



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

January 27, 2011

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 05000348/2010005 AND 05000364/2010005**

Dear Mr. Johnson:

On December 31, 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, which were discussed on January 12, 2011 with members of your staff.

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.

The report documents one NRC-identified finding and one self-revealing finding of very low safety significance (Green). These findings were determined to involve violations 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 of the very low safety significance and because they have been entered into your corrective action program (CAP), the NRC is treating these violations as non-cited violations (NCVs), consistent with Section VI.A.1 of the NRC 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 Senior Resident Inspector at Joseph M. 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 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 05000348/2010005 and 05000364/2010005
w/Attachment: Supplemental Information

cc w/encl.: (See page 3)

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Letter to J. Randy Johnson from Scott M. Shaeffer dated January 27, 2011

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT - NRC INTEGRATED INSPECTION
REPORT 05000348/2010005 AND 05000364/2010005

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.: 05000348/2010005 and 05000364/2010005

Licensee: Southern Nuclear Operating Company, Inc.

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

Location: Columbia, AL

Dates: October 1, 2010 through December 31, 2010

Inspectors: E. Crowe, Senior Resident Inspector
J. Sowa, Resident Inspector
B. Caballero, Senior Operations Engineer (Section 1R11)
R. Carrion, Senior Reactor Inspector (Sections 1R08 and 4OA5.2)
G. Kuzo, Senior Health Physics Inspector (Sections 2RS1-5,
4OA1, 4OA5.3, and 4OA7)
A. Nielsen, Senior Health Physics Inspector (Sections 2RS1-5,
4OA1, 4OA5.3, and 4OA7)
B. Collins, Reactor Inspector (Sections 1R08 and 4OA5.2)
C. Dykes, Health Physics Inspector (Sections 2RS1-5, 4OA1,
4OA5.3, and 4OA7)

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

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SUMMARY OF FINDINGS

IR 05000348/2010005 and 05000364/2010005; 10/01/2010-12/31/2010; Joseph M. Farley Nuclear Plant, Units 1 and 2; Fire Protection, Identification and Resolution of Problems.

The report covered a three-month period of inspection by the resident inspectors, a senior reactor inspector, a reactor inspector, two senior health physics inspectors, one health physics inspector, and one senior operations engineer. One NRC identified NCV and one self-revealing NCV with very low safety significance (Green) were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, Significance Determination Process (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, Reactor Oversight Process, Revision 4, dated December 2006.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems (MS)

- Green An NRC identified NCV of Technical Specification (T.S.) 5.4.1 was identified for failure to follow station maintenance procedures related to the use of extension cords, which resulted in an energized smoke eductor and its extension cord located within one inch of a safety-related cable tray. On September 30, 2010, the inspectors discovered an operating smoke eductor sitting atop safety-related cable tray AID15A in the Unit 2 component cooling water (CCW) pump and heat exchanger room. The inspectors also noted safety-related cable tray AHD21A ran parallel with, and approximately 36 inches above, cable tray AID15A. The inspectors evaluated the cables in both safety-related cable trays, and learned Unit 2 train 'A' residual heat removal (RHR) and the hot shutdown panel were likely components that would be negatively affected in the event of a fire from this energized equipment. The inspectors immediately notified control room personnel, who then removed the smoke eductor and wrote condition report (CR) 2010113318.

The failure to maintain an energized and operating smoke eductor with its extension cord greater than one inch from a safety-related cable tray as required by station procedure, FNP-0-ACP-59, Extension Cord Usage and Temporary Electrical Cable Installation Guidelines, is a performance deficiency. The finding was more than minor because it adversely affected the mitigating systems (MS) cornerstone objective of ensuring the availability, reliability, and capability of systems responding to initiating events to prevent undesirable consequences. Specifically, a fire resulting from this energized equipment would challenge train 'A' RHR pump and valves, and potentially lead to the train being inoperable. The significance of this finding was assessed using the Phase 1 screening worksheets of Attachment 4 and Appendix F, Attachment 1 of Manual Chapter (MC) 0609, SDP. Additionally, Phase 2 worksheets of Appendix F, Attachment 1 were used, and the finding was determined to be of very low safety significance (Green), because the safe shutdown path was deemed independent of fire damage state scenarios for the given fire ignition source. The finding was assigned a cross-cutting aspect in the Work Practices component of the Human Performance cross-

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cutting area because station personnel failed to follow guidance in station procedures related to the control of cable trays (H.4(b)). (Section 1R05)

- Green. A self-revealing NCV of 10 CFR 50.65(a)(4) revealed itself when Unit 1 train 'A' RHR was lost because the licensee failed to identify and assess the loss of a plant significant component during plant repairs. On October 15, 2010, Unit 1 was in a refueling outage with fuel in the reactor vessel, the reactor vessel head detensioned, and reactor coolant system (RCS) water level one foot below the reactor vessel flange. The licensee restored power to motor-operated valve (MOV) 8701A during its initial preparations for flooding the refueling cavity and lifting the reactor vessel head to its refueling stand. Concurrent with this evolution, the licensee danger-tagged the train 'A' solid state protection system (SSPS) to perform repairs to the multiplexer test switch. This activity resulted in relay PY402AX being placed in a de-energized state (actuated). Relay PY402AX provides the interlock to MOV 8701A to close if RCS pressure exceeds 402 psig. Once power was restored to MOV 8701A, the active RCS pressure interlock automatically closed the valve. This isolated the suction source of the train 'A' RHR pump, and the control room operators stopped the pump.

The licensee's failure to effectively implement one of the risk management actions prescribed during the Orange outage risk, which resulted in the loss of a plant significant component during plant repairs, is a performance deficiency. The finding is more than minor because it adversely affected the equipment performance attribute of the MS cornerstone objective of ensuring the availability, reliability, and capability of systems responding to initiating events preventing undesirable consequences (i.e. core damage). Specifically, one of the key safety functions was significantly degraded without sufficient compensation. The significance of this finding was assessed using the Phase 1 screening worksheets of Attachment 4 and Appendix G, Attachment 1, Checklist 3 of MC 0609. Because the finding increased the likelihood that a loss of decay heat removal will occur due to a failure of the system itself or support systems, further review was required by the regional senior risk analyst.

A regional Senior Reactor Analyst evaluated the performance deficiency using the Phase 3 protocol of the Significance Determination Process. Based upon this evaluation, the performance deficiency was characterized as of very low safety significance (Green). The dominant accident sequence involved the loss of the operating train of residual heat removal as the initiating event. The rest of the accident sequence involved the loss of the standby residual heat removal train due to the performance deficiency, the failure of operators to recover one these trains before Reactor Coolant System boiling and a failure of operators to initiate emergency core cooling before core damage. The major assumptions of this evaluation included a short time to boil and there was no credit was considered for recovering the standby residual heat removal train.

This finding was assigned a cross-cutting aspect in the Resources component of the Human Performance area because training of personnel and sufficient qualified personnel to maintain work hours within working hour guidelines was not accomplished (H.2(b)). Specifically, trained personnel with sufficient knowledge to fully understand the effect of removing power to the Unit 1 train A SSPS were not

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provided to effectively implement the risk management actions prescribed during the Orange outage risk. (Section 4OA2)

One 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 89 percent Rated Thermal Power (RTP) with an RCS temperature coast-down in progress for the upcoming refueling outage (RFO). The unit was shut down on October 3, to begin RFO 23. The unit's reactor was made critical on November 17 and was returned to 100 percent RTP on November 22. The unit remained at or near 100 percent RTP for the remainder of the inspection period.

Unit 2 started the report period at 100 percent RTP. The unit remained at or near 100 percent RTP for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment

a. Inspection Scope

Partial Walk-Down: The inspectors performed partial walk-downs of the following two systems to verify the operability of redundant or diverse trains and components when safety equipment was inoperable. The inspectors attempted to identify discrepancies impacting the function of the system, 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), 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 1, residual heat removal (RHR) train 'A' and train 'B' during drain to reduced RCS inventory for reactor vessel head removal
- Unit 1, RHR train 'B' during RCS mid-loop and vacuum refill conditions

Complete Walk-Down: The inspectors conducted a complete walk-down of the accessible portions of the following system. The inspectors used licensee procedure FNP-1-SOP-9.0, Containment Spray System (CSS), and Functional System Description (FSD) A181008 to verify system alignment of on-service equipment. The inspectors also interviewed personnel, reviewed control room logs, MR monthly reports, CRs, quarterly system health reports, outstanding work orders (WOs) and industry operating experience to verify alignment and equipment discrepancies were being identified and appropriately resolved. Documents reviewed are listed in the Attachment.

- Unit 1 CSS

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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 licensees' 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, containment, fire zone 55
- Unit 2, motor driven auxiliary feedwater pump (MDAFWP) rooms, fire zone 6
- Unit 2, turbine driven auxiliary feedwater pump (TDAFWP) room, fire zone 6
- Unit 2, CCW heat exchanger room, fire zone 6

b. Findings

Introduction The inspectors identified a Green NCV of T.S. 5.4.1 for failure to follow station maintenance procedures related to the use of extension cords. This resulted in an energized smoke eductor and its extension cord located within one inch of a safety-related cable tray.

Description On September 30, 2010, the inspectors discovered an operating smoke eductor sitting atop safety-related cable tray AID15A in the Unit 2 CCW Pump and Heat Exchanger room. The inspectors also noted safety-related cable tray AHD21A ran parallel with, and approximately 36 inches above, cable tray AID15A. The top of the smoke eductor was within approximately 18 inches of the open bottom cable tray AHD21A. The inspectors evaluated the cables in both safety-related cable trays and learned Unit 2 train 'A' RHR, and the hot shutdown panel were components which would be negatively affected in the event of a fire from this energized equipment. The inspectors immediately notified control room personnel, who then removed the smoke eductor and wrote CR 2010113318.

The inspectors reviewed station procedure FNP-0-ACP-59, Extension Cord Usage and Temporary Electrical Cable Installation Guidelines. FNP-0-ACP-59, Section 6.0, requires extension cords be routed to maintain a minimum of one inch separation from safety-related permanent plant conduits, totally enclosed raceways, electrical equipment and components. FNP-0-ACP-59, Section 6.0, also requires extension cords be maintained

a minimum of three feet horizontally and five feet vertically from safety-related permanent plant cable and cable trays, unless a barrier is provided. Additionally, the inspectors reviewed station procedures containing general precautions and limitations for station craft personnel. The inspectors noted the instrumentation and control, mechanical maintenance, and electrical station procedures prohibited the placing of components, parts, tools, or other materials from being placed on cable trays, unless approved decking spanning the tray rails would prevent damage to the cables. The inspectors interviewed station personnel to ascertain which group was involved in the placement of the smoke eductor. The licensee was also unsuccessful in its attempt to discover the group responsible for the placement of the eductor. The inspectors perform walkdowns of this area of the plant on a weekly basis, and therefore concluded the eductor was not in the area for longer than a week.

Analysis The failure to maintain an energized and operating smoke eductor with its extension cord greater than one inch from a safety-related cable tray is a performance deficiency. The finding was more than minor because it adversely affected the MS cornerstone objective of ensuring the availability, reliability, and capability of systems responding to initiating events to prevent undesirable consequences. Specifically, a fire resulting from this energized equipment would challenge train 'A' RHR pump and valves, and potentially lead to the train being inoperable. The significance of this finding was assessed using the Phase 1 screening worksheets of Attachment 4 and Appendix F, Attachment 1 of MC 0609, SDP. Additionally, Phase 2 worksheets of Appendix F, Attachment 1 were used, and the finding was determined to be of very low safety significance (Green) because the safe shutdown path was deemed independent of fire damage state scenarios for the given fire ignition source. The finding was assigned a cross-cutting aspect in the work practices component of the human performance cross-cutting area because station personnel failed to follow guidance in station procedures related to the control of cable trays (H.4(b)).

