.27, Ultimate Heat Sink
D-171417, Pond Fill Discharge Structure, Rev. 3
D-170178, Piping- River Water Pumps Discharge to Storage Pond, Rev. 19
D-176981, Storage Dam and Dike – General Plan, Rev. 8
D-171419, River Water discharge to pond structure, Rev. 0
FNP-0-SOP-0.12, Cold Weather Contingencies Attachment 1, Ver. 23.0
FNP-0-SOP-0.12, Freeze Protection Deficiencies Attachment 2, Ver. 22.1

71111.04: Equipment Alignment

Procedures:

FNP-2-SOP-23.0, Component Cooling Water System, Ver. 93.0
FNP-1-SOP-22.0A, Auxiliary Feedwater System, Ver. 19
FNP-1-SOP-24.0, Service Water System, Ver. 87.0
FNP-2-SOP-24.0, Service Water System, Ver. 81.0

Drawings:

D-205002, Unit 2 P&ID - Component Cooling Water, Ver. 31
D-105007, Unit 1 P&ID – Auxiliary Feedwater System, Sheet 1, Ver. 36.0
D-170119, P&ID - Service Water System, Ver. 47.0

Condition Reports:

10547167 10550778 10557840

71111.05: Fire Protection Annual/Quarterly

Drawings:

D-356848, Unit No. 2 – Fire Barriers and Fire Boundaries – U2 Auxiliary Building and Containment El. 130' and 139', Ver. 1.0
D-170384, Unit No. 1 – Fire Protection - P&ID, Low Pressure Carbon Dioxide, Sheet 1, Ver. 17.0
D-205049, Unit No. 2 – Fire Protection - P&ID, Low Pressure Carbon Dioxide, Sheet 3, Ver. 9.0
U-162429, Unit No. 1 – Cardox Low Pressure Fire Extinguishing System Electrical Control Cabinet, Ver. 1.0
D-181502, Unit No. 1 – Connection Diagram – Fire Protection System (CO₂) Auxiliary Building,

Sheet 1, Ver. 20.0

U-162424, Unit No. 1 – Fire Protection System Connection Diagram, Rev. 1

D-204502, Unit No. 2 – Connection Diagram – Fire Protection System (CO₂) Auxiliary Building, Sheet 1, Ver. 13.0

U-276273, Unit No. 2 – Cardox Low Pressure CO₂ Fire Protection System, Ver. 1.0

D-175014, Unit No. 1 – HVAC – P&ID – Non-Rad Area & Electrical Equipment Room, Sheet 2, Ver. 19.0

D-205014, Unit No. 2 – HVAC – P&ID – Non-Rad Area & Electrical Equipment Rooms, Sheet 1, Rev. 23

D-177534, Unit No. 1 – Elementary Diagram Cable Spreading Room Exhaust Fan, Rev. 3

D-177679, Unit No. 1 – Elementary Diagram CRDM, Communications & Cable Spreading Room Fire Dampers, Sheet 2, Rev. 14

B-175810, Logic Diagram, Sheet 123, Rev. 2

Documents:

A-181805, NFPA 805 Fire Protection Program Design Basis Document, Ver. 5.0

A-181017, Functional System Description Fire Protection System, Ver. 43.0

U-276242, Flow Calculation for Cable Spreading Room – Unit 2

SM-C051326701-007, Code Compliance Evaluation for NFPA 12, 2008 Edition, Standard on Carbon Dioxide Extinguishing Systems, Rev. 1

WO SNC695297, FNP-0-FSP-57.0, Auxiliary Building Low Pressure CO₂ Systems and Hose Reels, Ver. 23.0

WO SNC750713, FNP-2-FSP-63.06, Visual Inspection of Penetration Fire Barriers (Aux. Building 139' El., Cable Spread Room, Cable Chase), Ver. 7.1

WO SNC438324, FNP-1-FSP-65.0, Fire Dampers Functional Inspection Auxiliary Building-Diesel Building-Service Water Building, Ver. 18.0

WO SNC791180, FNP-2-FSP-65.2, Fire Doors Functional Inspection Auxiliary Building – (Non Train Related), Ver. 18.0 and 19.0

WO SNC814548, FNP-2-FSP-307.0, Smoke Detectors – Biennial Operability and Adjustment, Ver. 24.1

WO SNC812826, FNP-2-FSP-405.0, Preaction Sprinkler System, Ver. 20.3

Procedures:

