



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION II
245 Peachtree Ave., N.E., Ste. 1200
Atlanta, Georgia 30303

July 30, 2010

Mr. J. Randy Johnson
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 05000348/2010003 AND 05000364/2010003**

Dear Mr. Johnson:

On June 30, 2010, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Joseph M. Farley Nuclear Plant, Units 1 and 2. The enclosed inspection report documents the inspection results discussed with you and other members of your staff on July 13, 2010.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations, and with the conditions of your license. The NRC reviewed selected procedures and records, observed activities, and interviewed personnel.

This report documents one NRC-identified finding and one self-revealing finding. Both findings are of very low safety significance (GREEN). These findings were determined to involve a violation of NRC requirements. Additionally, one licensee-identified violation (LIV), which was determined to be of very low safety significance, is listed in this report. However, because the findings were of very low safety significance and because they were entered into your corrective action program (CAP), the NRC is treating these findings as non-cited violations (NCVs), consistent with Section VI.A.1 of the NRC's Enforcement Policy. If you contest any NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington DC 20555-0001, with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Farley Nuclear Plant. In addition, if you disagree with the cross-cutting aspect assigned to any finding 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, RII, and the NRC Senior Resident Inspector at Farley Nuclear Plant.

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In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response, if any, will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Scott M. Shaeffer, Chief
Reactor Projects Branch 2
Division of Reactor Projects

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

Enclosure: Inspection Report 05000348/2010003, and 05000364/2010003
w/Attachment: Supplemental Information

cc w/encl.: (See page 3)

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Letter to J. Randy Johnson from Scott M. Shaeffer dated July 30, 2010

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT - NRC INTEGRATED INSPECTION
REPORT 05000348/2010003 AND 05000364/2010003

Distribution w/encl:

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.: 05000348, 05000364

License Nos.: NPF-2, NPF-8

Report No.: 05000348/2010003, and 05000364/2010003

Licensee: Southern Nuclear Operating Company, Inc.

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

Location: Columbia, AL

Dates: April 01, 2010, through June 30, 2010

Inspectors: E. Crowe, Senior Resident Inspector
S. Sandal, Resident Inspector
J. Sowa, Resident Inspector
T. Morrissey, Senior Resident Inspector
A. Nielsen, Health Physicist (1RS01)
C. Dykes, Health Physicist (1RS01)
R. Berryman, Senior Reactor Inspector (4OA5)
S. Rose, Senior Project Engineer (4OA5)
M. Coursey, Reactor Inspector (1R08)

Approved by: Scott M. Shaeffer, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000348/2010003 and 05000364/2010003; 04/01/2010 – 06/30/2010; Joseph M. Farley Nuclear Plant, Units 1 and 2; Radiological Hazard Assessment and Exposure Controls; Identification and Resolution of Problems.

The report covered a three-month period of inspection by the resident inspectors, one senior reactor inspector, one reactor inspector, two health physicists, and a senior project engineer. One NRC-identified Green NCV and one self-revealing Green NCV were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red); the significance was determined using Inspection Manual Chapter (IMC) 0609, 'Significance Determination Process' (SDP); the cross-cutting aspect was determined using IMC 0310, Components Within the Cross Cutting Areas; and that findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review.

Cornerstone: Mitigating Systems (MS)

- Green An NRC-identified Green NCV of 10 CFR 50, Appendix B, Criterion III, Design Control, was identified for the licensee's failure to implement measures to assure that safety-related cables remained in an environment for which they were certified. Safety-related cables purchased and installed in underground electrical pull boxes at Farley Nuclear Plant have been subjected to submergence, a condition for which they are not designed. To address this issue, the licensee has performed the immediate corrective action of increasing the frequency of measuring water level in the pull boxes and removing excess water to ensure cables are not submerged. The licensee entered the issue into their corrective action program as CR 2010100512.

Failure to maintain safety-related electrical cables in a physical environment for which the cables are designed to operate is a performance deficiency. This performance deficiency is more than minor because it is associated with the Design Control attribute of the Mitigating Events cornerstone, and adversely affected the cornerstone objective to ensure the reliability of systems responding to initiating events to prevent undesirable consequences. Specifically; because 1) testing of these cables has not been performed, 2) the cables have not been maintained within the parameters they are designed, and 3) there have been documented failures of cables throughout the nuclear industry due to degradation caused by submergence in water. The significance of this finding was screened using the Phase 1 of the SDP in accordance with NRC Inspection Manual Chapter 0609 Attachment 4. The finding screened as Green, because the finding is a design or qualification deficiency confirmed not to result in loss of operability or functionality. The inspectors determined the inadequate assessment of available information in the CAP caused the licensee to fail to aggregate the programmatic and common cause problems reflective of cross-cutting aspect P.1(b). (Section 4OA2)

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Cornerstone: Occupational Radiation Safety (RS)

- Green A self-revealing non-cited violation (NCV) of 10 CFR Part 20.1501(a) was identified for failure to perform adequate surveys to identify rising radiation levels during the lowering of water level in the reactor cavity. This resulted in an uncontrolled High Radiation Area (HRA) in a worker-occupied area of the refueling floor near the edge of the reactor cavity. The immediate corrective actions were to post the affected areas as required by licensee procedures and re-flood the cavity. The licensee entered the issue into their corrective action program as condition report (CR) 2010105943.

This finding is more than minor because it was associated with the Occupational Radiation Safety Cornerstone attribute of Program and Process (Monitoring and Radiation Protection Controls) and adversely affects the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation from radioactive material during routine nuclear reactor operation. The finding was evaluated using the Occupational Radiation Safety Significance Determination Process (SDP) and was determined to be of very low safety significance (Green) because it was not related to As Low As Reasonably Achievable (ALARA) Planning and the ability to assess dose was not compromised. In addition, it did not involve overexposure or substantial potential for overexposure because the lower cavity was inaccessible at the time of the event. The cause of this finding was directly related to the cross-cutting aspect of radiological safety in the Work Control component of the Human Performance area because the potential job site conditions (radiological hazards) associated with reduction of water shielding following underwater cutting of significant radiation sources were not adequately identified [H.3(a)]. (Section 2RS1)

A violation of very low safety significance, identified by the licensee, has been reviewed by the NRC. Corrective actions taken or planned by the licensee have been entered into the licensee's CAP. This violation and corrective action tracking numbers are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Unit 1 started the report period at 100 percent Rated Thermal Power (RTP). The unit remained at or near 100 percent RTP for the remainder of the inspection period.