Enforcement TS 5.4.1, Procedures, require in part, that procedures shall be established, implemented, and maintained covering activities in RG 1.33, Rev. 2, "Quality Assurance Program Requirements." Appendix A of RG 1.33 states in part, that maintenance which can affect the performance of safety-related equipment should be properly preplanned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances. FNP-0-ACP-59, Section 6.0 requires extension cords be routed to maintain a minimum of one inch separation from safety-related permanent plant conduits, totally enclosed raceway, electrical equipment and components. FNP-0-ACP-59, Section 6.0 also requires extension cords be maintained a minimum of three feet horizontally and five feet vertically from safety-related permanent plant cable and cable trays, unless a barrier is provided. Contrary to the above, station personnel placed an energized and operating smoke eductor on a safety-related cable tray with an extension cord within one inch of the cable tray. The exact amount of time this condition lasted is unknown but is assumed to have not existed for longer than one week. The inspectors perform walkdowns of the CCW pump and heat exchanger area on a weekly basis. This condition was not identified during the previous inspection. The licensee immediately removed the smoke eductor and wrote CR 2010113318. Because this finding is of very low safety significance (Green), and was entered into the licensees' CAP, this finding is being treated as an NCV, consistent with the NRC

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Enforcement Policy: NCV 05000364/2010005-01, Failure to Follow Station Guidance on Use of Extension Cords and Placement of Equipment in Safety-Related Cable Trays.

1R06 Flood Protection Measures

a. Inspection Scope

The inspectors reviewed selected risk-important plant design features and licensee procedures intended to protect the plant and its safety-related equipment from internal flooding events. The inspectors reviewed flood analysis and design documents, including the UFSAR, and engineering calculations and abnormal operating procedures for licensee commitments. The inspectors walked down the area listed below to verify plant design features and plant procedures for flood mitigation were consistent with design requirements and internal flooding analysis assumptions. The inspectors reviewed flood protection barriers, which included plant floor drains, condition of room penetrations, condition of the sumps in the rooms, and condition of water-tight doors. The inspectors also reviewed CRs to verify the licensee was identifying and resolving problems. Documents reviewed are listed in the Attachment.

- Unit 2, train 'B' RHR pump room

b. Findings

No findings were identified.

1R08 Inservice Inspection (ISI) Activities

.1 Non-Destructive Examination (NDE) Activities and Welding Activities

a. Inspection Scope

From October 18 - 22, 2010, the inspectors reviewed the implementation of the licensee's In-service Inspection (ISI) program for monitoring degradation of the reactor coolant system (RCS) boundary and risk-significant piping boundaries. The inspectors' 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), Sections V, IX, and 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 inspectors noted that this refueling outage (1R23) was the final outage of the first period of the fourth interval, as defined in the ASME Code, for Unit 1.

The inspectors' 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 (UT) of Reactor Vessel Bolt #19 – Direct Observation
- Visual examination (VT-1) of reactor vessel washer #23 and nut #15-direct observation
- UT examination of weld ALA1-4205-WOL-1, Pressurizer Spray Nozzle Overlay, ASME Class 1, Reactor Coolant System, 8-inch diameter nozzle-to-pipe weld – Direct Observation
- Penetrant Testing (PT) examination of weld ALA2-4509-CVC-R233(W8), ASME Class 2, Chemical and Volume Control Removal System, welded lugs to 8-inch diameter pipe – Document Review (NDE Indication Evaluation Report S10F1P002 and Condition Report 2010113663)
- PT examination of weld ALA2-4615-14, ASME Class 2, Pipe to Elbow Weld in the High Head Safety Injection System, 2-inch diameter pipe – Document Review (NDE Indication Evaluation Report S10F1P016 and Condition Report 2010114434)

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

- Work Order 1090459008 - Welding Package for installation of 3-inch ball valve in the Service Water Line (ANSI B31.1, Class III)

Note: Due to higher outage priorities, the installation of the valve was not done while the inspectors were on site. Therefore, neither the actual welding process nor the subsequent required NDE (VT-2) were observed by the inspectors.

b. Findings

No findings were identified.

.2 PWR Vessel Upper Head Penetration (VUHP) Inspection Activities

a. Inspection Scope

The inspector verified compliance with the requirements contained in 10 CFR Part 50.55a(g)(6)(ii)(D) and Code Case N-729-1. The reactor head was replaced during the 1R19 outage (Fall of 2004). Because a bare metal visual (BMV) examination is required every third refueling outage and a BMV examination was completed during the previous refueling outage (1R22) in the Spring of 2009, no examination of the reactor head was planned for this outage (1R23). The next required BMV of the reactor head is scheduled for the Fall of 2013, during 1R25, and will be conducted to identify potential boric acid leaks from pressure-retaining components.

b. Findings

No findings were identified.

.3 Boric Acid Corrosion Control (BACC) Inspection Activities

The inspectors 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 inspectors performed an on-site record review of procedures and the results of the licensee's containment walkdown inspections performed during the Unit 1 (1R23) outage. The inspectors also interviewed the BACC program owner and conducted a walkdown 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 walkdown, were properly identified and corrected in accordance with the licensee's BACC and corrective action programs.

The inspectors reviewed a sample of completed engineering evaluations and Condition Reports (CRs) 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 inspectors selected the following evaluations/CRs for review:

- CR 2010113731 - "A"-Train SW Return Header Drain Leak Evaluation
- CR 2010113993 - Aux Spray Line Check Valve Q1E21V0109 at Top of Pressurizer Has a Steady Stream Leak from the Bonnet on the Under Side
- CR 2010114198 - Moderate, Dry, Discolored Boric Acid Accumulation Noted on Carbon Steel Bonnet of Kerotest Q1B13V033B 3/4-Inch Series 1500 Angle Valve
- CR 2010114313 – This CR Has Been Generated to Perform an Enhanced Apparent Cause Determine for CR 2010113993
- CR 2010114411 - Snubbers Covered with Boron from Leaking Valve
- CR 2010114416 - Snubbers Covered with Boron from Leaking Valve

b. Findings

No findings were identified.

.4 Steam Generator (SG) Tube Inspection Activities

a. Inspection Scope

The NRC inspectors observed the following activities and/or reviewed the following documentation and evaluated them against the licensee's technical specifications, commitments made to the NRC, ASME Section XI, and Nuclear Energy Institute (NEI) 97-06 (Steam Generator Program Guidelines)

- Interviewed Eddy Current Testing (ET) data analysts and reviewed five samples of ET data
- Compared the numbers and sizes of SG tube flaws/degradation identified, against the licensee's previous outage Operational Assessment.
- Reviewed the SG tube ET examination scope and expansion criteria
- Evaluated if the licensee's SG tube ET examination scope included potential areas of tube degradation identified in prior outage SG tube inspections and/or as identified in NRC generic industry operating experience applicable to the licensee's SG tubes
- Reviewed the licensee's implementation of their extent of condition inspection scope and repairs for new SG tube degradation mechanism(s). No new degradation mechanisms were identified during the EC examinations
- Reviewed the licensee's repair criteria and processes
- Evaluated if primary-to-secondary leakage (e.g., SG tube leakage) was below three gallons per day, or the detection threshold, during the previous operating cycle
- Evaluated if the ET equipment and techniques used by the licensee to acquire data from the SG tubes were qualified or validated to detect the known/expected types of SG tube degradation in accordance with Appendix H, Performance Demonstration for Eddy Current Examination, of EPRI Pressurized Water Reactor Steam Generator Examination Guidelines, Revision 7
- Reviewed the licensee's secondary side SG Foreign Object Search and Removal (FOSAR) activities
- Reviewed the licensee's evaluations and repairs for SG tubes damaged by foreign material or tubes surrounding inaccessible foreign objects left within the secondary side of the steam generators
- Reviewed ET personnel qualifications

b. Findings

No findings were identified.

.5 Identification and Resolution of Problems

a. Inspection Scope

The inspectors 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 inspectors reviewed the CRs to confirm that the licensee had appropriately described the scope of the problem and had

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initiated corrective actions. The review also included the licensee's consideration and assessment of operating experience events applicable to the plant. The inspectors performed this review to ensure compliance with 10 CFR 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 Requalification Program

Resident Inspector Quarterly Review: On December 7, 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 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 licensees' scenario. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

Annual Review of Licensee Requalification Examination Results: On September 30, 2010, the licensee completed the comprehensive biennial requalification written examinations and annual requalification operating tests required to be administered to all licensed operators in accordance with 10 CFR 55.59(a)(2). The inspectors performed an in-office review of the overall pass/fail results of the written examinations, individual operating tests and the crew simulator operating tests. These results were compared to the thresholds established in MC 609 Appendix I, Operator Requalification Human Performance SDP.

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 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

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(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 2010114950, Inability to control the speed/frequency of 1-2A DG
- CR2010107022, Manual reactor trip due to failed control card for the 2C FW control valve

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 prior to 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 licensees' risk assessment and risk categories in accordance with requirements in licensee procedures FNP-0-ACP-52.3, Mode 1, 2, & 3 Risk Assessment; FNP-0-UOP-4.0, General Outage Operations Guidance; NMP-GM-006, Work Management and NMP-OS-007, Conduct of Operations.

- Unit 1, October 14, 2010, Orange condition for RCS reduced inventory conditions and compensatory measures
- Unit 1, November 8, 2010, Orange condition for RCS mid-loop conditions and compensatory measures
- Unit 2, December 1, 2010, Yellow condition for train A Containment Spray Pump automatic start testing.

b. Findings

No findings were identified.

1R15 Operability Evaluations

a. 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, ODs and Functionality Assessments. The scope of this inspection also included a review of the technical adequacy of the evaluations, the adequacy of compensatory measures, and the impact on continued plant operation.

- CR 2010113748, Unit 1 and Unit 2 EDG fuel oil cetane number requirements
- CR 2010115463, Unit 1 degraded coatings in containment
- CR 2010115191, 1E SWP 4160V breaker spring charging motor housing crack
- CR 2010117091, Over pressurization of the Unit 1 AFW mini-flow lines

b. Findings

No findings were identified.

1R18 Plant Modifications

a. Inspection Scope

The inspectors reviewed the following permanent modification to ensure safety functions of important safety systems had been unaffected. The inspectors also verified design bases, licensing bases and performance capability of risk-signification SSCs had not been degraded through modifications. The inspectors reviewed affected station procedures to verify they had been properly updated to reflect the modification. The inspectors reviewed training documents to ensure operators were aware of the modification and were proficient with the changes to the plant. 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, and documentation updates. Documents reviewed are listed in the Attachment.

- DCP 101090680001, Unit 1 reactor coolant pump (RCP) shutdown seal modification

b. Findings

No findings were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

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

- FNP-0-EMP-1313.19, Inspection and Adjustment of Cutler Hammer 4.16kv Circuit Breakers, following replacement of electrical supply breaker for 2C SWP
- FNP-1-STP-914, Auxiliary Building Battery Charger Load Test following replacement of Unit 1 Auxiliary Building Battery Charger 1B

- FNP-1-STP-22.16, TDAFWP Quarterly IST with Preservice Test Appendix following modification to governor controls
- FNP-2-STP-23.14, CCW SW Flow Control Valve Quarterly IST (partial) following card replacement on Q2P16FV3009B

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities

a. Inspection Scope

Refueling Activities: The inspectors reviewed the following activities related to the Unit 1 RFO to verify compliance with licensee procedure FNP-0-UOP-4.0, General Outage Operations Guideline, and FNP-1-UOP-4.1, Controlling Procedure for Refueling. Surveillance tests were reviewed to verify results were within the 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 spent fuel pool (SFP) cooling
- Containment heavy load lifts

b. Findings

No findings were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the following four 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 for preconditioning of equipment, procedure adherence and valve alignment following completion of the surveillance. The inspectors reviewed licensee procedures FNP-0-AP-

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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.

Containment Isolation Valve Surveillance Tests

- FNP-1-STP-627, Local Leak Rate Testing of Containment Penetrations for penetration 32

In-Service Test (IST)

- FNP-2-STP-22.16, TDAFWP Quarterly IST

Reactor Coolant System (RCS) Leak Detection

- FNP-1-STP-9.0, RCS Leakage Test
- FNP-2-STP-9.0, RCS Leakage Test

b. Findings

No findings were identified.

