UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

April 30, 2007

EA-07-078

Southern Nuclear Operating Company, Inc.
Joseph M. Farley Nuclear Plant
ATTN: Mr. J. Randy Johnson
Vice President - Farley
7388 North State Highway 95
Columbia, AL 36319

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT - NRC INTEGRATED INSPECTION REPORT 05000348/2007002 AND 05000364/2007002, ANNUAL ASSESSMENT MEETING SUMMARY, AND OFFICE OF INVESTIGATIONS SYNOPSIS

Dear Mr. Johnson:

On March 31, 2007, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Joseph M. Farley Nuclear Plant, Units 1 and 2. The enclosed integrated inspection report documents the inspection findings, which were discussed on April 5, 2007, with Mr. Sonny Bargeron and other 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 inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, no findings of significance were identified by the NRC. However, one licensee-identified violation, which was determined to be of very low safety significance, is listed in the enclosed inspection report. The NRC is treating this violation as a non-cited (NCV) violation consistent with Section VI.A of the NRC Enforcement Policy. If you contest this non-cited violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the United States Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at Farley.

In accordance with the Code of Federal Regulations 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly

Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site 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 Nos.: 50-348 and 50-364
License Nos.: NPF-2 and NPF-8

Enclosure: Inspection Report 05000348/2007002 and 05000364/2007002
w/Attachment 1: Supplemental Information
Attachment 2: Office of Investigations Synopsis

cc w/encl: (See page 3)

Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

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Letter to J. Randy Johnson from Scott M. Shaeffer dated April 30, 2007
SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT - NRC INTEGRATED INSPECTION REPORT 05000348/2007002 AND 05000364/2007002 AND OFFICE OF INVESTIGATIONS SYNOPSIS

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REGION II

Docket Nos.:	50-348, 50-364, 72-42
License Nos.:	NPF-2, NPF-8
Report Nos.:	05000348/2007002 and 05000364/2007002
Licensee:	Southern Nuclear Operating Company, Inc.
Facility:	Joseph M. Farley Nuclear Plant
Location:	Columbia, AL 36319
Dates:	January 1- March 31, 2007
Inspectors:	C. Patterson, Senior (Sr.) Resident Inspector E. Crowe, Sr. Resident Inspector J. Baptist, Resident Inspector G. Kuzo, Sr. Health Physicst (Sections 2PS1 and 4OA1) A. Nielsen, Health Physicist (Section 2OS3) J. Griffis, Health Physicist (Sections 2OS1 and 4OA5) J. Kreh, Emergency Preparedness Inspector (Section 2PS3)
Approved by:	Scott M. Shaeffer, Chief Reactor Projects Branch 2 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000348/2007002 and 05000364/2007002; 01/01/2007-03/31/2007; Joseph M. Farley Nuclear Plant, Units 1 & 2, Routine Integrated Report.

The report covered a three-month period of inspection by the resident inspectors, three health physicists, and an emergency preparedness inspector. 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 July, 2006.

A. NRC-Identified and Self-Revealing Findings

No findings of significance were identified.

B. Licensee-Identified Violations

One violation of very low safety significance, which was identified by the licensee, has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program (CAP). This violation and its corrective actions are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Unit 1 began the inspection period at full Rated Thermal Power (RTP) and operated at full RTP for the inspection period.

Unit 2 began the inspection period at full RTP and operated at full power for the inspection period.

1. REACTOR SAFETY
Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope

Impending Adverse Conditions Review. The inspectors evaluated implementation of adverse weather preparation procedures and compensatory measures for the following weather condition. The inspectors walked-down portions of the Main Steam Systems, Condensate Storage Systems, Refueling Water Storage (RWS) Systems, and the Emergency Diesel Generators (EDG). These systems were selected because their safety related functions could be affected by freezing weather. The inspectors verified that the applicable portions of procedure FNP-0-SOP-0.12, Cold Weather Contingencies were performed. Documents reviewed are listed in the Attachment.

- projected freezing temperatures on January 29

Seasonal Readiness Review. The inspectors evaluated implementation of the licensee's Cold Weather Contingency procedure FNP-0-SOP-0.12 and conditions for entry into the procedure. The inspectors inspected protective coverings of the grating on the Main Steam Valve Rooms and circulating water piping and heat tracing lines on the condensate storage tanks, reactor makeup water storage tanks, and RWS tanks to verify these protections for cold weather conditions were functional. The EDG building was also evaluated to ensure that provisions were implemented to compensate for any known deficiencies. Documents reviewed are listed in the Attachment.

1R04 Equipment Alignment

a. Inspection Scope

Partial System Walk-downs. The inspectors performed partial walk-downs of the following three systems to verify they were properly aligned when redundant systems or trains were out of service. The walk-downs were performed using the criteria in licensee procedures FNP-0-AP-16, Conduct of Operations - Operations Group, 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 line-ups, support equipment, and instrumentation.

- Unit 1, Component Cooling Water (CCW) heat exchangers 1B and 1C during maintenance on the CCW heat exchanger 1A service water outlet valve.
- Unit 1, Motor Driven Auxiliary Feedwater (MDAFW) pump 1B and Turbine Driven (TD) AFW pump during troubleshooting efforts on the MDAFW pump 1A motor and relays.
- Unit 2, Residual Heat Removal (RHR) pump 2A and heat exchanger during RHR pump 2B maintenance.