FNP-0-FPP-2.0, Protected Area Pre-Fire Plan, Ver. 1

FNP-1-FPP-1.0, Unit 1 Auxiliary Building Pre-Fire Plan, Ver. 2.0

FNP-2-FPP-1.0, Unit 2 Auxiliary Building Pre-Fire Plan, Ver. 2.0

FNP-0-AOP-29.0, Plant Fire, Rev. 51.0

FNP-0-FSP-57.0, Auxiliary Building Low Pressure CO₂ Systems and Hose Reels, Ver. 25.0

Condition Reports:

10330580

71111.06: Flood Protection Measures

Drawings:

D350796, Unit 1 & 2 – Service Water Intake Structure – Concrete Penetrations Seals Key Plan, Ver. 5.0

D171331, Unit 1 & 2 – Outdoor Concrete - Service Water Intake Structure General Arrangement, Ver. 8.0

Documents:

Calculation BM-999-1932-001, Internal Flooding Assessment, Ver. 6.0
Calculation SM-TE708714-001, Evaluation of Flow Capacity for the 24-inch P16-HBD-329 Gravity Flow Pipe from SWIS Sump to Wetland.

71111.11: Licensed Operator Requalification Program

Procedures:

FNP-1-UOP-3.1, Power Operation, Ver. 132.0
FNP-2-UOP-3.1, Power Operation, Ver. 119.0
NMP-OS-014-001, FNP Time Critical Operator Action Program, Ver. 6.0

Documents:

F-LT-SG-TCOA, LOCT Time Critical Operator Actions, Ver. 1.0

71111.12: Maintenance Effectiveness

Procedures:

FNP-0-CCP-1111, Farley Procedure for Sampling New Diesel Fuel, Ver. 34.0
NMP-CH-401-F01, Diesel Fuel Oil Chain of Custody, Ver. 1.2

Documents:

SCM-CGDP-001, Commercial Grade Dedication Plant for Number 2 Diesel Fuel Oil, Ver. 10.0
Certificate of Analysis Farley DFO
NRC Generic Letter 80-002, Quality Assurance Requirements Regarding Diesel Generator Fuel Oil, Jan 7, 1980

Condition Reports:

10550822

71111.13: Maintenance Risk Assessments and Emergent Work Evaluation

Procedures:

NMP-OS-010-001, Farley Protected Equipment Logs, Ver. 15

Documents:

Unit 2 EOOS Operator's Risk Report for October 2, 2018

71111.15: Operability Determinations and Functionality Assessments

Procedures:

FNP-1-STP-22.16, Turbine Driven Auxiliary Feedwater Pump Quarterly Inservice Test, Ver. 67.0

Condition Reports:

10540234 10540618 10540629 10540767 10530032

Documents:

Corrective Action Report (CAR) 274861

Work Orders:
SNC921968

71111.18 - Plant Modifications

Documents:
SNC705133, Replacement of Unit 1 Solid State Protection System (SSPS) Power Supplies, dated 3/31/2016
SNC728693, Unit 2 SSPS Reactor Trip Breaker Low margin, dated 12/5/2017

Work Orders:
SNC754773 SNC754774 SNC769011 SNC696268 SNC769023 SNC851472
SNC851449

71111.19: Post Maintenance Testing

Procedures:
FNP-1-STP-21.3, TDAFWP Steam Supply Valves Valve Inservice Test, Ver. 28.0
FNP-1-STP-22.16, Turbine Driven Auxiliary Feedwater Pump Quarterly Inservice Test, Ver. 67.0
FNP-2-STP-80.1, DG 2B Operability Test, Ver. 59.0

Condition Reports:
10550344 10550822 10551125 10551321 10557431 10557750

Work Orders:
SNC607431 SNC978184 SNC982725

71111.22: Surveillance Testing

Procedures:
FNP-0-STP-80.1, Diesel Generator 1-2A Operability Test, Ver. 72.0
FNP-2-STP-22.1, 2A Auxiliary Feedwater Pump Quarterly Inservice Test, Ver. 36.0