2. RADIATION SAFETY (RS)

Cornerstones: Occupational Radiation Safety (OS) and Public Radiation Safety (PS)

2RS1 Radiological Hazard Assessment and Exposure Controls

a. Inspection Scope

Radiological Hazard Assessment Program Status and Inspection Planning: The inspectors discussed status and changes to the radiation protection program since previous inspection of occupational radiation protection program activities. The review included evaluation of changes, as applicable, for radiological controls and monitoring equipment capabilities, briefing areas and communications to workers, and remote radiation protection monitoring station location during the on-going Unit 1 cycle 23 refueling outage (1R23). The inspectors reviewed the scope and results for self-assessments and audits conducted since the last inspection. Status of corrective actions for a contamination event associated with a reactor coolant system (RCS) filter change-out documented in licensee condition report number (CR) 2010112822 were reviewed and discussed in detail.

Hazard Assessment and Instructions to Workers: During facility tours, the inspectors directly observed and discussed labeling of radioactive material and/or containers; and postings for radiation area, high-radiation area (HRA), and very high radiation area (VHRA) locations for radiologically controlled area (RCA) locations of the Unit 1 (U1) reactor containment building (RCB), U1 and Unit 2 (U2) reactor auxiliary buildings (RABs) and radioactive waste building processing area, outside radioactive waste / material storage areas, and the independent spent fuel storage installation (ISFSI) facility. The inspectors conducted independent radiation surveys or directly observed

conduct of independent licensee radiation surveys for selected U1 RCB, U1 and U2 RAB, and radioactive waste / material storage locations, equipment, and the ISFSI installation. The inspectors reviewed, evaluated, and discussed pre-job and current survey records for selected plant areas and equipment, and for selected tasks including monitoring for alpha emitters, hot particles, airborne radioactivity areas, and for locations with steep dose rate gradients. The inspectors also discussed changes to plant operations and shut-down and chemical cleanup operations that could contribute to changing radiological conditions. For selected outage jobs, the inspectors attended pre-job briefings and reviewed radiation work permit (RWP) details to assess communication of radiological control requirements and current radiological conditions to workers. Recent radiological and contamination surveys were reviewed for selected U1 RCB, U1 and U2 RAB, and the select outside waste/material storage and ISFSI locations.

Hazard Control and Work Practices: The inspectors evaluated access barrier effectiveness for selected HRA, locked high radiation area (LHRA), and VHRA locations within the U1 RCB, U1 and U2 RAB, radioactive waste building, and dry storage warehouse. Status of procedural guidance for LHRA and VHRA controls were discussed with health physics (HP) technicians and supervisors. Established radiological controls for both external and internal exposure were evaluated for selected 1R23 tasks including shut-down/crud burst chemistry activities, reactor head de-tensioning / re-tensioning and lift, cavity decontamination (decon), seal table maintenance, primary and secondary side steam generator (S/G) eddy current test (ECT) activities, pressurizer maintenance, and scaffold installation and demobilization. In addition, the inspectors directly toured, conducted independent surveys, and reviewed current radiological controls for the on-site ISFSI facility.

Occupational workers' adherence to selected RWPs and HP technician (HPT) proficiency in providing job coverage were evaluated through direct and remote observations, and through interviews with licensee staff. Electronic dosimeter (ED) alarm set points and worker stay times were evaluated against area radiation survey results for LHRA activities associated with the 1R23 activities with emphasize on pressurizer maintenance. ED alarm logs were reviewed and worker responses to dose and dose rate alarms during selected work activities were evaluated.

Control of Radioactive Material: The inspectors observed surveys of material and personnel being released from the RCA control point using small article monitor, personnel contamination monitor, and portal monitor instruments. The inspectors discussed equipment sensitivity, alarm setpoints, and release program guidance with licensee staff. In addition, the inspector reviewed controls for hand surveying large tools and equipment for release from the RCA and the PA. The inspectors compared recent 10 Code of Federal Regulations (CFR) Part 61 results for the dry active waste (DAW)/radioactive waste stream with radionuclides used in calibration sources to evaluate the appropriateness and accuracy of release survey instrumentation. The inspectors also reviewed records of leak tests on selected sealed sources and discussed nationally tracked source transactions with licensee staff.

Problem Identification and Resolution: CRs associated with radiological hazard assessment and control were reviewed and assessed. The inspectors evaluated the licensee's ability to identify and resolve the issues in accordance with Nuclear Management Procedure (NMP) GM-002, Corrective Action Program, Ver. 7, and NMP-GM-002-001, Corrective Action Program Instructions, Ver. 8. The inspectors also evaluated the scope of the licensee's internal audit program and reviewed recent assessment results.

Radiation protection activities were evaluated against the requirements of Updated Final Safety Analysis Report (UFSAR) Section 12; Technical Specifications (TS) Section 5.4, Procedures, and TS Section 5.7, High Radiation Area; 10 CFR Parts 19 and 20; and approved licensee procedures. Licensee programs for monitoring materials and personnel released from the RCA were evaluated against 10 CFR Part 20 and IE Circular 81-07, Control of Radioactively Contaminated Material. Documents reviewed are listed in Section 2RS1, 2RS2, 2RS3, 2RS4, 2RS5, 4OA1, 4OA5, and 4OA7 of the report Attachment.

The inspectors completed all specified line-items detailed in inspection procedure (IP) 71124.01 (Sample size of 1).

b. Findings

No findings were identified.

2RS2 Occupational As Low as Reasonably Achievable (ALARA) Planning and Controls

a. Inspection Scope

ALARA Program Status and Inspection Planning: The inspectors reviewed and discussed the most current NRC three-year rolling average (TYRA) for cumulative exposure data, calendar year (CY) 2007 through CY 2009, for the site. Crud burst and cleanup results for current 1R23 activities were reviewed and discussed. Status of site ALARA program initiatives and procedural guidance, as applicable, were discussed and evaluated. Licensee program guidance, processes, and resultant data bases used to estimate and track exposure for selected 1R23 outage activities were reviewed in detail.

Radiological Work Planning: The inspectors reviewed work planning activities and man-hour and person-rem estimates for S/G maintenance and ECT activities, pressurizer maintenance, scaffold installation and removal, insulation removal, and for reactor head disassembly and reassembly. For the subject activities, the inspectors compared previous man-hour and person-rem expenditure data with the current 1R23 estimates and current results. Dose mitigation activities and incorporation of lessons learned from previous outages, as applicable were discussed with responsible licensee representatives.

Verification of Dose Estimates and Exposure Tracking Systems: The inspectors discussed development of cumulative dose estimates for tasks associated with steam generator eddy current tests, pressurizer maintenance, scaffold installation and removal,

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and reactor head disassembly and reassembly. For the subject 1R23 tasks, the inspectors discussed on-line data bases used to track, trend, and prompt additional plant ALARA committee reviews. For those tasks where adjustments were made to the original planning estimates, the inspectors verified that actions were based on either actual work scope or source term changes.

Source Term Reduction and Control: Previous U1 outage source term measurements and reactor coolant system cleanup data were reviewed and compared to current 1R23 data results. Impact of the chemistry and fuel integrity issues for the current outage were reviewed and discussed in detail.

Radiation Work Performance: The inspectors directly evaluated radiation worker and HPT proficiency in radiation protection practices associated with 1R23 activities. The evaluations included direct observations and discussions of radiation controls with workers and health physics staff regarding steam generator, pressurizer, and reactor coolant pump maintenance activities, and reactor head disassembly tasks.

Problem Identification and Resolution: Licensee CRs associated with radiological hazard assessment and control were reviewed and assessed. The inspectors evaluated the licensee's ability to identify and resolve the issues in accordance with NMP GM-002, Corrective Action Program, Ver. 7, and NMP-GM-002-001, Corrective Action Program Instructions, Ver. 8. The inspectors also evaluated the scope of the licensee's internal audit program and reviewed recent assessment results.

Radiation protection activities were evaluated against the requirements of UFSAR Section 12; TS Section 5.4, Procedures, and TS Section 5.7, High Radiation Area; 10 CFR Parts 19 and 20; and approved licensee procedures. Documents reviewed are listed in Section 2RS1, 2RS2, 2RS3, 2RS4, 2RS5, 4OA1, 4OA5, and 4OA7 of the report Attachment.

The inspectors completed all specified line-items detailed in IP 71124.02 (Sample size of 1).

b. Findings

No findings were identified

2RS3 In-Plant Airborne Radioactivity Control and Mitigation

a. Inspection Scope

Engineering Controls: Inspectors reviewed the use of temporary and permanent engineering controls in lieu of respiratory protection devices to control airborne radioactivity for selected 1R23 tasks. The use of high-efficiency particulate air (HEPA) units on selected outage tasks including pressurizer insulation removal and S/G ECT activities were evaluated for consistency with current licensee and vendor procedures, and with established ALARA principles. For systems used in air monitoring activities, the inspectors verified set-point adequacy to prompt licensee/worker action to ensure

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doses are maintained ALARA. The inspector's verified licensee established trigger points for additional evaluation of airborne beta-emitting and alpha-emitting radionuclide concentrations.

Respiratory Protection Devices: Inspectors evaluated the licensee's program for use of respiratory protective devices to help maintain occupational doses ALARA when engineering controls are impractical. Licensee's total effective dose equivalent (TEDE)-ALARA evaluations for 1R23 pressurizer decon/insulation removal tasks were reviewed in detail. The inspectors verified established program activities for respirator maintenance, issuance, and use against National Institute for Occupational Safety and Health certification requirements. Training provided to selected workers issued respiratory protection devices also was evaluated. Although the inspectors were unable to observe workers donning and doffing respirators, training material used to instruct the workers on this topic and how to safely use respiratory devices was reviewed and evaluated.

Inspectors also evaluated respirators and self contained breathing apparatus (SCBA) units ready for issuance from three storage areas including the respirator room, inside the control room and outside the control room and the operational support center. Respirators and SCBA units were checked for material condition, bottle pressure and hydrostatic testing date, and functioning alarms. Maintenance records for the vital components such as the pressure demand air regulator, of the evaluated SCBA units were also reviewed by inspectors. Individuals on shift in the control room were interviewed by inspectors about using SCBAs units, changing out the bottles, personal mask size, glasses inserts and facial hair. Records of air test results for staged supplied-air devices and SCBA bottles were reviewed against Grade D air quality specifications.

Problem Identification and Resolution: CRs associated with in-plant airborne radioactivity control and mitigation were reviewed by the inspectors. Inspectors assessed the licensee's ability to identify and address issues in accordance with procedure NMP-GM-002, Corrective Action Program, Version 10. Documents reviewed are listed in section 2RS3 of the Attachment.

Licensee activities associated with the use of engineering controls and respiratory protection equipment were reviewed against 10 CFR Part 20; UFSAR Chapter 12; Regulatory Guide (RG) 8.15, Acceptable Programs for Respiratory Protection; and applicable licensee procedures. Documents reviewed during the inspection are listed in Section 2RS3 of the Attachment.

The inspectors completed all specified line-items detailed in IP 71124.03 (sample size of 1).

b. Findings

No findings were identified

2RS4 Occupational Dose Assessment

a. Inspection Scope

Inspection Planning: The inspectors evaluated current HP program activities and results associated with occupational worker's internal and external radiation exposure monitoring. The review included program guidance, ED and personal dosimetry comparison results; quality assurance activities, individual dose results for occupational workers, and licensee responses to issues identified during 1R23.

External Dosimetry: The inspectors reviewed and discussed HP program guidance for monitoring external and internal radiation exposures of occupational workers. The inspectors reviewed National Voluntary Laboratory Accreditation Program (NVLAP) certification data and discussed program guidance for storage, processing and results for active and passive personnel dosimeters currently in use. Neutron monitoring activities and dosimeter capabilities for select U1 and U2 'at power' entries were reviewed and discussed. Licensee evaluations for shallow and deep dose assessments for workers associated with identified dispersed skin contamination and discrete radioactive particle contamination events since October 1, 2009, were reviewed and discussed in detail. Comparisons between ED and personnel dosimeter data were discussed in detail. Finally, the inspectors conducted a detailed review of licensee evaluation of dosimetry placement issues associated with current 1R23 pressurizer maintenance activities.