Complete Walk-down. The inspectors conducted a complete walk-down of the accessible portions of the Unit 2 RHR system. The inspectors used licensee procedures FNP-2-SOP-7.0, RHR System, and Functional System Description (FSD) A181002, RHR System, to verify the system alignment of on-service equipment. The inspectors also interviewed personnel and reviewed control room logs, Maintenance Rule (MR) monthly reports, condition reports (CRs), quarterly system health reports, outstanding work orders, and industry operating experience to verify alignment and equipment discrepancies were being identified and appropriately resolved. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

Fire Area Tours. The inspectors conducted a walk-down of the six fire areas listed below to verify the licensee's control of transient combustibles, the operational readiness of the fire suppression system, and the material condition and status of fire dampers, doors, and barriers. The requirements were described in 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, Auxiliary Building 121' elevation, 4160 volt switchgear 1G room
- Unit 2, Auxiliary Building 121' elevation, 4160 volt switchgear 2G room
- Unit 2, Auxiliary Building 83' elevation, RHR heat exchanger room
- Unit 2, Auxiliary Building 83' elevation, 2A RHR pump room
- Unit 2, Auxiliary Building 83' elevation, 2B RHR pump room
- Unit 1/Unit 2, Auxiliary Building 155' elevation, Control Room

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures

a. Inspection Scope

Internal Flooding. The inspectors reviewed selected risk-important plant design features and licensee procedures intended to protect the plant and its safety-related equipment form internal flooding events. The inspectors reviewed flood analysis and design documents, including the UFSAR, 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 the 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.

- 2C Charging Pump Room

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

Quarterly Resident Review. 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 Program; FNP-0-TCP-17.6, Simulator Training Evaluation/Documentation; and FNP-0-TCP-17.3, Licensed Retraining Program Administration (Classroom). The inspectors observed scenarios conducted in the licensee's simulator for a loss of 1A RCP, 1A Condensate Pump, and a Steam Generator (SG) Tube Rupture with associated ALERT emergency declaration. The inspectors observed high risk operator actions, overall performance, self-critiques, training feedback, and management oversight to verify operator performance was evaluated against the performance standards of the licensee's scenario. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the following two issues to verify implementation of licensee procedures FNP-0-M-87, MR Scoping Manual; NMP-ES-021, Structural Monitoring Program for the MR; and FNP-0-M-89, FNP MR Site Implementation Manual; and compliance with 10CFR50.65. The inspectors assessed the licensee's evaluation of appropriate work practices, common cause failures, functional failures, maintenance preventable functional failures, repetitive failures, availability and reliability monitoring, trending and condition monitoring, and system specialist involvement. The inspectors also interviewed maintenance personnel, system specialists, the MR coordinator, and operations personnel to assess their knowledge of the program. Documents reviewed are listed in the Attachment.

- CR 2007100142, Unit 2 RHR Pump Containment Sump Suction Isolation Valve MOV8811A failure
- CR 2007101983, Unit 2 Solid State Protection System (SSPS) failures

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors assessed the licensee's planning and control for the following six planned activities to verify the requirements in licensee procedures FNP-0-ACP-52.3, Mode 1, 2, & 3 Risk Assessment; NMP-GM-006, Work Management; and FNP-0-AP-16, Conduct of Operations - Operations Group; and the MR risk assessment guidance in 10CFR50.65a(4) were met.

- January 18, Unit 1 YELLOW Emergent Risk Evaluation of 1B EDG and High Voltage Switchyard (HVSY) work
- February 1, Unit 1 GREEN Emergent Risk Evaluation during 1B EDG intercooler heat exchanger repairs
- February 2, Unit 2 GREEN Emergent Risk Evaluation following failure of universal logic card in SSPS
- March 6, Unit 1 YELLOW Emergent Risk Evaluation following failure of 1A MDAFW Pump Overcurrent relay and 1E Service Water (SW) Pump Motor Operated Contacts (MOC) failure
- March 13, Unit 1 GREEN Emergent Risk Evaluation following failure of Train A Uninteruptible Power Supply (UPS) with subsequent Train B UPS Out of Service on TDAFW Pump
- March 21, Unit 1 GREEN Planned Risk Evaluation during Train A RHR and SW components out of service for planned maintenance

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following five operability evaluations to verify they met the requirements of licensee procedures FNP-0-AP-16, Conduct of Operations - Operations Group and FNP-0-ACP-9.2, Operability Determination for technical adequacy, consideration of degraded conditions, and identification of compensatory measures. The inspectors reviewed the evaluations against the design bases, as stated in the UFSAR and FSDs to verify system operability was not affected.

- CR 2007100288/CR 2007100570, Unit 1 EDG 1B intercooler heat exchanger tube leaks
- CR 2007100537/CR 2007100962, Unit 2 failure of universal logic card for containment high-1 actuation in SSPS.
- CR 2007100669/CR 2006109261, Unit 1 charging pump 1A lube oil cooler leak and subsequent high water content is speed changer gear box
- CR 2007100875, Unit 2 Penetration Room Filtration (PRF) System Exhaust Fan failure
- CR 2007102101, Shared Unit troubleshooting of 4.16Kv breaker MOC switch implications on service water

b. Findings

No findings of significance 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.

- FNP-1-STP-20.2, PRF System Train A Monthly Operability Test
- FNP-2-STP-33.0B, SSPS Train B Operability Test
- FNP-1-STP-80.1, DG 1B Operability Test (January 18, 2007 following plugging of intercooler tubes)
- FNP-1-STP-80.1, DG 1B Operability Test (March 15,2007 following intercooler heat exchanger replacement)

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed surveillance test procedures and either witnessed the test or reviewed test records for the following eight surveillance tests to determine if the tests adequately demonstrated equipment operability and met the 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-24, Test Control; FNP-0-M-050, Master List of Surveillance Requirements; and FNP-0-AP-16, Conduct of Operations - Operations Group; and attended selected briefings to determine if procedure requirements were met. Documents reviewed are listed in the Attachment.