Unit 2 started the report period at 93 percent RTP and in a reactor coolant system (RCS) temperature coast-down condition. The unit was shut down on April 4, 2010 for a refueling outage (RFO). The reactor was made critical on May 14, 2010 and achieved 100 percent RTP on May 21, 2010. The reactor was manually tripped due to lower water level in the 'C' steam generator (SG) on May 22, 2010. The reactor was made critical on May 23, 2010 and achieved 100 percent RTP on May 26, 2010. The unit ended the inspection period at 100 percent RTP.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope

Offsite/Alternate AC Readiness: The inspectors reviewed the licensee's station procedures to verify communication protocols exist between the transmission operator and the control room to promptly identify issues that could impact the offsite power system. The inspectors verified the adequacy of these procedures to address measures to monitor and maintain availability and reliability of the offsite alternating current (Alabama Power Company) power system and the onsite alternate AC power system. The inspectors also reviewed the compensatory actions identified in station procedures to be performed when it is not possible to predict post-trip voltage at the site for current electrical grid conditions. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R04 Equipment Alignment

a. Inspection Scope

Partial Walk-Down: The inspectors performed partial walk-downs of the following three systems to verify the operability of redundant or diverse trains and components when safety equipment was inoperable. The inspectors attempted to identify discrepancies impacting system function, and therefore potentially increasing risk. The walk-downs were performed using the criteria in licensee procedures NMP-OS-007, Conduct of Operations, and FNP-0-SOP-0, General Instructions to Operations Personnel. The walk-downs included reviewing the Updated Final Safety Analysis Report (UFSAR),

Enclosure

plant procedures and drawings, checks of control room and plant valves, switches, components, electrical power, support equipment, and instrumentation. Documents reviewed are listed in the Attachment.

- Unit 2 safety-related electrical distribution system following completion of 2B loss of station power (LOSP) Test
- Unit 2 safety-related electrical distribution system, residual heat removal (RHR) system, component cooling water (CCW) system, and service water (SW) during reduced inventory conditions on April 12, 2010
- Unit 2 safety-related electrical distribution system, RHR system prior to and during mid-loop conditions on May 7, 2010

b. Findings

No findings were identified.

1R05 Fire Protection

a. Inspection Scope

Fire Protection Area Tours: The inspectors conducted a tour of the four fire areas listed below to assess material condition and operation status of the fire protection equipment. The inspectors verified combustibles and ignition sources were controlled in accordance with the licensee's administrative procedures; fire detection and suppression equipment was available for use; passive fire barriers were maintained in good material condition, and compensatory measures for out-of-service, degraded, or inoperable fire protection equipment were implemented in accordance with the requirements of licensee procedures FNP-0-AP-36, Fire Surveillance and Inspection; FNP-0-AP-38, Use of Open Flame; FNP-0-AP-39, Fire Patrols and Watches; and the associated Fire Zone Data sheets. Documents reviewed are listed in the Attachment.

- Unit 1 electrical penetration room 334, fire zone 34
- Unit 2 'B' and 'C' charging pump rooms, fire zone 5
- Unit 2 electrical penetration room 2334, fire zone 34
- Unit 2 spent fuel pool pump room 2342, fire zone 4

b. Findings

No findings were identified.

1R08 Inservice Inspection (ISI) Activities (IP 71111.08P, Unit 2).1 Non-Destructive Examination (NDE) Activities and Welding Activitiesa. Inspection Scope

From April 12 - 16, 2010, the inspector reviewed the implementation of the licensee's Inservice Inspection (ISI) program for monitoring degradation of the reactor coolant system (RCS) boundary and risk significant piping boundaries. The inspector's activities consisted of an on-site review of NDE and welding activities to evaluate compliance with the applicable edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (BPVC), Section XI (Code of record: 2001 Edition with 2003 Addenda), and to verify that indications and defects (if present) were appropriately evaluated and dispositioned in accordance with the requirements of the ASME Code, Section XI acceptance standards.

The inspector's review of NDE activities specifically covered examination procedures, NDE reports, equipment and consumables certification records, personnel qualification records, and calibration reports (as applicable) for the following examinations:

- Ultrasonic Testing APR1-4103-5 Elbow to Pipe
- Ultrasonic Testing APR1-4103-4 Pipe to Elbow
- Penetrant Test APR1-4201-2SI-R180 (W8)

The inspector's review of welding activities specifically covered the welding activities listed below in order to evaluate compliance with procedures and the ASME Code. The inspector reviewed the work orders, repair and replacement plans, weld data sheets, welding procedures, procedure qualification records, welder qualification records, and NDE reports.

- PZR Spray Line Structural Weld Overlay

b. Findings

No findings were identified.

.2 PWR Vessel Upper Head Penetration (VUHP) Inspection Activitiesa. Inspection Scope

Inspections during this outage consisted of visual examinations conducted above the reactor pressure vessel upper head to identify potential boric acid leaks from pressure-retaining components. The inspector specifically reviewed examination procedures, personnel training and qualification records, reports for the visual inspection of pressure retaining components above the head performed every outage, and reviewed the

licensee's calculations for effective degradation years (EDYs). The inspector verified compliance with the requirements contained in 10 CFR 50.55a(g)(6)(ii)(d) and Code Case N-729-1.

b. Findings

No findings were identified.

.3 Boric Acid Corrosion Control (BACC) Inspection Activities

a. Inspection Scope

The inspector reviewed the licensee's BACC program activities to ensure implementation with commitments made in response to NRC Generic Letter 88-05, "Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary," and applicable industry guidance documents. Specifically, the inspector performed an on-site record review of procedures and the results of the licensee's containment walk-down inspections performed during the Unit 2R22 outage. The inspector also interviewed the BACC program owner and conducted a walk-down of the reactor building to evaluate compliance with the licensee's BACC program requirements and to verify that degraded or non-conforming conditions, such as boric acid leaks identified during the containment walk-down, were properly identified and corrected in accordance with the licensee's BACC and corrective action programs.

- Unit 2R22 Boric Acid Mode 5 walkdown

The inspector reviewed a sample of engineering evaluations completed for evidence of boric acid found on systems containing borated water to verify that the minimum design code required section thickness had been maintained for the affected components. The inspector selected the following evaluations for review:

- CR 2009110548 Heavy boron from pump shaft seal
- CR 2009103971 Boron from Rx. Vessel vent hose connection

b. Findings

No findings were identified.