Internal Dosimetry: Program guidance, instrument detection capabilities, and select results for the internally deposited radionuclides were reviewed in detail. The inspectors reviewed routine termination and follow up in vivo (Whole Body Count) analyses, since October 1, 2009. In addition, capabilities for collection and conduct of special bioassay sampling were discussed with responsible licensee representatives.

Special Dosimetric Situations: The inspectors reviewed monitoring conducted and results for special dosimetric situations. The methodology and results of monitoring occupational workers within non-uniform external dose fields were evaluated. In addition, the adequacy of dosimetry program guidance and its implementation were reviewed for shallow dose assessments and supporting calculations for select personnel contamination events (PCEs) involving discrete radioactive particle and dispersed facial contaminations events since October 1, 2009, were reviewed and discussed.

The inspectors reviewed monitoring conducted and results for declared pregnant workers documented in licensee records since October 1, 2008. In addition, the proficiency of HP staff and adequacy of assessments in evaluating skin dose assessments and neutron monitoring, were evaluated through direct interviews, onsite observations, and review and discussions of completed records and supporting data.

CAP Review: The inspectors reviewed and discussed selected CAP documents associated with occupational dose assessment. The reviewed items included self-assessments and quality assurance audit documents. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in

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accordance with NMP GM-002, Corrective Action Program, Ver. 7, and NMP-GM-002-001, Corrective Action Program Instructions, Ver. 8.

HP program occupational dose assessment guidance and activities were evaluated against the requirements of the UFSAR Section 12; TS Sections 5.4 and 5.7; 10 CFR Parts 19 and 20; and approved licensee procedures. Records reviewed are listed in Section 2RS01, 2RS02, and 2RS04 of the report Attachment.

The inspectors completed all specified line-items detailed in IP 71124.04. (Sample size of 1).

b. Findings

No findings were identified.

2RS5 Radiation Monitoring Instrumentation

a. Inspection Scope

Radiation Monitoring Instrumentation: During tours of the U1 and U2 RAB, spent fuel pool areas, and the RCA exit point, the inspectors observed installed radiation detection equipment including the following instrument types: area radiation monitors (ARM)s, auxiliary building air monitors, liquid and gaseous effluent monitors, personnel contamination monitors (PCM)s, small article monitors (SAM)s, and portal monitors. The inspectors observed the physical location of the components, noted the material condition, and compared sensitivity ranges with UFSAR

In addition to equipment walk-downs, the inspectors observed source checks and alarm setpoint testing of various portable and fixed detection instruments, including ion chambers, telepoles, PCMs, SAMs, and portal monitors. For the portable instruments, the inspectors observed the use of a high-range calibrator and discussed periodic output value testing with a responsible HPT. The inspectors reviewed the last two calibration records and evaluated alarm setpoint values (as applicable) for selected ARMs, PCMs, portal monitors, SAMs, effluent monitors, count room instruments, and a whole body counter. This included a sampling of instruments used for post-accident monitoring including containment high range ARMs and effluent monitor high-range noble gas channels. Radioactive sources used to calibrate selected count room instruments and ARMs were evaluated for traceability to national standards. Calibration stickers on portable survey instruments and air samplers were noted during inspection of storage areas for "ready-to-use" equipment. The most recent 10 CFR Part 61 analysis for DAW was reviewed to determine if calibration and check sources are representative of the plant source term. The inspectors also reviewed records of daily quality control testing for selected count room instruments.

Effectiveness and reliability of selected radiation detection instruments were reviewed against details documented in the following: 10 CFR Part 20; NUREG-0737, Clarification of TMI Action Plan Requirements; TS Section 3.3.3; UFSAR Chapters 11 and 12; and applicable licensee procedures.

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Problem Identification and Resolution: The inspectors reviewed selected CRs in the area of radiological instrumentation. The inspectors evaluated the licensee's ability to identify and resolve the issues in accordance with procedure NMP-GM-002, Corrective Action Program, Ver 10.0. The inspectors also evaluated the scope of the licensee's internal audit program and reviewed recent assessment results. Documents reviewed are listed in section 2RS5 of the Attachment to this report.

The inspectors completed all specified line-items detailed in IP 71124.05. (Sample size of 1).

b. Findings

No findings were identified.

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.

Cornerstone: Mitigating Systems

- Safety System Functional Failures
- Mitigating Systems Performance Indicator, Cooling Water Systems

The inspectors reviewed samples of raw PI data, LERs, and Monthly Operating Reports for the period covering June 2009 through September 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.

Cornerstone: Occupational Radiation Safety

The inspectors reviewed PI data collected from October 1, 2009, through June 30, 2010, for the Occupational Exposure Control Effectiveness PI. For the reviewed period, the inspectors assessed CAP records to determine whether HRA, VHRA, or unplanned exposures, resulting in TS or 10 CFR 20 non-conformances, had occurred during the review period. In addition, the inspectors reviewed selected personnel contamination event data, internal dose assessment results, and ED alarms for cumulative doses and/or dose rates exceeding established set points. The reviewed documents relative to this PI are listed in Section 4OA1 of the Attachment.

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Cornerstone: Public Radiation Safety

The inspectors reviewed the Radiological Control Effluent Release Occurrences PI results for the Public Radiation Safety Cornerstone from October 1, 2009, through June 30, 2010. For the assessment period, the inspectors reviewed cumulative and projected doses to the public and PIP documents related to Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual issues. The inspectors also reviewed licensee procedural guidance for collecting and documenting PI data. Documents reviewed are listed in section R 4OA1 of the Attachment.

The inspectors completed all of the specified line-item samples associated with the OS and PS Cornerstones detailed in IP 71151 (Sample size of 2).

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems

.1 Daily CR Reviews

As required by Inspection Procedure 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 licensees' computerized database.

.2 Selected Issue Follow-up Inspection

a. Inspection Scope

In addition to the routine review, the inspectors selected the two issues listed below for a more in-depth review. The inspectors considered the following during the 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 the resolution of the problem; (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 2010114366, Automatic closure of RCS/RHR loop suction valve causing manual stopping of train 'A' RHR pump
- CR 2010116613, Flame detected on the 1A RCP handswitch

b. Findings.1 Automatic closure of RCS/RHR loop suction valve causing manual stopping of train 'A' RHR pump

Introduction: A Green self-revealing NCV of 10 CFR 50.65(a)(4) was revealed when Unit 1 train 'A' RHR was lost because the licensee failed to identify and assess the loss of a plant-significant component during plant repairs.

Description: On October 15, 2010, Unit 1 was in a RFO with fuel in the reactor vessel, the reactor vessel head detensioned, and RCS water level one foot below the reactor vessel flange. The licensee restored power to MOV 8701A during its initial preparations for flooding the refueling cavity and lifting the reactor vessel head to its refueling stand. Concurrent with this evolution, the licensee danger-tagged the train 'A' SSPS to perform repairs to the multiplexer test switch where this activity resulted in relay PY402AX being placed in a de-energized state (actuated). Relay PY402AX provides the interlock to MOV 8701A to close if RCS pressure is higher than 402 psig. Once power was restored to MOV 8701A, the active RCS pressure interlock automatically closed the valve. This isolated the suction source of the train 'A' RHR pump, and the control room operators stopped the pump. The operators de-energized MOV 8701A, locally re-opened the valve, and restarted the 1A RHR pump. Train 'A' RHR was lost for approximately 30 minutes, and RCS temperature increased from 101⁰F to 108⁰F. Train 'B' RHR remained in operation in the shutdown cooling mode during the entire event.

The inspectors reviewed the licensee's risk assessment for this period of reduced RCS inventory, and discovered an Orange outage risk assessment management (ORAM) assessment. The licensee implemented risk management actions to manage this heightened risk condition which included the following:

- No work allowed involving risk to either train of safety-related electrical buses or diesels
- No work allowed involving risk to the ability of RHR, CCW (safety-related portion), SW (safety-related portion) systems
- No work allowed involving risk to the ability to maintain RCS level or level indication
- No work allowed on the high voltage switchyard breakers or their protective relaying
- No vehicle traffic allowed in the low voltage switchyard without spotters – only operations personnel shall be permitted to be near the startup transformers

Westinghouse developed the original design modification, which was reviewed and implemented by Farley site design personnel, with the assistance of Westinghouse technicians. The design modification indicated each train of SSPS would need to be de-energized to complete the modification. Farley site design personnel failed to recognize the impact upon relay PY402AX during the review process. Farley operations personnel also failed to recognize the impact upon relay PY402AX during tagging preparation and implementation. Thus, the inspectors determined the licensee had opportunities to discover the impact of this modification upon the RHR system.

The inspectors reviewed the licensee's cause determination. The inspectors noted the licensee determined the cause was due to lack of drawing information which would have been instrumental in providing knowledge about the power supply configuration of PT-402 and PT-403 during the tagging process. The inspectors reviewed the drawings used by operations personnel and determined the path stopped at breaker 14 on the 120 volt vital AC instrument panel/distribution panel 1A. Station drawing D-177024 indicated this breaker powered the SSPS output cabinet of train 'A'. The inspectors interviewed station personnel related to their actions upon the licensee's discovery of the above information, and learned licensee management was engaged. The decision was made to tag out the breaker, as no outputs of train 'A' SSPS would be required with the plant in its current configuration.

Analysis: The licensee's failure to effectively implement one of the risk management actions it prescribed during the Orange outage risk, resulting in the loss of a plant significant component during plant repairs is a performance deficiency. The finding is more than minor because it adversely affected the equipment performance attribute of the MS cornerstone objective of ensuring the availability, reliability, and capability of systems responding to initiating events to prevent undesirable consequences (i.e. core damage). Specifically, one of the key safety functions was significantly degraded without sufficient compensation. The significance of this finding was assessed using the Phase 1 screening worksheets of Attachment 4 and Appendix G, Attachment 1, Checklist 3 of MC 0609. Because the finding increased the likelihood that a loss of decay heat removal would occur due to a failure of the system itself or support systems, further review was required by the regional senior risk analyst.

A regional Senior Reactor Analyst evaluated the performance deficiency using the Phase 3 protocol of the Significance Determination Process. Based upon this evaluation, the performance deficiency was characterized as of very low safety significance (Green). The dominant accident sequence involved the loss of the operating train of residual heat removal as the initiating event. The rest of the accident sequence involved the loss of the standby residual heat removal train due to the performance deficiency, the failure of operators to recover one these trains before Reactor Coolant System boiling and a failure of operators to initiate emergency core cooling before core damage. The major assumptions of this evaluation included a short time to boil and there was no credit was considered for recovering the standby residual heat removal train.

This finding was assigned a cross-cutting aspect in the Resources component of the Human Performance area because training of personnel and sufficient qualified personnel to maintain work hours within working hour guidelines was not accomplished (H.2(b)). Specifically trained personnel with sufficient knowledge to fully understand the effect of removing power to the Unit 1 train A SSPS was not provided to effectively implement the risk management actions prescribed during the Orange outage risk.

Enforcement: 10 CFR 50.65(a)(4) states in part, before performing maintenance activities (including but not limited to surveillance, post-maintenance testing, and corrective and preventative maintenance), the licensee shall assess and manage the increase in risk that may result from the proposed maintenance activities. Contrary to

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the above, on October 15, 2010, the licensee performed corrective maintenance to the train 'A' SSPS multiplexer test switch resulting in relay PY402AX being placed in a de-energized state. This activity, when performed concurrent with establishing power to MOV 8701A, resulted in the isolation of the suction source for the train 'A' RHR pump. Subsequently, the licensee stopped the pump which rendered train 'A' RHR inoperable. The licensee immediately de-energized MOV 8701A and manually re-opened the valve. The licensee then restarted the train 'A' RHR pump and restored that train's normal shutdown cooling alignment. Because this finding is of very low safety significance (Green), and has been entered into the licensee's CAP as CR 2010114366, this finding is being treated as an NCV consistent with the NRC Enforcement Policy: NCV 05000348/2010005-02, Failure to Effectively Implement Risk Management Activities Results in Loss of Single Train of Shutdown Core Cooling.