Surveillance Tests
- FNP-1-SOP-17.0, Main Steam Line Isolation Valve (MSLIV) Functional Test
- FNP-2-SOP-17.0, MSLIV Functional Test
- FNP-1-STP-15.0, Containment Airlock Seal Operability Test (local leak rate test)
- FNP-2-STP-15.0, Containment Airlock Seal Operability Test (local leak rate test)

In-Service Tests (ISTs)
- Unit 1, TDAFW Pump Quarterly IST
- Unit 2, TDAFW Pump Quarterly IST
- Unit 2, Charging Pump 2C Quarterly IST

Reactor Coolant System (RCS) Leak Detection
- FNP-1-STP-9.0, RCS Leakage

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the following two temporary modifications (TMs) and associated 10CFR50.59 screening criteria against the system design bases information and documentation and the licensee's TM procedure FNP-0-AP-8, Design Modification Control. The inspectors reviewed implementation, configuration control, post-installation test activities, drawing and procedure updates, and operator awareness for these TMs.

Documents reviewed are listed in the Attachment.

- TM 2070128503, Unit 2 MOV 8811A bypassed “Open” torque switch.
- WO 2070414201, Unit 2 SSPS Temporary Test Light for testing of SSPS test circuitry

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

a. Inspection Scope

The resident inspectors evaluated the conduct of routine licensee emergency drills on the following dates to identify any weaknesses and deficiencies in classification, notification, and protection action recommendation (PAR) development activities. The inspectors observed emergency response operation in the simulated control room to verify that event classification and notifications were done in accordance with FNP-0-EIP-9.0, Emergency Classification and Actions. The inspectors used procedure FNP-0-EIP-15.0, Emergency Drills, as the inspection criteria. The inspectors also attended the licensee critique of the drill to compare any inspector-observed weaknesses with those identified by the licensee in order to verify whether the licensee was properly identifying failures.

- January 17, Loss of emergency FW; failure of the reactor to trip with stuck control rods, large break loss of coolant accident (LBLOCA) with breach of containment and failed fuel
- February 15 annual drill, RCS leak with existing fuel damage, control rods stuck and not fully inserted, failed fuel, failure of containment ventilation and radioactive release offsite

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY
Cornerstone: Occupational Radiation Safety (OS)

2OS1 Access Controls to Radiologically Significant Areas

a. Inspection Scope

Access Controls. Licensee activities for controlling and monitoring worker access to radiologically significant areas and tasks were evaluated. The inspectors evaluated changes to and adequacy of procedural guidance; directly observed implementation of

established administrative and physical radiological controls; appraised radiation worker and Health Physics Technician (HPT) knowledge of and proficiency in implementing radiation protection activities; and assessed occupational exposures to radiation and radioactive material.

Radiological controls for completed and ongoing work activities were observed and discussed. Reviewed tasks included venting of RHR piping and components on Unit 1, resin transfer activities associated with radwaste demineralizer equipment, and decontamination activities performed in the Reactor Auxiliary Building. The evaluations included, as applicable, Radiation Work Permit (RWP) details; use and placement of dosimetry, electronic dosimeter (ED) set-points, and monitoring and assessment of worker dose from direct radiation and airborne radioactivity source terms. In addition, the effectiveness of licensee exposure and contamination controls during the previous Unit 1 refueling outage was evaluated. The effectiveness of established controls was assessed against occupational doses received, identified personnel contamination events, and, as applicable, radiation survey results. Recent changes to physical and administrative controls and their implementation for locked high radiation areas (LHRAs), very high radiation areas (VHRAs), and for storage of highly activated material within the Unit 1 and Unit 2 Spent Fuel Pool (SFP) locations were evaluated through discussions with licensee representatives, direct observations, and record reviews.

Occupational workers' adherence to selected RWPs and HPT proficiency in providing job coverage were evaluated through direct observations, review of selected exposure records and investigations, and interviews with licensee staff. Select occupational exposure data associated with direct radiation, potential radioactive material intakes, and discrete radioactive particle (DRP) or dispersed skin contamination events identified for 2006, were reviewed and assessed independently. Proficiency of HPT job performance was evaluated through direct observation of staff during job coverage and routine surveillance activities.

Postings for access to radiologically controlled areas (RCAs) and physical controls for the Unit 1/Unit 2 reactor containment, Unit 1/Unit 2 reactor auxiliary building (RAB), and Solidification and Dewatering Facility (SDF) locations designated as LHRAs and VHRAs were evaluated during facility tours. The inspectors independently measured radiation dose rates or directly observed conduct of licensee radiation surveys and results for the Unit 1 and Unit 2 SFP rooms, the Unit 2 drumming/storage room, selected radioactive material storage areas outside of the primary RCA, and various Unit 1 and Unit 2 RAB locations. All results were compared to current licensee surveys and assessed against established postings and radiological controls.

Radiation protection activities were evaluated against FSAR Chapter 12, TS 5.0, and 10 CFR Parts 19 and 20 requirements. Specific assessment criteria included UFSAR Section 12, Radiation Protection; 10 CFR 19.12; 10 CFR 20, Subpart B, Subpart C, Subpart F, Subpart G, Subpart H, and Subpart J; TS Sections 5.4 and 5.7; and approved licensee procedures. the inspectors completed 21 samples. Documents reviewed are listed in the Attachment.