.4 Steam Generator (SG) Tube Inspection Activities

a. Inspection Scope

No steam generator tube inspection activities were conducted during this outage. The inspector discussed the status of foreign objects, and associated foreign object search and recovery (FOSAR). The inspector reviewed the licensee's Secondary Side Integrity plan, and interviewed plant personnel to ensure compliance with EPRI SG Integrity Assessment Guidelines, Revision 2.

b. Findings

No findings were identified.

.5 Identification and Resolution of Problems

a. Inspection Scope

The inspector performed a review of ISI-related problems, including welding, BACC, and SG inspections that were identified by the licensee and entered into the corrective action program as Condition Reports (CRs). The inspector reviewed the CRs to confirm that the licensee had appropriately described the scope of the problem and had initiated corrective actions. The review also included the licensee's consideration and assessment of operating experience events applicable to the plant. The inspector performed this review to ensure compliance with 10CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requirements. The corrective action documents reviewed by the inspector are listed in the report attachment.

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program

a. Inspection Scope

Resident Inspector Quarterly Review: On May 26, 2010, the inspectors observed portions of the licensed operator training and testing program to verify implementation of procedures FNP-0-AP-45, Farley Nuclear Plant Training Plan; FNP-0-TCP-17.6, Simulator Training Evaluation/Documentation and FNP-0-TCP-17.3, Licensed Operator Continuing Training Program Administration. The inspectors observed operation's simulator exam scenario number 17, conducted in the licensee's simulator for increasing sodium in the secondary, seal injection flow transmitter failure, loss of site electrical power, and complete loss of auxiliary feedwater (AFW). The inspectors observed high-risk operator actions, overall crew performance, self-critiques, training feedback and management oversight to verify operator performance was evaluated against the performance standards of the licensee's scenario. Documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

1R12 Maintenance Rule Effectiveness

a. Inspection Scope

The inspectors reviewed the following two activities for: (1) appropriate work practices; (2) identifying and addressing common cause failures; (3) scoping in accordance with 10 CFR 50.65(b) of the maintenance rule (MR); (4) characterizing reliability issues for performance; (5) trending key parameters for condition monitoring; (6) charging unavailability for performance; (7) classification and reclassification in accordance with 10 CFR 50.65(a)(1) or (a)(2); and (8) appropriateness of performance criteria for structures, systems, and components (SSCs)/functions classified as (a)(2) and/or appropriateness and adequacy of goals and corrective actions for SSCs/functions classified as (a)(1). In addition, the NRC specifically reviewed events where ineffective equipment maintenance resulted in invalid automatic actuations of Engineered Safeguards Systems affecting the operating units. Documents reviewed are listed in the attachment.

- CR 2010104397, Flex hose on 2C containment cooler lower return connection degraded
- CR 2010100643, MR evaluation for 1-2L 600V load center

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed the following three activities to verify appropriate risk assessments were performed before taking equipment out of service (OOS) for maintenance. The inspectors verified risk assessments were performed as required by 10 CFR 50.65(a)(4), and were accurate and complete. When emergent work was performed, the inspectors verified appropriate use of the licensee's risk assessment and risk categories in accordance with requirements in licensee procedures FNP-0-ACP-52.3, Mode 1, 2, & 3 Risk Assessment; NMP-GM-006, Work Management; and NMP-OS-007, Conduct of Operations.

- Unit 2, April 12, 2010, ORANGE risk condition during reduce inventory in the RCS
- Unit 2, May 7, 2010, ORANGE risk condition during mid-loop inventory in the RCS
- Unit 1, June 10, 2010, YELLOW risk condition during sampling of oil of the 1C component cooling water pump (CCWP)

b. Findings

No findings were identified.

1R15 Operability Evaluationsa. Inspection Scope

The inspectors reviewed the following four operability evaluations to verify they met the requirements of licensee procedures NMP-OS-007, Conduct of Operations and NMP-AD-012, Operability Determinations and Functionality Assessments. The scope of this inspection also included a review of the technical adequacy of the evaluations, adequacy of compensatory measures and impact on continued plant operation.

- CR 2010104591, Groove in 2D containment cooler SW supply flange
- CR 2010103268, Reduced design basis margin in refurbished 2B motor-driven auxiliary feedwater (MDAFW) pump motor
- CR 2010105375, 2G 4160V bus ductor readings found out-of-tolerance
- CR 2010105868, 2B RHR pump auto-start capability removed from service per FNP-2-SOP-7.0

b. Findings

No findings were identified.

1R18 Plant Modificationsa. Inspection Scope

The inspectors reviewed the following plant modifications to ensure safety functions of important safety systems had been unaffected. The inspectors also verified design bases, licensing bases and performance capability of risk-significant SSCs had not been degraded through modifications. The inspectors verified any modifications performed during increased risk-significant configurations did not place the plant in an unsafe condition. The inspectors evaluated system operability, availability, configuration control, post-installation test activities, documentation updates and operator awareness of the modifications. Documents reviewed are listed in the attachment.

Temporary Plant Modifications

- TM 2101415901, Replace SW to 2C Containment Cooler Flexible Hose with Blind Flanges

Permanent Plant Modifications

- DCP 2060862701, Turbine Driven Auxiliary Feedwater Pump (TDAFWP) Governor Replacement

b. Findings

No findings were identified.

1R19 Post Maintenance Testinga. Inspection Scope

The inspectors reviewed the criteria contained in licensee procedure FNP-0-PMT-0.0, Post-Maintenance Test Program, to verify post-maintenance test procedures and test activities for the following four SSCs were adequate to verify system operability and functional capability. The inspectors also witnessed the test or reviewed test data to verify test results adequately demonstrated restoration of the affected safety functions. Documents reviewed are listed in the Attachment.

- FNP-1-STP-80.16, Degraded Grid Voltage and Loss of Voltage Protection Relays Operability Test Modes 1, 2, 3, & 4 following failure of sequencer B1J
- FNP-2-STP-914, Auxiliary Building Battery Charger Load Test following replacement of Battery Charger 2B
- FNP-2-STP-21.3, TDAFWP Steam Supply Valves Valve Inservice Test following disassembly of Q2N12HV3226 for air testing of the TDAFWP
- FNP-2-STP-22.16, TDAFWP Quarterly Inservice Test With Preservice Test Appendix following replacement of pump governor

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activitiesa. Inspection Scope

Refueling Activities: The inspectors reviewed the following activities related to the Unit 2 RFO to verify compliance with licensee procedure FNP-0-UOP-4.0, General Outage Operations Guidance, and FNP-2-UOP-4.1, Controlling Procedure for Refueling. Surveillance tests were reviewed to verify results were within the Technical Specification (TS) requirements. Shutdown risk, management oversight, procedural compliance, and operator awareness were evaluated for each of the following activities. Documents reviewed are listed in the Attachment.