.2 Flame detected on the 1A RCP handswitch

Introduction An issue of concern revealed itself regarding the discovery of a flame on the 1A RCP handswitch in the main control room. This issue of concern is being opened as an unresolved item (URI) in order to conduct additional inspection.

Description On November 10, 2010, with the unit shutdown for the RFO, the licensee attempted to start the 1A RCP after completing modification to the seal package of the pump. During the seal package modification, the licensee also completed calibration of the oil pressure switch. This calibration was a bench calibration resulting in the removal of the pressure switch from its 125 vDC circuit. During the reinstallation of the pressure switch, the licensee also replaced conduit in which the controls and power for the switch were routed to the RCP motor. The control room operator took the control handswitch to 'start' and the amber indicating light illuminated, the red indicating light for breaker closure failed to illuminate, and an audible frying noise was heard. The control room operator and control room supervisor noticed a flame emanating from the handswitch and blew out the flame.

The inspectors did not identify an immediate safety concern for this issue because the licensee immediately extinguished the small flame by blowing it out. The licensee replaced the handswitch and performed troubleshooting of the oil pressure switch. The licensee was able to successfully start the RCP following the above activities. The licensee entered this event into its CAP as CR 201011613.

The inspectors interviewed station personnel and concluded more information was needed to ascertain if a performance deficiency existed. The licensee had not completed its cause determination at the time of these interviews. The inspectors also concluded in that order to determine if a performance deficiency exists and disposition this issue of concern, additional inspection would be required to understand: 1) the exact cause of the flame from the handswitch; 2) the extent of condition associated with this issue supported by review of the licensee's cause determination and associated WOs; and 3) the licensee planned corrective actions. This issue of concern was identified as URI 05000348/2010005-03, Flame Detected on the 1A RCP Handswitch.

.3 Semi-Annual Trend Review

a. Inspection Scope

As required by Inspection Procedure 71152, Identification and Resolution of Problems, the inspectors 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 inspector's review nominally considered the six-month period of June 1 through December 31, 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 the 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 June 1 through December 15, 2010. This information indicated the licensee was performing more human performance observations and providing more coaching to station personnel. This practice was also noted during the January 1, 2010, through June 30, 2010, evaluation by the inspectors. The inspectors noted the continued focus by the licensee on procedural adherence and noted some improvement in the trend of procedure use and adherence. The licensee's trend of identifying procedural issues and writing CRs continued at a level of approximately 700 CRs per quarter. In addition, the licensee has fully staffed its central procedure group onsite, responsible for addressing CRs. The inspectors also noted Southern Company Fleet Oversight audits which identified issues related to procedural adherence, were minor. From these activities, the inspectors noted continued improvement in the area of procedural adherence.

4OA3 Event Follow-up

.1 (Closed) LER 05000364/2010-002-00: Reactor Trip due to Failed Feedwater Regulating Valve Controller

a. Inspection Scope

On May 22, 2010, the FW regulating valve for the 2C SG failed closed. The control room operators recognized the loss of control of the valve, and attempted manual control. When the level in the 2C SG reached the 40 percent narrow range, the operators manually tripped the Unit 2 reactor. The licensee performed troubleshooting and determined the nuclear controller/driver (NCD) card had failed. The licensee replaced the NCD card, and the unit was returned to Mode 1 on May 23, 2010.

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The inspectors reviewed the licensee's root cause determination for thoroughness and completeness. The inspectors also reviewed the licensee's planned corrective actions to evaluate their effectiveness. In addition, the inspectors interviewed station personnel and reviewed station procedures, and reviewed the maintenance effectiveness of the licensees' control of the NCD cards and previous plant events relating to card issues.

b. Observations

The inspector's review of the licensee's root cause determined three root causes and one contributing cause. The licensee determined a silicon controlled rectifier on the card had failed, and was the direct cause of the event. The licensee also determined ineffective implementation of program requirements and ineffective inventory controls were root causes. The first root cause occurred because the plant failed to fully implement recommendations made by Southern Company Corporate offices, industry guidance, and Westinghouse for 7300 card life cycle management. These recommendations prohibited the installation of used 7300 cards in critical or single point vulnerable locations within the plant. The second root cause related to actions taken for administrative controls of used 7300 cards. These administrative controls involved assigning different serial numbers for new and used 7300 cards maintained in the FNP warehouse.

In the case of the failed NCD card, the inspectors discovered the card had originally been purchased in 2005. The licensee performed testing of the card, discovered workmanship issues, and returned it and others to Westinghouse for repairs. This card was installed in the pressurizer pressure control loop as a new board on October 31, 2005. In January 2009, the card exhibited anomalous stepping in manual control consistent with previously identified issues by Westinghouse for cards of this vintage. The card was removed from service and returned to Westinghouse for analysis, and then sent to Westinghouse's vendor for upgrading to revision 44. The upgrade was Westinghouse's corrective action for the identified issues related to 7300 cards of revisions 37 – 42. The card was returned to FNPs warehouse where the card was placed in stock as a new card. The card was installed in the 2C SG FW regulating valve control circuit on April 22, 2010.

The contributing cause involved frequent system engineering personnel turnover and the lack of programmatic documentation. These items weakened the transfer of relevant information and contributed to inadequate program management of the 7300 cards. The licensee determined frequent changes in system engineer assignment aided in the failure to consistently apply all of the policy elements on the 2006 long-range plan. Additionally, there was a lack of a defined and documented process for tracking and implementing actions derived from programs such as long range plans and requests for engineering reviews. No violations were identified. This LER is closed.

4OA5 Other Activities.1 Quarterly Resident Inspector Observations of Security Personnel and Activitiesa. Inspection Scope

During the inspection period, the inspectors conducted observations of security force personnel and activities to ensure these 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. These 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 NRC Temporary Instruction (TI) 2515/172, RCS Dissimilar Metal Butt Welds (DMBW's)a. Inspection Scope

From October 18 - 22, 2010, the inspectors reviewed the licensee's activities related to the inspection and mitigation of DMBW's 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 Guideline, Revision 1, dated December 2008.

The licensee completed the requirements of TI 2515/172 in 2008, as documented in Inspection Report 05000348, 05000364/2008005. 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 performed all required baseline inspections for Unit 1 during 1R21 during the Fall 2007 refueling outage and Unit 2 had been inspected during the Spring 2007 refueling outage. 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 is not planning to take any deviations from MRP-139 requirements nor has it submitted any requests for deviation from MRP-139 requirements.

Volumetric Examinations

All Unit 1 pressurizer nozzle weld overlays were examined by UT during the current outage (1R23). All satisfied the acceptance criteria.

Weld Overlays

Full structural weld overlays were completed on all of the Unit 1 pressurizer nozzles during 1R21, in the Fall 2007, as documented in Inspection Report 05000348, 05000364/2007005.

Mechanical Stress Improvement (Not Applicable)

The licensee did not use the mechanical stress improvement option.

Weld Onlay and Inlays

The licensee did not use weld onlays or inlays.

In-service Inspection Program

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

.3 (Closed) Temporary Instruction (TI) 2515/179 Verification of licensee Responses to NRC Requirement for Inventories of Materials Tracked in the National Source Tracking System Pursuant to Title 10 Code Of Federal Regulations, Part 20.2207 (10CFR 0.2207)

a. Inspection Scope

The inspectors interviewed responsible licensee staff and directly verified the licensee's reporting of the initial inventories of sealed sources pursuant to 10 CFR 20.2207, and determined that the National Source Tracking System (NSTS) database correctly reflects the Category 1 and 3 sealed sources maintained by the licensee. During the onsite inspection the following activities were conducted:

- Reviewed the current licensee's source inventory
- Verified presence and material condition of current NSTS materials
- Discussed and evaluated guidance and leak test data for storage, handling and maintenance of sources
- Discussed requirements and actions for NSTS source transfers
- Reviewed adequacy of licensee posting and labeling of source materials.

Documents reviewed are listed in section 4OA5 in the Attachment to this report. The inspectors completed all specified line-item samples detailed in Temporary Instruction 2515/179.

b. Findings

No findings were identified with the licensee's implementation of TI 2515/179. This completes the Region II inspection requirements for this issue.

4OA6 Meetings, Including Exit

On January 12, 2011, the NRC presented the inspection results to members of your staff who acknowledged the findings. The NRC confirmed proprietary information was not provided or examined during the inspection.

4OA7 Licensee Identified Violations

The following violation of very low safety significance was identified by the licensee, and was a violation of NRC requirements and met the criteria of the NRC Enforcement Policy, for being dispositioned as an NCV.

Technical Specifications 5.4.1.a, Procedures, requires, in part, written procedures to be established, implemented and maintained covering the applicable procedures recommended in RG 1.33, Revision 2, Appendix A, February 1978. Section 7.e of Appendix A to RG 1.33 requires radiation protection procedures for personnel monitoring. Contrary to the above, for workers conducting maintenance in the U1 lower pressurizer area on October 31, 2010, the licensee failed to implement FNP-0-RCP-26, Radiological Surveys and Monitoring, Ver. 41, in that the workers' personnel dosimetry equipment was not repositioned to the whole body area receiving maximum exposure from the known pressurizer dose rate fields. This failure to reposition the dosimetry equipment from the torso to the head region resulted in non-conservative monitoring results for the workers, with the worker's cumulative exposure underestimated by approximately 150 to 200 millirem for the task. The issue was identified by the licensee's fleet oversight staff and was entered into the licensee's CAP program under CR 2010115929. This finding is of very low significance (Green) because it did not involve ALARA planning and controls, did not involve an overexposure or pose a substantial potential for overexposure, and the ability to assess dose was not compromised.

ATTACHMENT: SUPPLEMENTAL INFORMATION

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SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

J. Agold, Southern Nuclear Corporate ISI Program Manager
M. Caldwell, CCW System Engineer
D. Cosby, Boric Acid Corrosion Control Program Engineer
J. Cox, Southern Nuclear Corporate SW HX Program Manager
T. Do, Steam Generator Component Engineer
M. Dove, Southern Nuclear Corporate Alloy 600 Program Manager
M. Goocher, SW System Engineer
A. Gray, Programs Supervisor
B. Griner, Engineering Support Manager
L. Hogg, Security Manager
J. Horn, Site Support Manager
J. Jerkins, Performance Improvement Senior Engineer
J. Johnson, Site Vice President
M. Johnston, ISI Coordinator
G. Lofthus, Southern Nuclear Corporate Level III
R. Martin, Technical Services Manager
L. McKay, BACCP Owner
B. McKinney, Licensing Supervisor
C. Medlock, Site Design Manager
W. Oldfield, Licensing Engineer
R. Retherford, Engineering Support (Acting Supervisor)
T. Smith, Southern Nuclear LIII
W. Vierkandt, Radiation Protection Manager
S. Varnum, Chemistry Manager
J. Walton, Welding Engineer

NRC personnel

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

LIST OF REPORT ITEMS

Opened

None

Opened and Closed

05000364/2010005-01	NCV	Failure to Follow Station Guidance on Use of Extension Cords and Placement of Equipment in Safety-Related Cable Trays (Section 1R05)
05000348/2010005-02	NCV	Failure to Effectively Implement Risk Management Activities Results in Loss of Single Train of Shutdown Core Cooling (Section 4OA2.2.b.1)
05000348/2010005-03	URI	Flame Detected on the 1A RCP Handswitch (Section 4OA2.2.b.2)