Problem Identification and Resolution. Licensee CAP documents were reviewed to evaluate the licensee's ability to identify, characterize, prioritize, and resolve the identified issues. Licensee CR documents and audits listed in the Attachment were reviewed.

b. Findings

No findings of significance were identified.

2OS3 Radiation Monitoring Instrumentation and Protective Equipment

a. Inspection Scope

Radiation Monitoring Instrumentation. During tours of Unit 1 and Unit 2 RAB and SFP areas, the inspectors observed and evaluated material condition and operational status of installed radiation detection equipment including the following instrument types: Area Radiation Monitor (ARM) systems, Continuous Air Monitor (CAM) Instrumentation (R-35A and AMS-4s), Portal Monitor (PM)-7 equipment, and Post-Accident Sampling System (PASS) components. Sensitivity ranges of selected instruments were compared to FSAR details and other applicable requirements. The inspectors also observed HPT selection and use of portable gamma and neutron sensitive survey meters during a tour of the Independent Spent Fuel Storage Installation (ISFSI) facilities.

In addition to equipment walk-downs, the inspectors observed functional checks and alarm set-point testing of various fixed and portable detection instruments. These observations included: calibration of a teletector using an onsite box calibrator; source checks of portable ion chambers and "pancake" friskers; alarm testing of PM-7 using a plant smear check source, and daily source checks of a whole body counter (WBC). The most recent 10 CFR Part 61 analysis for Dry Active Waste (DAW) was reviewed to determine if calibration and check sources are representative of the plant source term.

The inspectors reviewed the last two calibration records for ARMs R-1, R-4, R-7, R-27B (Unit 1 Containment High Range), as well as the Control Room Ventilation Monitor R-35A. The records were evaluated to determine frequency and adequacy of the calibrations. In addition, calibration stickers on portable survey instruments and calibration due dates on EDs were noted during inspection of storage areas for "ready-to-use" equipment. The last two calibration records for the auxiliary building WBC were reviewed.

Operability 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; FSAR Chapter 12; and applicable licensee procedures.

Self-Contained Breathing Apparatus (SCBA) and Protective Equipment. Selected SCBA units staged for emergency use in the Control Room and other locations were inspected for material condition, air pressure, and number of units available. The inspectors also

reviewed certification records associated with quality of supplied-air systems. Extra air bottles stored for emergency use were inspected for acceptable air pressure and hydrostatic testing markings. The inspectors noted that all licensee SCBA units are new, and therefore no vital component maintenance records were available for review.

Qualifications for off-site staff (no maintenance is performed on-site) responsible for testing and repairing SCBA equipment were evaluated through review of training records. In addition, Control Room operators were interviewed to evaluate their knowledge of available SCBA equipment locations, including corrective lens inserts if needed, and their training on bottle change-out for extended periods of SCBA use. Respirator qualification records were reviewed for several Control Room operators and selected Maintenance department personnel assigned emergency response duties.

Licensee activities associated with maintenance and use of respiratory protection equipment were reviewed against 10 CFR Part 20; Regulatory Guide (RG) 8.15, Acceptable Programs for Respiratory Protection; and applicable licensee procedures. The inspectors completed nine samples. Documents reviewed are listed in the Attachment.

Problem Identification and Resolution. Selected licensee CRs and a Quality Assurance (QA) audit associated with instrumentation and protective equipment were reviewed and assessed to evaluate the licensee's ability to identify, characterize, prioritize, and resolve the identified issues.

b. Findings

No findings of significance were identified.

Cornerstone: Public Radiation Safety (PS)

2PS1 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems

a. Inspection Scope

Effluent Monitoring and Radwaste Equipment. During inspector walk-downs, accessible sections of the liquid and gaseous radioactive waste (radwaste) processing and effluent systems were assessed for material condition and conformance with FSAR descriptions. The inspection included the various liquid waste processing tanks and associated pumps, valves, and piping; and both liquid and gaseous waste processing and effluent monitoring systems and associated airborne effluent sample lines. Chemistry and engineering support staff were interviewed regarding air handling unit (AHU) configurations and effluent monitor operation.

The inspectors reviewed performance records and calibration results for selected radiation monitors, flowmeters, and AHU air filtration systems. Calibration data were reviewed and evaluated for the Unit 1 plant vent system monitor (R-14), the Unit 1 plant vent particulate monitor (R-21), the Unit 1 plant vent gas monitor (R-22), the Unit 2

waste processing liquid monitor (R-18) and the Unit 2 containment purge monitor (R-24A). In addition, functional/flow check data for the plant vent monitor was evaluated. The inspectors reviewed the records for out-of-service (OOS) effluent monitors from July 2005 to December 2006, and verified that required compensatory sampling was performed for selected systems. The inspectors also reviewed Unit 1 and Unit 2 radiation monitor system health reports for Calendar Year (CY) 2006. Results of both the Unit 1 and Unit 2 radwaste area and SPF building AHU filtration systems were reviewed and discussed in detail. Performance and operations of the systems were reviewed and discussed with cognizant licensee personnel.

Installed configuration, material condition, operability, and reliability of selected effluent sampling and monitoring equipment were reviewed against details documented in the following: 10 CFR Part 20; Regulatory Guide (RG) 1.21, Measuring, Evaluating and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials In Liquid and Gaseous Effluents from Light-Water Cooled Nuclear Power Plants and RG 1.143 Design Guidance for Radioactive Waste Management Systems, Structures, and Components Installed in Light Water Cooled Reactors; TS Section 5.0; the Offsite Dose Calculation Manual (ODCM), Rev. 28; and FSAR Chapter 11.