- Outage risk assessment
- Cooldown
- Core offload and reload
- Reactor coolant instrumentation
- Electrical system alignments and bus outages
- Reactor vessel disassembly and assembly activities
- Outage-related surveillance tests
- Containment closure
- Low power physics testing and startup activities
- Clearance activities

- Decay heat removal and SFP cooling
- Containment heavy load lifts

b. Findings

No findings were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the following three surveillance tests and either observed the test or reviewed test results to verify testing adequately demonstrated equipment operability and met TS requirements. The inspectors reviewed the activities to assess preconditioning of equipment, procedure adherence and valve alignment following completion of the surveillance. The inspectors reviewed licensee procedures FNP-0-AP-24, Test Control; FNP-0-M-050, Master List of Surveillance Requirements and NMP-OS-007, Conduct of Operations, and attended selected briefings to determine if procedure requirements were met. Documents reviewed are listed in the Attachment.

In-Service Test (IST)

- FNP-1-STP-16.10, 2A Containment Spray Pump Comprehensive & Check Valves Flow Test – Train A

Surveillance Tests

- FNP-0-STP-80.1, Diesel Generator (DG) 1-2A Operability Test
- FNP-2-STP-17.0, Containment Cooling System Train A(B) Operability Test

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness (EP)

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors observed the licensee's response to an emergency drill. The inspectors evaluated licensee performance to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operation to verify event classification and notifications were performed in accordance with FNP-0-EIP-9.0, Emergency Classification and Actions. The inspectors used procedure NMP-303.0, Drill and Exercise Standards, as the inspection criteria. The inspectors also attended the licensee critiques of the drill to compare any inspector-observed weaknesses with those

identified by the licensee, in order to verify whether the licensee was properly identifying issues.

- June 30, 2010, simulated failed fuel, crane falling upon the service water intake structure (SWIS) creating an Alert classification followed by a loss of coolant accident (LOCA). The reactor failed to trip automatically and manually. The reactor was shut down by driving control rods into the core until the operating crew could de-energize the rod drive motor generator sets. These conditions resulted in the declaration of a General Emergency classification.

b. Findings

No findings were identified.

2. RADIATION SAFETY

2RS1 Radiological Hazard Assessment and Exposure Controls

a. Inspection Scope

The inspectors evaluated the events surrounding multiple Electronic Dosimeter (ED) alarms occurring inside Unit 2 (U2) containment on May 3, 2010. The inspectors reviewed guidance documents and procedures, radiological surveys and licensee status reports related to the event.

b. Findings

Introduction: A Green, self-revealing NCV of 10 CFR Part 20.1501(a) was identified for failure to perform adequate surveys to identify rising radiation levels during the lowering of water level in the reactor cavity. This resulted in an uncontrolled High Radiation Area (HRA) in a worker-occupied area of the refueling floor near the edge of the reactor cavity.

Description: A job task performed during U2 refueling outage 20 (2R20) was the removal of highly activated thimble tubes from the reactor core and their replacement with new tubes. This involved underwater cutting of the old tubes into six-foot lengths, and temporarily storing the cut sections in a basket positioned in the Rod Cluster Control Assembly (RCCA) change fixture in the lower cavity transfer canal. After the last basket was filled and transferred to the SFP, the licensee began lowering the water level in the lower cavity. On May 3, 2010, as cavity drain-down was nearing completion, three workers on the refueling floor received ED dose rate alarms as they traversed a grated walkway over the transfer canal. The dose rate alarms ranged from 97 mrem/hr to 312 mrem/hr. An additional dose rate alarm of 123 mrem/hr was received by a worker on the refueling floor near the 'A' SG shield wall. After all the workers were cleared from the area, the source of the increased radiation levels was determined to be a partially exposed six-foot length of thimble tube overlooked during a procedurally required visual inspection of the transfer canal. HP performed surveys of the area and found dose rates on contact with the thimble tube of greater than 1000 rem/hr and general area dose

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rates on the grating above the transfer canal of 448 mrem/hr. HP posted the affected areas as Locked High Radiation Area (LHRA) and HRA, requested that Operations re-flood the cavity, and began work on a recovery plan.

Analysis: The inspectors determined the failure to identify a significant source of radiation, either through visual inspection or surveys taken prior to or during drain-down, was a performance deficiency. This finding is greater than minor because it was associated with the Occupational Radiation Safety Cornerstone attribute of Program and Process (Monitoring and RP Controls), and adversely affects the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation from radioactive material during routine nuclear reactor operation. Failure to identify significant sources of radiation could lead to unintended occupational exposures. The finding was evaluated using the Occupational Radiation Safety SDP, and was determined to be of very low safety significance (Green) because it was not related to ALARA Planning and the ability to assess dose was not compromised. In addition, it did not involve overexposure or substantial potential for overexposure because the lower cavity was inaccessible at the time of the event. The cause of this finding was directly related to the cross-cutting aspect of radiological safety in the Work Control component of the Human Performance area because the potential job site conditions (radiological hazards) associated with reduction of water shielding following underwater cutting of significant radiation sources were not adequately identified [H.3(a)].

Enforcement: 10 CFR Part 20.1501(a) states, in part, "Each licensee shall make or cause to be made, surveys that - (2) are reasonable under the circumstances to evaluate - (iii) the potential radiological hazards." Contrary to this on May 3, 2010, the licensee failed to perform reasonable surveys to adequately identify potential radiological hazards associated with activated thimble tube debris in the lower cavity transfer canal. This resulted in uncontrolled HRAs and worker ED alarms in the vicinity of the refueling cavity. Because this violation was of very low significance and was entered into the licensee's CAP (CR 2010105943), this violation is being treated as an NCV, consistent with the NRC Enforcement Policy: NCV 05000348/364, 2010003-01, Failure to perform adequate surveys to identify potential radiological hazards during reactor cavity drain-down.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspectors sampled licensee data for the PIs listed below to verify the accuracy of the PI data reported during the period listed. Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Indicator Guideline," Rev. 6, was used to verify the basis in reporting for each data element. Documents reviewed are listed in the Attachment.