Closed

05000364/2010-002-00	LER	Reactor Trip due to Failed Feedwater Regulating Valve Controller (Section 4OA3.1)
05000348, 364/2515/179	TI	Verification of licensee Responses to NRC Requirement for Inventories of Materials Tracked in the National Source Tracking System Pursuant to Title 10 Code Of Federal Regulations, (10CFR 20.2207) (Section 4OA5.3)
05000348, 364/2515/172	TI	RCS Dissimilar Metal Butt Welds (DMBW) (Section 4OA5.2)

Discussed

None

LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

Condition Reports:

2010100932, 2010106985

Documents:

A-181002, Residual Heat Removal/Low Head Safety Injection, Version 40.0

A-181008, Containment Spray System Functional System Description, Version 15.0

Plant Drawings:

D-175038, Sheet 3, Version 24.0

Procedures:

FNP-1-SOP-7.0, Residual Heat Removal system, Version 94.0

FNP-1-SOP-7.0, Residual Heat Removal System, Version 94.1

FNP-1-SOP-7.0A, Residual Heat Removal System, Rev 9.0

FNP-1-SOP-9.0A, Containment Spray System, Version 7.0

FNP-1-UOP-4.1, Controlling Procedure for Refueling, Version 55.0

Section 1R05: Fire Protection

Plant Drawings:

A-508650 Sheet 46, Version 3.0

A-508650 Sheet 47, Version 3.0

A-508650 Sheet 48, Version 1.0

A-508650 Sheet 49, Version 1.0

A-509018 Sheet 14, Version 2.0

D-205038, Sheet 2, Version 23.0

Section 1R06: Flood Protection Measures

Documents:

Calculation BM-99-1932-001, Internal Flooding Assessment

UFSAR, Section 3.4, Water Level (Flood) Design

Procedures:

FNP-2-ARP-3.1, Balance of Plant Panel L, Version 17.0

FNP-2-ARP-3.2, Balance of Plant Panel N, Version 21.0

Section 1R07: Heat Sink Performance

Section 1R08: Inservice Inspection Activities

Procedures:

NMP-ES-024-201, Version 3.0, Visual Examination (VT-1), Effective Date: August 25, 2010

Engineering Support Procedure FNP-0-M-101, Boric Acid Corrosion Control Program, Version 14, dated October 15, 2008

NMP-ES-024-301, Liquid Penetrant Examination, Color Contrast and Fluorescent, Version 7.0
 NMP-ES-024-501, PDI Generic Procedure for the Ultrasonic Examination of Austenitic Pipe Welds
 (Appendix VIII), Version 4.0
 NMP-ES-024-502, PDI Generic Procedure for the Ultrasonic Examination of Ferritic Pipe Welds
 (Appendix VIII), Version 4.0
 NMP-ES-024-504, Manual Ultrasonic Examination Of Bolts And Studs (Appendix VIII), Version
 4.0
 NMP-ES-024-509, PDI Generic Procedure for the Ultrasonic Examination of Weld Overlays
 (Appendix VIII), Version 3.0

Corrective Action Documents:

CR 2010114865, ET Probes Certified to EPRI Guidelines Rev. 6 vice Rev. 7, dated 20 October,
 2010
 CR 2010114869, ET Certification Does Not Reference ASME Code Version, dated 20 October,
 2010
 CR 2010114870, SG B Diaphragm Screws Stuck, dated 20 October, 2010

Other:

Farley Nuclear Plant Units 1 and 2 Inservice Inspection Plan for Class 1, 2, and 3 Components
 for Farley-1, Fourth Inspection Interval, Volume 2, dated September 2, 2010
 FNP-1 1R23 Fall 2010 Outage Plan, Version 2.0, dated August 3, 2010
 Outage Plan Scope Change Package Number SC-001, dated October 15, 2010
 Outage Plan Scope Change Package Number SC-002, dated October 18, 2010
 Program Health Report – Alloy 600
 Plant Farley ISI Program Health Report, dated July 28, 2010
 Predictive Maintenance Welding & Oil Analysis, Focused Self-Assessment, November 17-19,
 2008
 Certified Test Report SII006-07-09-28155-1 for Batch 07243 of couplant
 Pressurizer As-Found / As-Left Boron Recovery Report, dated November 8, 2010
 03262007-2, CoreStar Certificate of Conformance, dated March 26, 2007
 04072009-1, CoreStar Certificate of Conformance, dated April 7, 2009
 07202009-1, CoreStar Certificate of Conformance, dated July 20, 2009
 08102009-1, CoreStar Certificate of Conformance, dated August 10, 2009
 206130-2, Exelon Certificate of Calibration, dated 07/01/2010
 206140, Exelon Certificate of Calibration, dated 07/01/2010
 218349, Exelon Certificate of Calibration, dated 07/01/2010
 23841, ZETEC Certificate of Conformance, dated 09/03/2003
 2528, ZETEC Certificate of Conformance, dated 06/30/2009
 26811, ZETEC Certificate of Conformance, dated 4/12/04
 3202, ZETEC Certificate of Conformance, dated 08/04/2009
 3261, ZETEC Certificate of Conformance, dated 09/17/2009
 38076, ZETEC Certificate of Conformance, dated 09-FEB-07
 38272, ZETEC Certificate of Conformance, dated 01-MAR-07
 38372, ZETEC Certificate of Conformance, dated 14-MAR-07
 3973, ZETEC Certificate of Conformance, dated 1/22/2010
 4010, ZETEC Certificate of Conformance, dated 2/19/2010
 41118, ZETEC Certificate of Conformance, dated 06-FEB-08
 41379, ZETEC Certificate of Conformance, dated 11-MAR-08

41399, ZETEC Certificate of Conformance, dated 13-MAR-08
 41490, ZETEC Certificate of Conformance, dated 22-MAR-08
 Focus Area Self-Assessment for SNC's Steam Generator Program, dated January 26, 2006
 INFINEDDY, LLC Personnel Certification Record, Eddy Current (Ingenthron), dated
 December 7, 2009
 INFINEDDY, LLC Vision Certification Record (Ingenthron), dated 29 JAN 2010
 MISTRAS NDT Certification Form (Ethridge), dated 9/15/2010
 MISTRAS Visual Acuity Record (Ethridge), dated 01/09/10
 MRS-TRC-2058, Farley Steam Generator Inspection Site-Specific Demonstration Program,
 Revision 0
 NDE Technology Personnel Certification Summary (Haynes), dated 01/14/08
 NDE Technology Personnel Certification Summary (Wheeler), dated 06/07/06
 NDE Technology Personnel Vision Certification (Haynes), dated 07/21/2009
 NDE Technology Personnel Vision Certification (Haynes), dated 07/16/2009
 SG-SGDA-06-15, Farley 1R20 Condition Monitoring Assessment and Operational Assessment,
 April 2006
 SG-SGMP-10-16, Farley 1R23 Steam Generator Degradation Assessment, Revision 0

Section 1R11: Licensed Operator Requalification Program

Documents:

Licensed Operator Continuing Training Simulator Exercise Guide: LOCT 10-12 Segment 3,
 2010-S0302

Section 1R12: Maintenance Effectiveness

Condition Reports:

2002002691, 2005109691, 2007111935, 2009100272, 2009100458, 2009106222, 201010722,
 2010114950

Documents:

FNP-10-0029-ES, June, 2010 Maintenance Rule Report, dated 8/4/2010
 NMP-GM-002-GL04, Apparent Cause Determination Guideline, Version 4.0

Work Orders:

S103208601

Section 1R13: Maintenance Risk Assessment and Emergent Work Control

Procedures:

FNP-1-SOP-1.3, Reactor Coolant System Filling and Venting – Vacuum Method, Version 63.0

Section 1R15: Operability Evaluations

Condition Reports:

2010113748, 2010113951, 2010115191, 2010115382, 2010115396, 2010115463, 2010115615,
 2010117091

Documents:

1050912301: Licensing Document Change Request titled "Containment Sump Screen Mods,"
Version 5.0
ASTM D 6677-07: "Standard Test Method for Evaluating Adhesion by Knife"
ASTM D 1186-93: "Standard Test Methods for Nondestructive Measurement of Dry Film
Thickness of Nonmagnetic Coatings Applied to a Ferrous Base"
RER 1102793601: Evaluation of the Degradation of FNP Unit 1 Containment (CTMT) Coatings
(NMP-ES-050-F01, Version 2.0)
Southern Nuclear Company report titled "Seismic Evaluation of Breaker Charging Motor with
Cracked Motor Housing at Plant Farley"
United Controls International report on failed 4160V charging spring motor titled "Root Cause
Failure Analysis Report 4140, Revision 1"

Procedures:

FNP-0-AP-22, Nonconformance Control/Deficiency Reporting, Version 20.0
NMP-AD-012-F01, Prompt Determination of Operability, Version 2.0

Work Orders:

1102897701, 1103227601, 1103263501

Section 1R18: Plant ModificationsDocuments:

DCP 1090680001, Farley Reactor Coolant Pump Shutdown Seal Implementation

Procedures:

FNP-1-AOP-4.1, Abnormal Reactor Coolant Pump Seal Leakage, Version 6.0
FNP-1-AOP-9.0, Loss of Component Cooling Water, Version 23.0
FNP-1-AOP-16.0, CVCS Malfunction, Version 17.0
FNP-1-ARP-1.4, Main Control Board Annunciator Panel D, Version 51.0
FNP-1-ARP-3.1, Balance of Plant Panel Annunciator Panel L, Version 31.0
FNP-1-ARP-3.2, Balance of Plant Panel Annunciator Panel N, Version 29.0
FNP-1-ECP-0.0, Loss of All AC Power, Version 23.0
FNP-1-SOP-1.1, Reactor Coolant System, Version 43.0
FNP-1-UOP-1.1, Startup of Unit From Cold Shutdown to Hot Standby, Version 91.1

Section 1R19: Post Maintenance TestingCondition Reports:

2010113346, 2010113447, 2010113811, 2010114896, 2010115415, 2010115441, 2010115500,
2010115627

Documents:

Field Change Request (FCR) No. 1060862601FCR001
FCR No. 1060862601FCR004
FCR No. 1060862601FCR005
FCR No. 1060862601FCR006

U419943, Instruction Book for Areva Supplied Eaton VR-Series Replacement Vacuum Breakers for Allis-Chalmers Type MA, Version 7.0

Procedures:

FNP-0-EMP-1313.18, Troubleshooting Guide for Siemens-Allis and Cutler Hammer 4.16kv Breakers, Version 6.0
 FNP-0-EMP-1313.19, Inspection and Adjustment of Cutler Hammer 4.16kv Circuit Breakers Type MA-VR350, Version 13.0
 FNP-0-EMP-1313.20, Enhanced Inspection of Cutler Hammer 4.16kv Circuit Breakers Type MA-VR350, Version 13.0
 FNP-1-PMP-1316, TDAFW Pump Functional Test Procedure, Version 1.0
 FNP-1-PMP-1317, TDAFW Pump Mode 3 Operation response Test, Version 1.0
 FNP-1-STP-22.16, Turbine Driven Auxiliary Feedwater Pump Quarterly Inservice Test with Preservice Test Appendix, Version 54.0
 FNP-1-STP-256.18, Turbine-Driven Auxiliary Feedwater Pump Response Time Test, Version 18.0
 FNP-1-STP-914, Auxiliary Building Battery Charger Load Test, Version 14.0
 FNP-2-STP-23.14, CCW SW Flow Control Valve Quarterly Inservice Test, Version 4.0

Work Orders:

1060862602, 1060862603, 1060862604, 1060862605, 1060862608, 1063314612, 1090841901, 1091308901, 11029000401, 1103231401, 1103258601, 2092641101, 2102815603

Section 1R20: Outage Activities

Procedures:

FNP-1-SOP-7.0, Residual Heat Removal System, Version 93.1
 FNP-1-UOP-1.1, Startup of Unit From Cold Shutdown to Hot Standby, Version 91.1
 FNP-1-UOP-4.1, Controlling Procedure for Refueling, Version 55.0

Section 1R22: Surveillance Testing

Condition Reports:

20101108282010114078, 2010114106, 2010114153

Procedures:

FNP-0-EMP-1501.9, Easy Torque Thrust Sensor – Installation, Version 3.0
 FNP-0-MP-45.9, Limitorque SMB/SB-000 Actuation Refurbishment, Version 4.0
 FNP-1-STP-9.0, RCS Leakage Test, Version 48.0
 FNP-2-STP-9.0, RCS Leakage Test, Version 44.0
 FNP-2-STP-22.16, Turbine Driven Auxiliary Feedwater Pump Quarterly IST, Version 57.0
 FNP-2-STP-22.23, Turbine Driven Auxiliary Feedwater Pump Trip and Throttle Valve Mechanism and Indication Operability Test, Version 13.0
 FNP-1-STP-627, Local Leak Rate Testing of Containment Penetrations, Version 42.0
 NMP-ES-017-005, MOV Diagnostic Procedure for Butterfly Valves, Version 4.0

Temporary Modification:

1102814301

Work Orders:

1052455202, 1072506602, 1102433502, 1102814303, 1102814310, 2090848801

Section 2RS1: Radiological Hazard Assessment and Exposure ControlsProcedures and Guidance Documents:

Farley Nuclear Plant FNP), Radiation Control and Protection Procedure (RCP) -4. Refueling Survey, Version (Ver.) 19

FNP-0-RCP-26, Radiological Surveys and Monitoring, Version 41.0, 02/22/2010

Radiation Work Permit (RWP) 10-1438, MAINTENANCE: Activities of I&C personnel in support of Seal Table Maintenance of the 1R23 Outage to include work in High Radiation Areas and other work classified as "Medium Risk". (NOT to include Incore Drive Work). CAUTION: This RWP cannot be used for entries into Locked High Radiation Areas or work in Alpha level 3 Areas, Revision (Rev.) 1

RWP 10-1457, MAINTENANCE: Removal of #1 RCP Seals in support of the 1 R23 Outage. CAUTION: This RWP cannot be used for entries into locked high radiation areas or work in Alpha level 3 areas

RWP 10-1459, MAINTENANCE – MM: All work associated with Primary Steam Generator Manway & Diaphragm Removal & Installation in the U1 Containment (CTMT) to support the 1R23 Outage, Rev. 0

RWP 10-1461, MAINTENANCE: All work associated with disassembly & reassembly of the Reactor (Rx) Head in support of the 1R23 outage to include work in High Radiation Areas and other work classified as "Medium Risk". (Includes work on Sand Box Covers, NI Covers, Stud Hole Plugs, Dirt Barrier and Cavity Seal Ring). Caution: This RWP cannot be used for entries into Locked-High Radiation Areas or work in Alpha Level 3 Areas, Rev. 0

RWP 10-1480, MAINTENANCE: Scaffolding activities in support of the 1R23 Outage to include work in High Radiation Areas or other work classified as "Medium Risk", Rev. 0.

RWP 10-1483, MAINTENANCE: Insulation removal / reinstallation and decon / cleaning activities in the U1 PRESSURIZER CUBICLE in support of the 1R23 Outage to include work in High Radiation Areas and other work classified as "Medium Risk". CAUTION: This RWP cannot be used for entries into Locked High Radiation Areas or work in Alpha Level 3 areas, Rev. 1

RWP 10-1701, ENGINEERING: Activities of Engineering Support Personnel in support of the 1R23 Outage to include work in High radiation Areas and oter work classified as "Medium Risk." CAUTION: This RWP cannot be used for entries into Locked High Radiation Areas or work in Alpha Level 3 Areas, Rev. 0

RWP 10-1731, ENGINEERING: - Initial HP Surveys and Installation and Removal of Nozzle Dam/Nozzle Covers in the Primary Steam Generator to support the 1R23 Outage: CAUTION: THIS RW IS FOR LOCKED HIGH RADIATION AREAS, Rev. 2

RWP 10-1734, ENGINEERING: Steam Generator Secondary Sides sludge Lance and FOSAR Inspection (Includes Sludge Lance Trailer) in support of the 1 R23 Outage to include work in High Radiation Areas or other work classified as "Medium Risk". CAUTION: This RWP cannot be used for entries into Locked High Radiation Areas or work in Alpha 3 Areas, Rev. 1

Health Physics WORK Plan for Surveying Scaffolding

Work Plan for Head Disassembly / Reassembly

Primary S/G Work Plan for U1R23

Health Physics WORK Plan, Pressurizer Insulation Removal and Installation and Cleaning

Attachment

Health Physics Work Plan U1 R23 Secondary Steam Generator Work
 Health Physics (HP) FORM 299, Pre-Job Checklist, Scaffolding Activities, 6/10/2010
 HP FORM 299, Pre-Job Checklist, Rx Head Disassembly/Reassembly 6/4/2010
 HP FORM 299 Pre-Job Checklist, Primary Steam Generator Manway & Diaphragm Removal
 and Installation, 6/4/2010
 HP FORM 299 Pre-Job Checklist, S/G Secondary Side Sludge Lance/FOSAR Inspections,
 6/4/2010

Records and Data Reviewed:

Survey Number 64927, U1 Incore / Seal Table Area (1CB129) 10/18/2010
 Survey Number 64947, U1 Incore / Seal Table Area (1CB129) 10/17/2010
 Survey Number 64973, U1 Incore / Seal Table Area (1CB129) 10/18/2010
 HP Form 702, In-use Ventilation Unit Inspection Sheet, unit ID Hp-NPU-035, 10/7/10-11/1/10
 Survey Number 64586, U-2 A/B Wednesday 155ft (2AB155) 10/12/10
 Survey Number 64376, U2 Drumming Room LHRA (2AB1552420_EA) 10/08/10
 Survey Number 64407, Low Level Waste Building (rev#2)(SLLR) 10/09/10
 Survey Number 65381, Solidification and Dewatering Facility (SSDF) 10/23/10
 Survey Number 65718, U-1 A/B Friday 115ft (SFP Area)(1AB155) 10/29/10
 Survey Number 64741, U-2 A/B Friday 115ft (SFP Area)(2AB155)- 10/15/10
 Survey Number 64026, Solidification and Dewatering Facility (SSDF) 09/25/10
 Survey Number 63781 Independent Spent Fuel Storage Installation (ISFSI) 09/16/2010
 Survey Number 65141, Bottom of pZR (1CB105) 10/21/2010
 Survey Number 65166, Bottom of pZR (1CB105) 10/21/2010
 Survey Number 65885, Bottom of pZR (1CB105) 10/31/2010
 Survey Number 65930, Bottom of pZR (1CB105) 11/01/2010
 Gamma Spectroscopy Results, Sample ID 50070, 50076, 50058, 50061, 50030, 49978, 49969

Corrective Action Program (CAP) Documents:

Condition Report Number (CR) 2010112822 Multiple personnel were contaminated during
 change-out of reactor coolant filter
 CR 2010114656, BCP Individual received notice of dose rate alarm upon logging out of the
 RCA
 CR 2010115731, Poor practices, worker alarmed PCM trying to exit RCA. Scrub pants had
 150000 dpm/scan on them.
 CR 2010114905, While supporting I & C on an incore drive box maintenance job an HP tech lost
 possession of a locked high radiation area key for a limited amount of time.
 CR 2010105943, Significantly higher dose rates were seen coming from the lower
 cavity/transfer canal which caused a high radiation area on the 155' elevation. Dose was
 discovered to have come from a piece of incore thimble.
 CR 2010114326, Facilities material handler received a dose rate alarm while moving U1 RCS
 filter from shielded drum to "A" cubicle at the SDF. An audible alarm was not heard.
 CR 2010106372, A dose rate alarm was received while supporting removal of Gamma Metrics
 detector in the U-2 containment upper cavity.

Section 2RS2: Occupational ALARA Planning and Controls

Procedures and Guidance Documents:

Farley Nuclear Plant (FNP) 0 – Radiation Control and Protection Procedure (RCP) – 7,
 Coordinated Exposure Reduction Program, Ver. 2,
 FNP-0-RCP-8, Duties and Responsibilities of the Plant ALARA Review Committee, Ver. 9
 FNP - 0 – Radiation Control and Protection Procedure (RCP) – 19, ALARA Planning, Ver. 23
 FNP-0-Administrative Procedure (AP) ALARA Policy and Implementation, Ver. 4

Records and Data Reviewed:

FNP Strategic Radiation Exposure Reduction Plan, 2007-2011, Rev. 2
 FNP Strategic Plan for Radiation Exposure Reduction, 2011 – 2015, [Draft]
 FNP U1 Historical Dose Data, 1R15 through 1R23
 FNP U1 Reactor Chemistry System (RCS) Data, 2007-October 2010,
 FNP, RWP Dose and Hour Expenditures, 10/18-22/2010 and 11/01-05/2010
 Meeting Minutes, Special Called Plant ALARA Review Committee (PARC) to review Unit 1
 Pressurizer Cubicle Exposure Projections, CR 2010114731, 10/19/2010
 PARC Approval of 1R23 scaffolding dose projection, RWP 10-1480, 9/10/2010
 PARC Approval of 1R23 reactor head disassembly/reassembly dose projection, RWP 10-1461
 Farley 1R23 Fall 2010 ALARA Budget Estimate Summary, Steam Generator Primary With
 Nozzle covers, Vendor Estimate
 Farley 1R23 Fall 2010 ALARA Budget Estimate Summary, Steam Generator Secondary,
 Vendor Estimate
 FNP-0-RCP-4 Record of Dose Rates During Initial Fuel Assembly Transfer, and Associated
 Surveys, 10/16/2010
 Radiological Information Survey Number (No.) 38037 (11/06/2007), and No. 35755 (9/30/2007)
 U1 Containment Dose Rate Trending Points (1CB105)
 Radiological Information Survey Nos. 50471 (04/08/2009), and 50223 (04/03/2009), U1
 Containment Dose Rate Trending Points (1CB105)
 Radiological Information Survey Nos. 64636 (10/13/2010), and 64479 (10/11/2010), U1
 Containment Dose Rate Trending Points (1CB105)
 Farley U1 Refuel Outage 21 Reactor Coolant System Shutdown Chemistry Control Report
 (1R21) September 29 – November 14, 2007, December 2007
 Farley U1 Refuel Outage 22 Reactor Coolant System Shutdown Chemistry Control and Cycle
 Chemistry Report (1R22) April 2 – May 7, 2009
 Farley Nuclear Plant HP Information Online – RWP Total Year to Date 10/18-22/2010 and
 11/01-04/2010: Including Budgeted Cumulative Dose and Planned Work Hours; and Percent
 of planned Hours and Budgeted Dose Expended

Corrective Action Program (CAP) Documents:

CR 2010114731, Documentation for specially called ALARA review committee meeting to
 review emergent work in the U1 Pressurizer Cubicle
 CR 2010109707, Reduced work efficiency and ALARA
 CR 2009106886, Scaffolding ALARA issues
 CR 2009105008, Reactor Head Scaffolding, ALARA, Manpower Efficiency
 CR 2009105069, ALARA Suggestion, Specific designed transport cask for RCS filter change-
 out

- CR 2009105350, ALARA Suggestion, Improved methods to improve efficiency of repairing/replacing insulation in containment
- CR 2009105352, ALARA Suggestion, Improve use of experienced personnel on pressurizer maintenance activities
- CR 2009105369, Insulation reinstalled on Q1E11V016A before RTD was banded on to the valve
- CR 2009104192, ALARA Suggestion, Procedure (FNP-1-CCP-203, Appendix G) enhancement to reference computer points for hydrogen peroxide addition.