Effluent Release Processing and Quality Control (QC) Activities. The inspectors directly observed and evaluated chemistry staff proficiency in conducting weekly plant vent surveillance activities, including the particulate filter and charcoal cartridge change-out from the Unit 2 Plant Vent. In addition, chemistry technician proficiency was evaluated through direct observation of plant vent filter sample change-out, preparation of gaseous waste release permits, and from discussions of counting room QC activities.

QC activities associated with gamma spectroscopy instrumentation were discussed with count room technicians and chemistry supervision. The inspectors reviewed QC charts from December 23, 2005 to January 23, 2006 for gamma spectroscopy detectors No. 3 and 7, and reviewed licensee procedural guidance for count room QC activities. The inspectors reviewed calibration records for gamma spectroscopy detector Nos. 3 and 7 (select counting geometries). In addition, results of the radiochemistry cross-check program analyses performed in CY 2005 and CY 2006 were reviewed and discussed with cognizant licensee individuals.

Selected portions of procedures for effluent sampling, processing, and release were evaluated for consistency with licensee actions. Recent gaseous and liquid release permits were reviewed against ODCM specifications for pre-release sampling, establishment of effluent monitor set-points, and completion of release dose records. Performance of pre-release sampling and analysis, and completion of release permit generation was discussed with chemistry technicians. The inspectors reviewed the 2004 and 2005 Annual Radiological Effluent Release Reports to evaluate reported doses to the public and ODCM changes. Dose calculations to members of the public were evaluated and discussed with cognizant licensee personnel.

Current licensee programs for monitoring, tracking, and documenting the results of both routine and abnormal liquid releases to the onsite and offsite surface and ground water

environs were reviewed and discussed in detail. The inspectors reviewed selected 10 CFR 50.75(g)(1) reports associated with abnormal liquid and/or gaseous releases and corrective actions initiated to evaluate the potential onsite/offsite environmental impact of significant leakage/spills from onsite systems, structures, and components. The status of recent groundwater monitoring initiatives and radionuclide concentration results for recently identified onsite groundwater monitoring wells and surface water outfalls were reviewed in detail. Licensee current capabilities and routine surveillance to minimize and rapidly identify any new leaks from tanks containing radioactive liquids, processing lines, and SFPs were reviewed and discussed in detail.

Observed task evolutions, count room activities, and offsite dose results were evaluated against details and guidance documented in the following: 10 CFR Part 20 and Appendix I to 10 CFR Part 50; ODCM; RG 1.21; RG 1.109, Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50 Appendix I; RG 1.33, QA Program Requirements; and TS Section 5.0. The inspectors completed eleven samples. Documents reviewed are listed in the Attachment.

Problem Identification and Resolution. A selection of CRs and two auditswere reviewed and assessed to evaluate the licensee's ability to identify, characterize, prioritize, and resolve selected issues

b. Findings

No findings of significance were identified.

2PS3 Radiological Environmental Monitoring Program (REMP) and Radioactive Material Control Program

a. Inspection Scope

REMP Implementation. The inspectors observed routine sample collection and surveillance activities as required by the licensee's ODCM. The inspectors evaluated the material condition and operability of airborne particulate and iodine sampling stations at monitoring locations 1101, 1601, 0703, 1605, 0215 (control), and 0718 (control). Environmental thermoluminescent dosimeter (TLD) devices at monitoring locations 1101, 1601, 0505, 0605, 0703, 1605, 0215 (control), and 0718 (control) were checked for material condition. The inspectors also observed collection of forage at monitoring location 1601, and surface-water samples at locations WRI and WRB (control). The inspectors determined the locations of selected air samplers, TLDs, and forage and surface-water sampling points using NRC Global Positioning System instrumentation, and compared the results to the REMP locations specified by the licensee in the ODCM. Calibration records for selected environmental sampling equipment were reviewed.

The inspectors reviewed the 2005 Radiological Environmental Operating Report and discussed missed samples and anomalous measurements with licensee staff. The inspectors assessed surveillance results, data analyses, changes to the ODCM, and

land-use census information. Report details were evaluated for required sample types, sampling locations, and monitoring frequencies. Selected environmental measurements were reviewed for consistency with licensee effluent data, evaluated for radionuclide concentration trends, and compared with detection level sensitivity requirements. In addition, the inspectors reviewed results from the 2005 interlaboratory cross-check program and applicable procedures for environmental sample collection and processing.

Procedural guidance, program implementation, and environmental monitoring results were reviewed against: 10 CFR Parts 20 and 50; TS Section 5.5.1; ODCM Chapter 4; RG 4.15, QA for Radiological Monitoring Programs (Normal Operation) - Effluent Streams and the Environment; and Branch Technical Position, An Acceptable REMP (1979).

Meteorological Monitoring Program. The inspectors evaluated the physical condition of the primary and backup meteorological towers and associated equipment, and discussed equipment operability and maintenance history with cognizant licensee personnel. The inspectors compared locally generated meteorological data with information available to control room operators. For the meteorological parameters of wind speed, wind direction, and temperature, the inspectors reviewed recent calibration records for applicable tower instrumentation.

Licensee procedures and activities related to meteorological monitoring were evaluated against: ODCM; FSAR Section 2.3; American National Standards Institute (ANSI)/American Nuclear Society (ANS)-2.5-1984, Standard for Determining Meteorological Information at Nuclear Power Sites; and Safety Guide 23, Onsite Meteorological Programs.