Initiating Events Cornerstone

- Unplanned Scrams with Complications

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Mitigating Systems Cornerstone

- MSPI, Heat Removal System
- MSPI, Emergency AC System

The inspectors reviewed samples of raw PI data, Licensee Event Reports (LERs), and Monthly Operating Reports for the period covering April, 2009 through March, 2010. The data reviewed from the LERs and Monthly Operating Reports was compared to graphical representations from the most recent PI report. The inspectors also examined a sampling of operations logs and procedures to verify the PI data was appropriately captured for inclusion into the PI report, as well as ensuring the individual PIs were calculated correctly.

b. Findings

No findings were identified.

40A2 Identification and Resolution of Problems

.1 Daily Condition Report (CR) Reviews

As required by Inspection Procedure (IP) 71152, Identification and Resolution of Problems, and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the NRC performed a daily screening of items entered into the licensee's CAP. This review was accomplished by reviewing hard copies of CRs, attending daily screening meetings and accessing the licensee's computerized database.

.2 Selected Issue Follow-up Inspection

a. Inspection Scope

In addition to the routine review, the inspectors selected the issue listed below for a more in-depth review. The inspectors considered the following during review of the licensee's actions: (1) complete and accurate identification of the problem in a timely manner; (2) evaluation and disposition of operability/reportability issues; (3) consideration of extent of condition, generic implications, common cause and previous occurrences; (4) classification and prioritization of problem resolution; (5) identification of root and contributing causes of the problem; (6) identification of CRs and (7) completion of corrective actions in a timely manner.

- CR 2010100512, Evaluation of cables located in pull boxes to ensure cables are in an environment they are qualified for.

b. Findings

Introduction: An NRC-identified Green NCV of 10 CFR 50, Appendix B, Criterion III, Design Control, was identified for the licensee's failure to implement measures to assure

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that safety-related cables remained in an environment for which they were certified. Safety-related cables purchased and installed in underground electrical pull boxes at Farley Nuclear Plant are not designed to be submerged in water. Safety-related cables located within underground cable pull boxes have been routinely identified as being submerged in water and those cables have not been inspected or tested for degradation.

Description: The NRC inspectors reviewed licensee WOs S062425201 and S091928301 for inspections of pull boxes containing safety-related electrical cables. The inspectors noted multiple instances where pull boxes A1M49, B1M37, B1M47, A2M49, and B2M47 were discovered with cables submerged in standing water. Additionally, the inspectors reviewed the licensee's purchase specifications and vendor documents related to the certification of safety-related cables. The licensee purchased its electrical cable from the Okonite Company. The Okonite Company provided Farley Nuclear Plant with cable test data, which concluded that the cables should be capable of a life in excess of a generating station's designed life in an environment of 100% humidity. The inspectors obtained and reviewed the Okonite Company's "Nuclear Environmental Qualification Report for Okoguard Insulated Cables and T-95 and Number 35 Splicing Tapes" and did not discover any certification for full submersion. The licensee installed this cabling in safety-related applications throughout Unit 1 and Unit 2, including areas located within underground conduit and bunkers (also referred as "pull boxes").

The inspectors also reviewed the licensee's FSAR to ascertain the design basis of electrical cables. Section 3.11.2.2 "Equipment Outside Containment" states, in part, the design environmental conditions, including cumulative radiation exposure, are given in Table 3.11-1. Table 3.11-1 lists equipment outside containment and not inside the main steam room as not having a requirement for submergence. No other statements of qualification requirements for these safety-related cables were identified.

The inspectors obtained and reviewed specification SS-1123-4 dated May 3, 1972, which was the original specification for rubber insulation power and control cable 600 volts through 5000 volts for the Farley Nuclear Plant. This specification included service conditions including cables suitable for the following normal service conditions for operation inside the containment: 1) temperature – 120°F, 2) relative humidity – 60%, 3) pressure – 0 psig, and 4) cumulative 40 year radiation – 5×10^7 rads. The specification also included statements that after the 40 year life of the plant, the cable shall sustain no loss of function following a LOCA for seven days with a relative humidity of 100%.

The inspectors interviewed station personnel, reviewed station databases (including the corrective action program, and discovered the following items: 1) licensee had a two year preventative maintenance task to inspect "pull boxes" for water and remove the water when discovered; 2) CR 2010100512 incorrectly concluded that safety-related cables were allowed to be periodically wetted (submerged); and 3) CR 2007102057 documented submergence of electrical sump pumps designed to remove water from the SW electrical power source pull boxes.

Analysis: Failure to maintain safety-related electrical cables in a physical environment for which the cables are designed to operate is a performance deficiency. This performance deficiency is more than minor because it is associated with the Design Control attribute of the Mitigating Events cornerstone and adversely affected the cornerstone objective to ensure system reliability responding to initiation events preventing undesirable consequences. Specifically; because 1) testing of these cables has not been performed, 2) the cables have not been maintained within the parameters they are designed, and 3) there have been documented failures of cables throughout the nuclear industry due to degradation caused by submergence in water. The significance of this finding was screened using the Phase 1 of the SDP in accordance with NRC IMC 0609 Attachment 4. The finding screened as Green, because the finding is a design or qualification deficiency confirmed not to result in loss of operability or functionality.

The inspectors reviewed this performance deficiency for cross-cutting aspects and determined the licensee failed to assess the information discovered in CR 2007102057 indicating a drainage problem existed with the sump pumps in the electrical pull boxes for the SW electrical power system. The inspectors noted the licensee also failed to aggressively evaluate CR 2010100512, which was another opportunity to discover the severity of this issue. The licensee reopened CR 2010100512 in their CAP to further evaluate the required environment for safety related cables. The inspectors determined the inadequate assessment of available information in the CAP caused the licensee to fail to aggregate the programmatic and common cause problems reflective of cross-cutting aspect P.1(b).

Enforcement: 10 CFR 50, Appendix B, Criterion III, Design Control, requires, in part, that measures shall be established to assure applicable regulatory requirements and the design basis for those SSCs to which this appendix applies, are correctly translated into specifications, drawings, procedures, and instructions. Measures shall also be established for the selection and review for suitability of application of materials, parts, equipment, and processes essential to the safety-related functions of SSCs. Contrary to the above, the licensee failed to implement measures to assure that safety-related cables remained in an environment for which they were certified. Specifically, safety-related cables subjected to submergence have the potential to increase the failure rate of the cables, and affects the long-term reliability of the cables to perform their intended safety functions. To address this issue, the licensee has performed the immediate corrective action of increasing the frequency of measuring water level in the pull boxes and removing excess water to ensure cables are not submerged. Because this violation was of very low safety significance and entered into the licensee's CAP as CR 2010100512, this violation is being treated as a NCV, consistent with the Enforcement Policy. NCV 05000348,364/2010003-02," Failure to maintain safety-related cables in a non-submerged environment."