Condition Reports:
10547778 10554856 10554914 10555220

Work Orders:
SNC916549 SNC931744

71114.01 EP1 Exercise Evaluation

Procedures:
FNP-0-EIP-4.0, Radiation Protection Support to the Emergency Plan, Ver. 47.0
FNP-0-EIP-6.0, TSC Setup & Activation, Ver. 48.0
NMP-EP-003, WebEOC Setup and Use, Ver. 10.0
NMP-EP-009-001, Foreign Material Exclusion Program, Ver. 8.0
NMP-EP-140, Accident Assessment, Ver. 2.1
NMP-EP-141, Event Classification, Ver. 2.0
NMP-EP-141-001, Farley Emergency Action Levels & Bases, Ver. 2.0

NMP-EP-142, Emergency Notification, Ver. 2.1
NMP-EP-143, Facility Activation, Ver. 3.0
NMP-EP-143-F04, Emergency Operations Facility Staffing, Version 2.0
NMP-EP-144, Protective Actions, Ver. 4.0
NMP-EP-145, Termination and Recovery, Ver. 1.1
NMP-EP-146, Emergency Response Organization, Ver. 2.0
NMP-EP-146-F25, OSC Manager, Ver. 2.0
NMP-EP-147, Offsite Dose Assessment, Ver. 2.1

Records and Data:

Farley Nuclear Plant Emergency Preparedness NRC Evaluated Ingestion Pathway Exercise, October 30, 2018

2018 IPX Graded Exercise Management Debrief, Farley Nuclear Plant, dated
Control Room Simulator, Operations Support Center, Technical Support Center, corporate
Emergency Operations Facility / Joint Information Center - documentation packages (logs,
Event Notification Forms, Protective Action Recommendations, Media Releases, and
Radiological Dose Assessments)

Condition Reports:

CR 10550514, FNP 2018 Exercise improvement – controller/observer interactions
CR 10550516, FNP 2018 Exercise improvement – controller information delivery to ERO
CR 10550517, FNP 2018 Exercise improvement – timely actions below expectations
CR 10550519, FNP 2018 Exercise improvement – follow-up notification time on ENF
CR 10550521, FNP 2018 Graded Exercise Objective D.7 failure
CR 10550525, FNP 2018 Exercise improvement – repair team briefings delayed dispatching
CR 10550564, FNP 2018 Graded Exercise drill development discrepancy

71114.04 1EP4 Emergency Action Level and Emergency Plan Changes

Procedures:

NMP-EP-301, Emergency Preparedness Staff Training, Ver. 11.1
NMP-EP-310, Maintaining the Emergency Plan, Ver. 7.0
NMP-EP-310-F01, 10 CFR 50.54(q) Screening, Ver. 5.0
NMP-EP-310-F03, 10 CFR 50.54(q) Evaluation, Ver. 1.0
Southern Nuclear Company (SNC) Standard Emergency Plan, Ver. 2
SNC Standard Emergency Plan Annex for Farley Nuclear Plant (FNP) Units 1 & 2, Ver. 2

Change Packages:

FNP-17-007-01, SNC Standard Emergency Plan Annex for FNP Units 1 & 2, Ver. 2.0,
Relocation of the Joint Information Center (JIC), 10 CFR 50.54(q) Screening, dated 9/27/17
FNP-17-007-01, SNC Standard Emergency Plan Annex for FNP Units 1 & 2, Ver. 2.0,
Relocation of the Joint Information Center (JIC), 10 CFR 50.54(q) Evaluation, dated 9/27/17
FNP-17-009-01, NMP-EP-141-001, Ver. 2.0, 10 CFR 50.54(q) Screening, dated 9/18/17
FNP-17-009-01, NMP-EP-141-001, Ver. 2.0, 10 CFR 50.54(q) Evaluation, dated 9/18/17
FNP-17-010-01, SNC Standard Emergency Plan & Farley Annex, Ver. 2.0, Relocation of the
Operations Support Center (OSC), 10 CFR 50.54(q) Screening, dated 8/21/17
FNP-17-010-01, SNC Standard Emergency Plan & Farley Annex, Ver. 2.0, Relocation of the
Operations Support Center (OSC), 10 CFR 50.54(q) Evaluation, dated 9/28/17
FNP-17-020-01, SNC Standard Emergency Plan Annex for FNP Units 1 & 2, Ver. 2, 10 CFR
50.54(q) Screening, dated 12/13/17

FNP-17-020-01, SNC Standard Emergency Plan Annex for FNP Units 1 & 2, Ver. 2, 10 CFR 50.54(q) Evaluation, dated 12/13/17