Unrestricted Release of Material from the Radiologically Controlled Area (RCA). The inspectors observed surveys of material and personnel being released from the RCA using Small Article Monitor (SAM)-9 and Personnel Contamination Monitor (PCM)-1B instruments. The inspectors also observed source checks of these instruments and discussed equipment sensitivity and release program guidance with licensee staff. To evaluate the appropriateness and accuracy of release survey instrumentation, radionuclides identified within recent waste stream analyses were compared with radionuclides used in current calibration sources and performance check sources. The inspectors also reviewed the last two calibration records for selected SAM-9 and PCM-1B instruments.

Licensee programs for monitoring materials and personnel released from the RCA were evaluated against the requirements of 10 CFR Part 20 and IE Circular 81-07, Control of Radioactively Contaminated Material. The inspectors completed ten samples. Documents reviewed are listed in the Attachment.

Problem Identification and Resolution. The inspectors reviewed selected CRs in the areas of environmental monitoring, meteorological monitoring, and unrestricted release of material from the RCA. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues.

b. Findings

No findings of significance were identified.

4 OTHER ACTIVITIES (OA)

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. 4, was used to verify the basis in reporting for each data element. Documents reviewed are listed in the Attachment.

Mitigating Systems Cornerstone
- Unplanned Scrams
- Scrams with Loss of Normal Heat Removal
- Unplanned Power Changes

The inspectors reviewed samples of raw PI data, Licensee Event Reports (LERs), and Monthly Operating Reports for the period covering January 2006 through December 2006. 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 that the PI data was appropriately captured for inclusion into the PI report as well as ensuring that the individual PIs were calculated correctly.

Occupational Radiation Safety Cornerstone
- Occupational Exposure Control Effectiveness

The inspectors reviewed the PI results from April 1, 2006 through December 31, 2006. The inspectors reviewed electronic dosimeter alarm logs and CRs related to exposure-significant area controls. The inspectors also reviewed licensee procedural guidance for collecting and documenting PI data.

Public Radiation Safety Cornerstone
- Radiological Control Effluent Release Occurrences

The inspectors reviewed the PI results for the period of April 1, 2006, through December 31, 2006. The inspectors assessed selected monthly and quarterly dose calculations for members of the public, out-of-service effluent radiation monitors and associated compensatory monitoring data, and licensee CRs related to Radiological Effluent TS/Offsite Dose Calculation Manual issues. The inspectors also reviewed licensee procedural guidance for collecting and documenting PI data.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

.1 Daily Review

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," and to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's CAP. This review was accomplished by reviewing daily hard copy summaries of CRs and by reviewing the licensee's electronic CR database.

.2 Selected Issue Follow-up Inspection

a. Inspection Scope

In addition to the routine review, the inspectors selected the issue listed below for a more in-depth review. The inspectors considered the following during 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.

- Unit 2, failure of RHR Containment Sump Suction Isolation Valve MOV-8811A to open when demanded from the main control board switch

b. Findings and Observations

On January 5, the Unit 2 RHR Containment Sump Suction Isolation Valve MOV-8811A failed to open during a routine quarterly surveillance. The licensee attributed the failure to corrosion of the open direction torque switch contact due to the high humidity environment inside of the encapsulation which houses MOV-8811A. This condition was documented in CR 2007100142. The valve's motor was neither sealed nor otherwise protected from this high humidity environmental condition. The cause of the high humidity was not yet determined by the licensee.

The inspectors reviewed the licensee's corrective action database and discovered this same valve had failed to open on April 29, 2006. The licensee attributed the cause of this failure to corroded open direction torque switch contacts. The inspectors also discovered the Unit 1 RHR Containment Sump Suction Isolation Valve MOV-8811A had failed to open on March 11, 2003. The licensee also attributed the cause of this failure to corroded limit switch contacts. The inspectors reviewed the licensee's corrective actions for the April 29, 2006 and March 11, 2003 failures and discovered the licensee

had not evaluated the length of time for the contacts to become corroded nor the cause of this corrosion. The inspectors also determined the licensee did not open the valve encapsulations and determine the exact conditions of these corroded contacts. From interviews of station personnel, the inspectors determined that the interior of the encapsulation for Unit 2 MOV 8811A has exhibited large areas of corrosion when opened during recent plant refueling outages. The inspectors were also informed the Unit 2 encapsulations for the other train of RHR and both trains of Containment Spray (CS) had the same corrosion and in the Unit 1 RHR and CS encapsulations. The inspector's review of actions items for CR 2007100142 included an action to determine the source of high humidity inside the encapsulation, which at the end of the inspection period, was indeterminate.

Based on the inspectors preliminary observations, it appeared that room cooler condensation falling on the valve encapsulations could be a potential source for the historical humid environment within the valve enclosures.

This issue will remain unresolved pending further review of the circumstances surrounding the source of high humidity inside the encapsulations, applicability of the degraded conditions on both units similar valves, evaluation of the conditions for common mode failure mechanisms, and the results of inspections during the pending Unit 2 April 2007 refueling outage: URI 05000364/2007002-01, Failure of RHR Containment Sump Isolation Valve to Open on Demand.

4OA5 Other Activities

.1 Independent Spent Fuel Storage Installation (ISFSI) Radiological Controls

a. Inspection Scope

The inspectors reviewed gamma-ray, neutron, and contamination surveys of the ISFSI facility. Inspectors also observed routine gamma-ray and neutron surveys, and compared the results to previous surveys and TS limits. The inspectors evaluated implementation of radiological controls, including labeling and posting, and discussed controls with a HPT and HP supervisory staff. Environmental monitoring for direct radiation from the ISFSI was reviewed, and inspectors observed placement of TLDs.