.3 Semi- Annual Trend Review

a. Inspection Scope

As required by Inspection Procedure 71152, Identification and Resolution of Problems, the inspections performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors reviewed repetitive equipment and corrective maintenance issues and also considered the results of daily inspector CAP item screening discussed above. The review also included issues documented outside the normal CAP process, including system health reports, corrective maintenance WOs, component status reports, and MR assessments. The inspectors' review nominally considered the six-month period of January 1 through June 30, 2010, although some examples expanded beyond those dates when the scope of the trend warranted. The inspectors compared and contrasted their results with the results contained in the licensee's latest integrated quarterly assessment report. Corrective actions associated with the sample of these issues identified in the licensee's trend report were reviewed for adequacy. Documents reviewed are listed in the attachment.

b. Observations

The inspectors evaluated performance data provided by the Farley Performance Improvement group for the period of time from January 1, through June 30, 2010. This information indicated the licensee was performing more human performance observations and providing more coaching to station personnel. The data also indicated human performance clock resets were remaining approximately constant with resets identified per the six month period. Procedure use and adherence data gathered from the last three refueling outages indicated a drop in issues, with the exception of "information use" procedures which remained constant. The inspectors reviewed the licensee corrective action program for the six month period and reviewed two instances where licensee personnel did not follow station procedures.

- CR 2010102643 documents an attempted manual start of a non-safety related river water pump in which the pump's circuit breaker failed to operate. The event was the result of a station operator performing an action during the verification of the circuit breaker's readiness for operation engaging a breaker interlock, which prevented proper operation of the circuit breaker. Similar events happened in the past with other circuit breakers and station operators had been trained on the occurrence. The licensee had also revised its procedure to address this issue.
- CR 2010107536 documents the unauthorized entry into a posted high radiation area by a maintenance individual. The individual logged into the radiation controlled area on a radiation work permit expressly prohibiting entry into high radiation areas. During the work evolution, the worker failed to observe the high radiation area posting and entered the area to complete tasks assigned. Upon exit from the radiation controlled area, the individual's personal clothing was discovered radiologically contaminated. HP technicians interviewed the individual and discovered the unauthorized high radiation area entry.

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4OA3 Event Follow-up.1 May 22, 2010 Manual Reactor Trip Due to Lowering Water Level in the Unit 2 Steam Generator 'C'a. Inspection Scope

On May 22, 2010, the licensee noticed lowering water level in the Unit 2 'C' SG. The Main FW Control Valve for this SG was discovered closed and unresponsive to manual actions. The licensee initiated a manual reactor trip. The NRC inspectors responded to the plant and monitored plant conditions. The inspectors monitored control of RCS temperature, RCS pressure, core reactivity, operation of auxiliary feedwater, and other associated secondary plant components. The inspectors evaluated the response of plant components to the reactor trip and verified all equipment responded as designed.

On May 23, 2010, the licensee replaced the controller/driver card which caused the main FW Control Valve to fail closed. The licensee completed a reactor startup and entered Mode 1. The NRC inspectors monitored the licensee's performance during the reactor startup. The inspectors monitored the licensee's control of reactivity, the proper operation of nuclear instrumentation and RCS parameters. The inspectors also interviewed licensee personnel regarding troubleshooting activities associated with the controller/driver card.

b. Findings

No findings were identified.

.2 (Closed) LER 05000364/2009-001-00 SWP Seismic Supports Degradeda. Inspection Scope

On March 1, 2010, the licensee submitted revision 1 to LER 05000364/2009-001-00. The licensee completed additional analysis of the Unit 2 SWPs and the need for seismic rings to withstand a design basis earthquake. The licensee determined the pump would not have been adversely affected by seismic activity, and thus the pump would have remained operable. The NRC inspectors reviewed this evaluation and also determined the pump would have remained operable. The inspectors also reviewed all new information in the revised submittal and determined that previous inspections documented in fourth quarter 2009 (integrated inspection report 2009005) had adequately addressed the issue and were unaffected by this new information.

b. Findings

No additional findings were identified. Integrated Inspection Report 05000348/2009005 and 05000364/2009005 documented a Green, self-revealing NCV of 10 CFR 50.65(a)(1) for failure to perform monitoring of the SWIS seismic rings resulting in degradation of 2A, 2B, 2C, and 2E SWPs seismic rings. This LER is closed.

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4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period, the inspectors conducted observations of security force personnel and activities, ensuring the activities were consistent with licensee security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours. The quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspector's normal plant status reviews and inspection activities.

b. Findings

No findings were identified.

.2 (Closed) NRC Temporary Instruction (TI) 2515/177, Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems (NRC Generic Letter (GL) 2008-01)

a. Inspection Scope

The inspectors reviewed the implementation of the licensee's actions in response to GL 2008-01, Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems. The subject systems included the charging, safety injection (SI), residual heat removal (RHR), and containment spray (CS) systems.

The inspectors reviewed the licensing basis of the facility to verify that actions to address gas accumulation were consistent with the operability requirements of the subject systems.

The inspectors reviewed the design of the subject systems to verify that actions taken to address gas accumulation were appropriate given the specifics of the functions, configurations and capabilities of these systems. The inspectors reviewed the design of the RHR system to determine if flashing in RHR suction lines at temperatures up to 350 degrees F would challenge operability of the RHR system. The inspectors reviewed selected analyses performed by the licensee to verify that methodologies for predicting gas void accumulation, movement and impact were appropriate. The inspectors also reviewed selected analyses and calculations to verify that the potential for air intrusion from draining or vortexing the refueling water storage tank (RWST) or vortexing the containment sump suction was addressed. The inspectors performed walkdowns of selected subject systems to verify that the reviews and design verifications conducted by the licensee had drawn appropriate conclusions with respect to piping configurations and pipe slope which could result in gas accumulation susceptibility.

The inspectors reviewed testing implemented by the licensee to address gas accumulation in subject systems. A selection of test procedures and completed test results were reviewed to verify that test procedures were appropriate to detect gas accumulations that could challenge subject systems. The inspectors reviewed the specified testing frequencies to verify that the testing intervals had appropriately taken historical gas accumulation events as well as susceptibility to gas accumulation into account. The inspectors also reviewed the test programs and processes to verify that they were sensitive to pre-cursors to gas accumulation.

The inspectors reviewed corrective actions associated with gas accumulation in subject systems to verify that issues were being appropriately identified and corrected. This review included modifications made to the plant, including the installation of additional vent valves. The inspectors reviewed the locations of selected vent valve installations to verify that the locations selected were appropriate based on piping configuration and pipe slopes.

b. Findings and Observations

No findings were identified.