Section 2RS3: In-Plant Airborne Radioactivity Control and Mitigation

Procedures and Guidance Documents:

- FNP-0-RCP-10, Health Physics Condition Reports, Version 49.0
- FNP-0-RCP-40, Health Physics Central Monitoring Station Expectation and Guidelines, Ver. 1.0
- FNP-0-RCP-101, Use and Testing of Respiratory Protection Equipment and DAC Hour Tracking, Ver. 33.0
- FNP-0-RCP-103, Maintenance and Care of Respiratory Protection Equipment, Ver. 23.0
- FNP-0-RCP-107, Use and Operation of Self-Contained Breathing Apparatus (MSA Model 401), Ver. 13.0,
- FNP-0-RCP-108, Use and Operation of Full Face Airline Respirators, Ver. 10.0,
- FNP-0-RCP-371, High Efficiency Particulate Air (HEPA) Filter Unit Testing, Ver. 6.0
- FNP-0-RCP-848, Operation and Use of Negative Pressure Units, Ver. 11.0
- Southern Nuclear Study Guide for Respiratory Training Topics, 07/31/2009
- NMP-GM-002, Corrective Action Program, Ver. 10
- NMP-HP-305, Alpha Radiation Monitoring, Ver. 2.0

Records and Data Reviewed:

- FNP-0-ERP-16.0 Checklist F, Emergency Equipment and Supplies Air Quality Analysis Certifications, 07/09-08/10
- HP Form 670A, Respiratory Use ALARA Evaluations, 10-16-10
- HP Form 257, Respiratory Protection Records, 09-16-10
- Gamma Spectroscopy Results, Sample ID Numbers 48460, 48472
- HP Form 542, SCBA Hydrostatic Test Dates, 11/2007-09/09

Corrective Action Program (CAP) Documents:

- CR 2009114174, Results in the air sampling log had a manual change by pen to the sample date for analysis.
- CR 2009113879, U1 CTMT Atmosphere RE-67 Grab Air sample results for 11/05/09 indicated tritium concentrations of 0.39 DAC which exceeds the threshold for posting and controlling the affected area as an airborne radioactivity area.
- CR 2009111561, 2A Charging Pump may have a small leak HP declared the 2A Charging Pump room a high airborne area.

Section 2RS4: Occupational Dose Assessment

Procedures and Guidance Documents:

- FNP-0-RCP-29.1, Guidelines for Personnel Decon and Response to Personnel Contamination Events, Ver. 11.0

Records and Data Reviewed:

National Voluntary Laboratory Accreditation Program (NVLAP), Scope of Accreditation to ISO/IEC 17025:2005, George Power Company/Enviro.Affairs, Enviro.Lab-Dosimetry, Effective 2010-04-01 through 2011-03-31
 NVLAP, Certificate of Accreditation to ISO/IEC 17025:2005, Georgia Power Company/Enviro. Affairs, Enviro. Lab-dosimetry, Smyrna, GA
 Neutron Dosimetry Calculation Worksheets for RWP 10-3490, U1 Containment 'At Power' Entry 01/08/2010
 Neutron Dosimetry Calculation Worksheets for RWP 10-4490, U2 Containment 'At Power' Entry 10/15/2010
 Investigative Whole Body Count Data, Facial Contamination, 10/22-23/2010
 FNP Personnel Contamination Events: 07/01/2009 through 11/05/2010
 PCE/PCR HP Form 567 – Data Sheet 2, Personnel Contamination Record Form Evaluations for the following PCE/PCR Events for Calendar Years 2009, and 2010: Numbers 319, 325, 328, 331, 334, 335, 347, 361, 365, 381, 383, 385, 387, and 395

Corrective Action Program (CAP) Documents:

CR 2010104681, Personnel Contamination
 CR 2010105287, Personnel Contamination at RCA Exit
 CR 2010116092, Inaccurate data enter in HP form 567 for PCE investigations

Section 2RS5: Radiation Monitoring InstrumentationProcedures and Guidance Documents:

FNP-0-CCP-1300, Chemistry and Environmental Activities during a Radiological Accident, Ver. 52.0
 FNP-0-RCP-287, Operation and Calibration of the MGP Instruments Telepole, Ver. 5.0
 FNP-0-RCP-79, Operation and Calibration of the Eberline PM-7 Personnel Monitor and PM-7 Cart/Equipment Monitor, Ver. 9.0
 FNP-0-RCP-285, Operation and Calibration of the Bicron NE SAM-9 Small Articles Monitor SAM-9, Ver. 4.0
 FNP-0-RCP-78, Operation and Calibration of the Eberline Portal Monitor PCM-1B, Ver. 26.0
 I_C-47003B, Training Module Isotopic Calibration Victoreen Containment High Range Area Monitor
 FNP-2-STP-227.19, In-Containment High Range Radiation Area Monitor Q2D21RE0027B Calibration and Functional Test, Ver. 17.0
 RER 1080168201, Farley Long Range Plan Radiation Monitoring System
 NMP-GM-002, Corrective Action Program, Ver 10.0

Records and Data Reviewed:

WO 2082279201, In-CTMT High Range Radiation Area Monitor Q2D21RE0027A Cal & Funct Test EQ, 4/18/10
 WO 2070347101, In-CTMT High Range Radiation Area Monitor Q2D21RE0027A Cal & Funct Test EQ, 11/9/08
 WO 2070220101, In-CTMT High Range Radiation Area Monitor Q2D21RE0027B Cal & Funct Test EQ, 11/17/08
 WO 2082279301, In-CTMT High Range Radiation Area Monitor Q2D21RE0027B Cal & Funct Test EQ, 4/15/10

WO 1062538301, Vent Stack-Gas Monitor N1D11RE0014 Calibration and Functional Test, 3/10/08
 WO 1071424501, Vent Stack-Gas Monitor N1D11RE0014 Calibration and Functional Test, 9/25/09
 WO 1063397401, Waste Disposal System Liquid Monitor N1D11RE0018 Calibration and Channel Operational Test, 6/6/08
 WO 1080376901, Waste Disposal System Liquid Monitor N1D11RE0018 Calibration and Channel Operational Test, 12/15/09
 Auxiliary Building Stand-up Whole Body Counter (NSL15WBC004), Energy and Efficiency Calibration 10/21/09 and 10/8/10
 Low Background Counter HP-LBC-002A, HP Counting System Calibration Data Sheet, 8/4/09 and 7/23/10
 Low Background Counter HP-LBC-001B, HP Counting System Calibration Data Sheet, 8/12/09 and 7/26/10
 Liquid Scintillation Detector NSL15LSS002, Fixed Counting Equipment Calibration Worksheet, 9/11/09 and 4/20/10
 High Purity Germanium Detector No. 4, Efficiency Calibration Report, July 2009 and September 2010
 PCM-1B Serial No. 664, PCM-1B Portal Monitor Calibration Data Sheet, 7/15/08, 7/9/09, and 7/12/10
 SAM-9 FNP No. HP-GSD-012, Calibration/Response Check Data Sheet for the SAM-9 Tool Monitor, 7/17/09 and 7/13/10
 PM-7 Serial No. HP-GSD-010, PM-7 Calibration Report, 3/29/09 and 3/26/10
 RO-2 HP-IOC-142, Portable Instrument Calibration & Maintenance Data, 6/15/10 and 10/19/10
 FNP Source ID No. 0081.00.00, Certificate of Calibration
 High Purity Germanium Calibration Source Nos. 79631-08, 79632-08, 79633-08, 79634-08, 79635-08, 79728-08, NIST Certificate of Participation
 High Purity Germanium Detector No. 4, Countroom QA/QC Daily Check Records, 4/20/10 – 10/19/10
 10 CFR Part 61 Analysis, Dry Active Waste, 6/28/10
 Survey No. 65037, Comparison of dose rates open window vs. closed window on RO-2 HP-IOC-142 in Gamma Calibrator HP-ETE-034

CAP Documents:

F-HP-2009, Health Physics Audit - Instrumentation
 CR 2010100376, Spent fuel pool ARM R-5 failed low
 CR 2010104971, Maintenance on R-7 can cause other monitors to alarm
 CR 2009109655, Load cell alarmed SAM-9

Section 40A1: Performance Indicator Verification 71151

Condition Reports:

CR 2010108456, Individual dose rate alarm.

Documents:

Farley Unit 1 and Unit 2 Consolidated Data Entry Unavailability and Unreliability Derivation Reports for Cooling Water Systems
 Selected Unit 1 and Unit 2 Control Room Logs from September 2009 through October 2010

Gaseous Effluent Status Summary Report Data, September 2010
 Liquid Effluent Status Summary Report Data, September 2010
 Gaseous Waste Release Permit (G)-20100928-1810-C, U1 Plant Vent Stack
 G-20100928-1808-C, U1 Steam Jet Air Ejector
 G-20100928-1809-C, U1 Containment Purge
 G-20100930-1814-C, U2 PVS
 G-20100930-1813-C, Steam Jet Air Ejector
 G-20100928-1812-B, Containment Purge
 Liquid Waste Release Permit (L)-20100930-2282-B, U1 Waste Monitor Tank #2
 L-20100927-2268-C, U1 Steam Generator Blowdown
 L-20100927-2267-C, U1 Turbine Building Sump
 L-20100930-2283-B, U2 Waste Monitor Tank #1
 L-20100929-2276-C, U2 Steam Generator Blowdown
 L-20100929-2275-C, U2 Turbine Building Sump
 Access Control Alarm Report Data, September 1, 2009 through September 30, 2010
 Archived Operator Logs, U1 & U2, September 2010
 FNP-1-STP-726, Surveillance Test Review Sheet, R-29B, OOS, 09/14/2010
 FNP-2-STP-726, Surveillance Test Review Sheet, R-29B, OOS, 09/15/2010
 FNP-2-STP-754, Surveillance Test Review Sheet, R-15A, Operable, 09/01/2010

Procedures:

FNP-0-AP-54, Preparation and Reporting of NRC Performance Indicator Data and NRC
 Operating Data, Version 14.0
 FNP-1-Surveillance Test Procedure, 726, Plant Vent Stack Contingency Sampling, Ver. 15.0
 FNP-1-STP-745, RE-60A, B, C & D Contingency Sampling, Ver. 9.0
 FNP-1-CCP-203, Tech Spec and/or TRM Contingencies, Ver. 45
 FNP-2-CCP-203, Tech Spec and/or TRM Contingencies, Ver. 48

Drawings:

D-205002, Cooling Water System, Sheet 1, Version 31.0
 D-205003, Service Water System, Sheet 1, Version 40.0

Section 40A2: Identification and Resolution of Problems 71152

Condition Reports:

2010114366, 201011613

Documents:

A-506250, FNP Unit 1 Load List, Version 4
 1R23 Compensatory Measures for RCS Level at the Reactor Vessel Flange memo
 Station Tagout 1-DT-R23-R-15-00363
 Station Tagout 1-DT-R23-R-15-00364
 Station Tagout 1-DT-R23-R-15-00365
 Station Tagout 1-DT-R23-R-15-00409
 Station Tagout 1-DT-R23-R-15-00440
 Station Tagout 1-DT-R23-R-15-00442
 Westinghouse document number: NS-FSI-10-21, Farley Unit 1, SSPS Modification to Support
 Customer RCP Breaker Position Trip Elimination Implementation Procedure, Version 0

Drawings:

D-177024 Sheet 1, Version 35
D-177025 Sheet 1, Version 30
D-177355 Sheet 1, Version 15
D-177355 Sheet 2, Version 0
D-177357 Sheet 1, Version 38
D-177358 Sheet 2, Version 0
D-181604 Sheet 1, Version 19
D-181748 Sheet 1, Version 29
U-198664 Sheet 29, Version A3

Procedures:

FNP-1-ARP-1.8, Main Control Board Annunciator Panel H, Version 35.0
FNP-1-IMP-0.7, Disable SSPS Outputs for Modes 5 and 6, Version 22.0
FNP-1-SOP-7.0, Residual Heat Removal System, Version 93.1
FNP-1-UOP-2.2, Shutdown of Unit from Hot Standby to Cold Shutdown, Version 88.0
FNP-1-UOP-4.1, Controlling Procedure for Refueling, Version 55.0

Work Orders:

1063205801, 1082083904, 1082083905, 1101011801

Section 4OA5: Other Activities

Procedures:

FNP-1-UOP-2.4, Planned Reactor Shutdown and Cooldown to Cold Shutdown, Version 9.0
National Source Tracking System, Annual Inventory Reconciliation Report, 1/29/2010