Radiological control activities for ISFSI areas were evaluated against 10 CFR Part 20, 10 CFR Part 72, and Amendment 2 to the Certificate of Compliance No. 1014 TS details. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

.2 Office of Investigation Synopsis

On March 16, 2006, the Office of Investigations, Region II, conducted an investigation to determine if an employee willfully failed to perform required fire watches. The synopsis is included as Attachment 2.

4OA6 Meetings, Including Exit

.1 Exit Meeting

On April 5, the inspectors presented the inspection results to Mr. Sonny Bargeron and the other members of his staff who acknowledged the findings. The inspectors confirmed that proprietary information provided by the licensee was returned to the licensee at the completion of the inspection.

.2 Annual Assessment Meeting Summary

On April 3, the Branch Chief and Resident Inspector staff assigned to the Farley Nuclear Plant (FNP) met with Southern Nuclear Operating Company to discuss the NRC's Reactor Oversight Process (ROP) and the NRC's annual assessment of FNP safety performance for the period of January 1, 2006 - December 31, 2006. The major topics addressed were: the NRC's assessment program and the results of the FNP assessment. A listing of meeting attendees and information presented during the meeting are available from the NRC's document system (ADAMS) as accession number ML071020162. ADAMS is accessible from the NRC Web site at *http://www.nrc.gov/reading-rm/adams.html*.

4OA7 Licensed-Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meet the criteria of Section IV of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as an NCV.

- TS 5.4.1 requires written procedures to be established, implemented, and maintained covering the activities of Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Appendix A of Regulatory Guide 1.33 states, in part, that procedures for combating emergencies and other significant events such as plant fires should be covered by written procedures. Station Procedure FNP-0-AP-39 (Fire Patrols and Watches), requires that fire watches at FNP are to be conducted once an hour, documented on a form similar to Figure 1 (Hourly Fire Watch), and that this form contain the signature of the fire watch. Contrary to this requirement, on November 12 and 22, 2005, and February 25, 2006, an individual failed to conduct a fire watch of the SW Intake Structure yet documented that such activities had been performed.

ATTACHMENT 1: SUPPLEMENTAL INFORMATION
ATTACHMENT 2: OFFICE OF INVESTIGATION SYNOPSIS

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel
W. L. Bargeron, Plant Manager
W. R. Bayne, Performance Analysis Supervisor
S. H. Chestnut, Engineering Support Manager
P. Harlos, Health Physics Manager
L. Hogg, Security Manager
J. Horn, Training and Emergency Preparedness Manager
J. Jerkins, Performance Analysis Engineer
J.R. Johnson, Plant Vice President
T. Livingston, Chemistry Manager
B. L. Moore, Maintenance Manager
W. D. Oldfield, Quality Assurance Supervisor
J. Swartzwelder, Work Control Superintendent
R. J. Vanderbye, Emergency Preparedness Coordinator
R. Wells, Operations Manager
T. L. Youngblood, Assistant General Manager - Plant Support

NRC personnel
S. Shaeffer, Division of Reactor Projects, Branch Chief

LIST OF ITEMS OPENED

Opened

05000364/2007002-01	URI	Failure of RHR Containment Sump Isolation Valve to Open on Demand (Section 4OA2.2).

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection
FNP-0-SOP- 0.12, Cold Weather Contingencies
FNP-0-STP-63.5, HVAC Verification For Diesel Generator Building
FNP,1/2-EMP-1383.01, Freeze Protection Inspections
UFSAR Section 9.4.7, Diesel Generator Building
UFSAR Section 6.3, Emergency Core Cooling System
UFSAR Section 6.5, Auxiliary Feedwater System

Section 1R04: Equipment Alignment
Technical Specifications 3.5.2, 3.7.5, and 3.7.7
P&ID Drawing 175007, 205002, 205038, 205041
UFSAR Section 5.5.7, Residual Heat Removal System
UFSAR Section 6.5, Auxiliary Feedwater System
UFSAR Section 9.2.2, Cooling System for Reactor Auxiliaries

Section 1R05: Fire Protection

Plant Drawings

A-508650, Sheet 32 Revision 2
A-508651, Sheet 1 Revision 6
A-508651, Sheet 2 Revision 1
A-508651, Sheet 6 Revision 3
A-509018, Sheet 12 Revision 3
A-509018, Sheet 14 Revision 2
A-509018, Sheet 30 Revision 15
A-509018, Sheet 30A Revision 1

Section 1R06: Flood Protection Measures

Farley Nuclear Plant Units 1 and 2 Individual Plant Examination Report In Reponse to Generic Letter 88-20
FNP-2-ARP-3.1, Annunciator Response Procedure for BOP Panel L, Revision 15
FNP-2-ARP-3.2, Annunciator Response Procedure for BOP Panel N, Revision 17

Section 1R11: Licensed Operator Requalification

FNP-0-AP-45, Farley Nuclear Plant Training Program, Revision 22
FNP-0-TCP-17.3, Licensed Retraining Program Administration (Classroom), Revision31
FNP-0-TCP-17.6, Simulator Training Evaluation/Documentation, Revision 15
FNP-1- EEP- 0.0, Reactor Trip or Safety Injection, Revision 30
FNP-1- EEP - 3.0, Steam Generator Tube Rupture, Revision 23
FNP-1- AOP - 4.0, Loss of Reactor Coolant Flow, Revision 12
FNP-1- AOP - 13.0, Loss of Main Feedwater, Revision 19