.3 NRC Temporary Instruction (TI) 2515/172, Reactor Coolant System Dissimilar Metal Butt Welds (DMBW)

a. Inspection Scope

From April 12 – 16, 2010, the inspector reviewed the licensee's activities related to the inspection and mitigation of DMBW in the Reactor Coolant System (RCS) to ensure that the licensee activities were consistent with the industry requirements established in the Materials Reliability Program (MRP) document MRP-139, Primary System Piping Butt Weld Inspection and Evaluation Guidelines, July 2005.

TI 2515/172 was performed in 2009 as documented in Inspection Report 2009003. During that time a complete program review (per TI 2515/172 paragraph 03.05) was performed.

b. Findings and Observations

No findings were identified.

MRP-139 Baseline Inspections

- 1) Have the baseline inspections been performed or are they scheduled to be performed in accordance with MRP-139 guidance?

Yes. The licensee has performed all required baseline inspections at the time of this review.

Therefore, the licensee has met the MRP-139 deadlines for baseline examinations of all welds scoped into the MRP-139 program.

2) Is the licensee planning to take any deviations from MRP-139 requirements?

No, the licensee has not submitted any requests for deviation from MRP-139 requirements.

Volumetric Examinations

Sample not available.

Weld Overlays

Sample not available.

Mechanical Stress Improvement (Not Applicable)

Sample not available.

In-service Inspection Program

This reporting requirement was addressed previously in inspection report 2008005; no new information was noted during this inspection.

40A6 Meetings, Including Exit

On July 13, 2010, the NRC inspectors presented the inspection results to Mr. Randy Johnson and other members of the Farley Nuclear Plant staff who acknowledged the findings. The NRC confirmed proprietary information was properly identified and controlled during this inspection.

40A7 Licensee-Identified Violations

The following violation of very low safety significance was identified by the licensee and is a violation of NRC requirements, which meets the criteria of Section VI.A.1 of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as an NCV.

- TS 3.6.3, Containment Isolation Valves requires, each containment isolation valve shall be operable with the unit in Modes 1, 2, 3, and 4. A note attached to the Limited Condition for Operation allows penetration flow path(s) except for 48-inch purge valve flow paths, which may be un-isolated intermittently under administrative controls. Contrary to the above, the licensee declared prerequisites for entering Mode 4 were met on May 13, 2010 at 2:19 a.m., and entered Mode 4 at 2:26 a.m. with containment isolation valve Q2P18V001 unlocked and open. Q2P18V001, is the service air outboard containment isolation valve and was discovered open by the licensee during the performance of a surveillance test on June 2, 2010. The licensee

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immediately closed and locked the valve restoring compliance with the TS. The licensee also entered the discovery into its CAP as CR 2010107407. This finding was assessed using IMC 0609, Phase 1 screening worksheets of Attachment 4 and H relating to Containment Barrier Integrity, and determined to be of very low safety significance (Green) because the open penetration would not have allowed the entire volume to exit through the opening within a 24 hour period.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

J. Agold, SNC ISI Program Manager
M. Byrd, Mechanical/Civil Design Supervisor
S. Brown, Health Physics Supervisor
D. Christiansen, Training Manager
B. Freeman, Technical Support Supervisor
B. Griner, Engineering Support Manager
L. Hogg, Security Manager
J. Horn, Site Support Manager
F. Hundley, Fleet Oversight Supervisor
J.R. Johnson, Site Vice President
T. Livingston, Chemistry Manager
G. Lofthus, Southern Nuclear Corporate Level III
H. Mahan, Principle Licensing Engineer
R. Martin, Technical Services Manager
D. McInnes, Engineer - Engineering Support
L. McKay, BACCP Owner
B.D. McKinney, Licensing Supervisor
C. Medlock, Site Design Manager
D. Midlik, Southern Nuclear Corporate Licensing
R. Mullins, SNC Inspection Supervisor
S. Odom, Emergency Preparedness Supervisor
W. Oldfield, Principle Licensing Engineer
L. Pattilo, Engineer - Engineering Support
T. Pelham, Performance Improvement Supervisor
R. Retherford, Engineer – ISI
D. Reed, Operations Superintendent Support
J. Sloan, Sr. Engineer - Engineering Support
G. Slone, Engineer - Engineering Support
W. Sorrell, Engineer – Site Design
C. Thornell, Engineering Director
R. Vierkandt, Radiation Protection Manager
R. Wells, Outage and Scheduling Manager
C. Westberry, NSSS Systems Engineering Supervisor
T. Youngblood, Plant Manager

NRC personnel

S. Shaeffer, Chief, Branch 2, Division of Reactor Projects
E. Crowe, Senior Resident Inspector
S. Sandal, Resident Inspector

LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED

Opened

None

Opened and Closed

05000348,364/2010003-01	NCV	Failure to perform adequate surveys to identify potential radiological hazards during reactor cavity drain down. (Section 2RS1)
05000348,364/2010003-02	NCV	Failure to maintain safety-related cables in a non-submerged environment (Section 4OA2.2)

Closed

05000364/2009-001-00	LER	SWP Seismic Supports Degraded (Section 4OA3.2)
05000348,364/2515/177	TI	Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems (Section 4OA5.2)

Discussed

05000348/364/2515/172	TI	Reactor Coolant System Dissimilar Metal Butt Welds (DMBW's)
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LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures:

FNP-0-ACP-4.0, Switchyard Control, Version 11.0
FNP-0-AOP-21.0, Severe Weather, Version 28.0
FNP-1-AOP-5.2, Degraded Grid, Version 14.0
FNP-1-UOP-3.1, Power Operations, Version 106.0
FNP-2-AOP-5.2, Degraded Grid, Version 14.0
FNP-2-UOP-3.1, Power Operations, Version 95.0

Section 1R04: Equipment Alignment

Documents:

Farley Nuclear Plant Unit 2 Surveillance Test Procedure STP-80.15 (DG B Train LOSP) Version 45.2

Drawings:

D-205002, Sheet 1, Version 31.0
D-205003, Sheet 1, Version 39.0
D-205003, Sheet 2, Version 30.0
D-205038, Sheet 2, Version 22.0
D-205041, Sheet 1, Version 19.0

Section 1R05: Fire Protection

Drawings:

A-508650, Sheet 33, Version 1.0
A-509018, Sheet 10, Version 9.0
A-509018, Sheet 26, Version 1.0
A-509018, Sheet 27, Version 1.0