71114.06: Drill Evaluation

Procedures:

NMP-EP-141, Event Classification, Ver. 2.0
NMP-EP-144, Protective Actions, Ver. 3.0
NMP-EP-141-001-F01, Farley – Hot Initiating Condition Matrix, Ver. 2.0
NMP-EP-141-001, Farley Emergency Action Level and Basis, Ver. 2.0

Documents:

Emergency Preparedness Drill Controller Guide, October 31, 2018

Condition Reports:

10550517

71114.08 1EP8 Exercise Evaluation

Procedures:

NMP-EP-140, Accident Assessment, Ver. 2.1
NMP-EP-141, Event Classification, Ver. 2.0
NMP-EP-141-001, Farley Emergency Action Levels & Bases, Ver. 2.0
NMP-EP-142, Emergency Notification, Ver. 2.1
NMP-EP-143, Facility Activation, Ver. 3.0
NMP-EP-144, Protective Actions, Ver. 4.0
NMP-EP-145, Termination and Recovery, Ver. 1.1
NMP-EP-146, Emergency Response Organization, Ver. 2.0
NMP-EP-147, Offsite Dose Assessment, Ver. 2.1
NMP-AD-029, Preparation & Reporting of Regulatory Assessment Performance Indicators & the Monthly Operating Report, Ver. 1.1
NMP-EP-311, SNC Emergency Preparedness Tier 4 Performance Indicators, Ver. 4.0

71151: Performance Indicator Verification

Procedures:

FNP-0-M-151.0, NRC Mitigating Systems Performance Index (MSPI) Basis Document, Ver. 16

Documents:

Consolidated Data Entry MSPI Deviation Report Unit 1 High Pressure Injection System, Oct 2018
Consolidated Data Entry MSPI Deviation Report Unit 1 Heat Removal System, Oct 2018
Consolidated Data Entry MSPI Deviation Report Unit 1 Emergency AC Power System, Oct 2018
Consolidated Data Entry MSPI Deviation Report Unit 2 High Pressure Injection System, Oct 2018
Consolidated Data Entry MSPI Deviation Report Unit 2 Heat Removal System, Oct 2018
Consolidated Data Entry MSPI Deviation Report Unit 2 Emergency AC Power System, Oct 2018
MSPI Indicator Report Unit 1 Oct 2017 thru Oct 2018
MSPI Indicator Report Unit 2 Oct 2017 thru Oct 2018
Main Control Room logs, various dates

Records and Data:

DEP opportunities documentation for 1st, 2nd, 3rd & 4th quarters 2017, & 1st & 2nd quarters 2018
Siren test data for 1st, 2nd, 3rd & 4th quarters 2017, & 1st & 2nd quarters 2018
Drill & exercise participation records of ERO personnel for 1st, 2nd, 3rd & 4th quarters 2017, & 1st & 2nd quarters 2018

Condition Reports:

CR 10316538, UHF and VHF failure for siren 84, considered a PI failure
CR 10321724, Partial activation for siren 11 – not a PI failure
CR 10327641, Siren 39 activation failure (low battery)
CR 10363703, Partial activation failure of siren 22
CR 10363697, Siren 60 partial activation
CR 10379658, Siren activation failure –PI failure
CR 10392052, Siren 43 non-reproducible activation failure
CR 10420795, Siren 64 activation failure – PI failure

71152: Problem Identification and Resolution

Procedures:

NMP-ES-006-GL02, Preventative Maintenance Change Requests, Version 11.0
NMP-GM-002-001, Corrective Action Program Instructions, Version 3.0
NMP-GM-008, Operating Experience Program, Version 3.0

Condition Reports:

10543648	10540234	10550433	10550157	10549680	10542625
10541407	10541454	10541461	10537571	10537613	10537617
10537621	10552765	10555220	10555943	10552355	10552310
10551321	10551336	10551534	10545178	10544703	10544365
10554334	10544339	10544348	10544354	10550822	10551030
10550934	10550521	10507445			

Work Orders:

SNC966330 SNC967142

92702 Follow up On Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, Confirmatory Orders, and Alternative Dispute Resolution Confirmatory Orders

Miscellaneous Documents

NL-18-0782, Joseph M. Farley Nuclear Plant – Unit 1 and Unit 2, Reply to Notice of Violation;
EA-17-187

Corrective Action Documents

CAR 274118