Section 1R08: Inservice Inspection (ISI) Activities

Procedures

FNP-0-ETP-4496, Corrosion Assessment, Version 2.0
FNP-0-M-101, Boric Acid Corrosion Control Program, Version 13
FNP-2-STP-34.0, Containment Inspection (General), Version 22.0
NMP-ES-019, Boric Acid Corrosion Control Program, Version 5.0
NMP-ES-019-001, Boric Acid Corrosion Control Program Implementation, Version 3.0
NMP-ES-024-202, Visual Examination (VT-2), Version 2.0
NMP-ES-024-203, Visual Examination (VT-3), Version 2.0
NMP-ES-024-208, Visual Examination of Reactor Vessel Head penetrations and Base material (Remote and Direct), Version 2.0
NMP-ES-024-301, Liquid Penetrant Examination Color Contrast and Fluorescent, Version 5.0
NMP-ES-024-501, PDI Generic Procedure for the Ultrasonic Examination of Austenitic Pipe Welds (Appendix VIII), Version 2.0

Corrective Action Documents

*CR 2010104579, *CR 2010104581, *CR 2010104582, *CR 2010104583, *CR 2010104584, CR 2010104366

*Documents created as a direct result of this inspection.

Other

UT Calibration Examination of APR1-4103-5 Elbow to Pipe
 UT Calibration Examination of APR1-4103-4 Pipe to Elbow
 Liquid Penetrant Examination of APR1-4201-2SI-R180 (W8)
 Ultrasonic Instrument Linearity of Panametrics Epoch 4 S/N: 081574301
 Ultrasonic Calibration record for Panametrics Epoch 4 S/N: 081574301
 NDE Examiner Certification Review for Stevermer, Aaron J.
 NDE Examiner Certification Review for Cole, Sarah
 NDE Examiner Certification Review for Baloh, Timothy J.
 NDE Examiner Certification Review for DiValerio, Paul
 WDI-PJF-1304549-EPP-001, Rev. 1 Examination Program Plan for the Pre-Service Inspection of Pressurizer Nozzle Structural Weld Overlays at Farley Unit 2

Section 1R11: Licensed Operator RequalificationDocuments:

Operation Training Simulator Exam Scenario #7

Section 1R12: Maintenance Rule EffectivenessAction Items:

2008206717 2008203463 2009200487 2010201218

Condition Reports:

2008103720, 2008104046, 2008105260, 2008109940, 2008110508, 2008110715, 2008112052, 2008112114, 2008112287, 2008112502, 2008112600, 2008112793, 2008112797, 2009102880, 2009102897, 2009103882, 2009105215, 2009105357, 2009107006, 2009107030, 2010100105, 2010104397, 2010100643

Documents:

A-181004, Functional System Description Electrical Distribution System, Ver. 27.0
 A-181013, Functional System Description Containment Ventilation System, Ver. 13.0
 A-351199, Unit 2 Electrical Load List, Ver. 50.0
 A-506250, Unit 1 Electrical Load List, Ver. 55.0
 E-042, Steady State Diesel Generator Loading Calculation for LO SP, SI, and SBO, Ver. 18
 FNP-10-0015-ES, February 2010 Maintenance Rule Report, dated March 3, 2010
 FNP-0-EMP-1322.10, Maintenance and Cleaning of Westinghouse Switchgear, Ver. 1.0
 FNP-0-M-87, Maintenance Rule Scoping Manual, Ver. 22.0
 FNP-0-M-89, Maintenance Rule Site Implementation Manual, Ver. 13.0
 NMP-GM-002-F31, Human Performance Gap Analysis, dated March 19, 2010, Ver. 3.0
 System Health Report, CTMT Cooling System 1E12/2E12, 4th quarter 2009
 SM-97-1356-001, CTMT Cooler Plugging Analysis, Rev. 0

Drawings:

D177046, Single Line Protection & Metering 600V Load Center 1L (EMERG), Rev. 0
D205003, P&ID Service Water System, Sheet 4, Ver. 6.0
D207046, Single Line Protection & Metering 600V Load Center 2L (EMERG), Rev. 5
U280288, Drawing – Hose Assembly 3” IPS, Rev. E

Procedures:

FNP-1-STP-27.2, On-Site AC Distribution, Ver. 23.0
FNP-2-SOP-12.1, Containment Air Cooling System, Ver. 24.0
FNP-0-SYP-17.0, Maintenance Rule Monitoring and Reporting, Ver. 17.0
FNP-0-SYP-19.0, Performance Criteria for Plant Systems within the Scope of the Maintenance Rule, Ver. 11.0

Work Orders:

1071645701, 1072709001, 1072709101, 1072709201, 1072839501, 1072839601, 1080865601, 1080865603, 1080952901, 1080952905, 2040886101

Section 1R15: Operability Evaluations

Condition Reports:

2008100340, 2010103268, 2010104591, 2010104790, 2010105375, 2010105376, 2010105868

Procedures:

FNP-0-EMP-1313.04, Maintenance of Siemens-Allis 4.16KV Metal-Clad Switchgear, Ver. 23.0
FNP-2-SOP-7.0, Residual Heat Removal System, Ver. 86.1

Drawings:

D-204833, Termination Cabinet 27-B Front Connection Diagram Q2H25L027-B, Rev. 18
D-207193, Elementary Diagram Residual Heat Removal Pumps, Ver. 8.0
D-207646, Elementary Diagram Loading Sequencer B2G ESS SEQ, Rev. 10
U-206370, Speed Torque Characteristic of Centrifugal Pump Start with Open Discharge
U-206510, Auxiliary Feed Pump Speed Torque Curve

Documents:

A-181004, Functional System Description Electrical Distribution System
A-181010, Function System Description Auxiliary Feedwater
2-DT-R20-E11-00582, Tagout for 2B RHR pump SI auto-start capability defeated

Work Orders:

2070712902

Section 1R18: Plant Modifications

Condition Reports:

2010105101, 2010105846

Documents:

A-181013, Functional System Description Containment Ventilation System, Ver. 13.0
 Disconnection/Connection Logs for TDAFW Pump Control Panels
 Farley Nuclear Plant UFSAR, Section 6.2, Containment Systems, Rev. 22
 Field Change Request 20608622701FCR0001
 Field Change Request 20608622701FCR0002
 Field Change Request 20608622701FCR0003
 Field Change Request 20608622701FCR0004
 Field Change Request 20608622701FCR0005
 Field Change Request 20608622701FCR0006
 Field Change Request 20608622701FCR0007
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