Section 1R12: Maintenance Effectiveness

Condition Reports: 2003000510, 2006104961, 2006104125
FNP-0-M-87, Maintenance Rule Scoping Manual, Revision 16
FNP-0-M-89, FNP Maintenance Rule Site Implementation Manual, Revision 12
Functional System Description A-181002, Residual Heat Removal
NMP-ES-021, Structural Monitoring Program for the Maintenance Rule, Revision 2
Root Cause Evaluation associated with CR 2007100142

Section 1R22: Surveillance Testing

FNP-0-AP-24, Testing Control, Revision 8
FNP-0-AP-16, Conduct of Operations - Operations Group, Revision 42
FNP-0-M-50, Master List of Surveillance Requirements, Revision 21
FNP-1-SOP-17, Main and Reheat Steam, Revision 52
FNP-2-SOP-17, Main and Reheat Steam, Revision 42
FNP-1-STP-9, RCS Leakage Test, Revision 39
FNP-1-STP-15, Containment Air Lock Door Seal Operability Test, Revision 31
FNP-1-STP-22.16, Turbine Driven Auxiliary Feedwater Pump Quarterly Inservice Test (Tave>547°F), Revision 43
FNP-2-STP-4.3, 2C Charging Pump Quarterly Inservice Test. Revision 39
FNP-2-STP-15, Containment Air Lock Door Seal Operability Test, Revision 27

FNP-2-STP-22.16, Turbine Driven Auxiliary Feedwater Pump Quarterly Inservice Test (Tave>547°F), Revision 45

Section 1R23: Temporary Plant Modifications

CRs: 2007100142 and 2007101680
FNP-0-AP-8, Design Modification Control, Revision 38
Functional System Description A-181002, Residual Heat Removal
Station Drawing U217471
Work Orders: 2070400601 and 2070413301

Section 2OS1: Access Controls to Radiologically Significant Areas

Procedures, Manuals, and Guidance Documents

Farley Nuclear Plant (FNP) Administrative Procedure (AP)-42, Access Control, Ver. 40.0
FNP-0-Dosimetry Procedure (DOS)-1, Personnel Monitoring, Ver. 43.0
FNP-0-M-001, FNP Health Physics Manual, Ver. 18
FNP Radiation Control and Protection Procedure (RCP)-0.1, Key Control Program and Health Physics Guidance for Control of High Radiation Areas, Radiological Exclusion Areas (Locked High Radiation Areas), and Very High Radiation Areas, Ver. 9.0
FNP-0-RCP-1, Schedule, Health Physics Group Activities, Ver. 37
FNP-0-RCP-19, Pre and Post Job ALARA Planning for Work in Radiation Controlled Areas of the Plant, Ver. 20.0
FNP-0-RCP-26.0, Radiological Surveys and Monitoring, Ver. 34
FNP-0-RCP-190, Skin Dose Assessment Due to Contamination on Personnel Skin or Clothing, Ver. 14.0
FNP-0-RCP-299, Operation of the Radiation Control Area Dosimeter Reader with the DMC 2000S Electronic Dosimeter, Ver 5.0
FNP-0-System Operating Procedure (SOP)-0.0, General Instructions to Operations Personnel, Ver. 108.0
FNP-0-SOP-0.14, Shift Turnover and Relief, Ver. 14.0
Nuclear Management Procedure (NMP)-GM-002-001, Corrective Action Program Instructions, Ver. 1.0
NMP-HP-001, Radiation Protection Standard Practices, Ver. 2.0
Health Physics Work Plan for Unit 1 and Unit 2 Spent Fuel Pool (SFP) Transfer Canals, used for Unit 1 SFP Transfer Cart Modifications during 1RO20
Radiation Work Permit (RWP) 06-1444, Work Associated with Repairs, Inspections, and Observations in the Unit 1 Rx Vessel Maintenance Sump to Support the 1RO20 Outage, Revision (Rev.) 0
RWP 06-4705, Work Associated with the SFP inventory classification, Rev. 0
RWP 07-0101, Routine Inspections and activities within RCAs, Rev. 0
RWP 07-3405, Work Associated with Inspections and Repairs of the U1 SFP Transfer System, Rev. 0

Records and Data Reviewed

Unit 1 and Unit 2 SFP Consolidated Trash Logs (Last Update: 1/17/07)
Locked High Rad Area Key Memo, printed 1/23/07
Very High Rad Area Key Memo, printed 1/23/07

HP Form 118, HP Locked High Radiation Area Control Log, 1/16 - 1/23/07
Printout of 2006 Contaminations Greater Than or Equal to 1K dpm
List of Ten Individuals with Highest Dose for YTD 2006, printed 12/06/06
HP Dose Rate and Contamination Surveys of U1/U2 RAB Elevations, Nos. 028322, 028353, 028378, 028397, 028461, 028482, 028502, 028529, 028552, 028321, 028355, 028377, 028398, 028459, 028481, 028501, 028528, 028553, 028284, 028320, 028354, 028379, 028394, 028417, 028460, 028597, 028626, 028635, 028660, 028236, 028255, 028283, 028296, 028302, 028210, 028600, 028627, 028636, 028235, 028254, 028282, 028295, 028301, 028211, 028599, 028625, 028634, and 028656
HP Dose Rate and Contamination Surveys of Outside RCAs, Nos. 025457, 028228, 028316, 028441, 028445, and 028581
Radiological Survey No. 28982, U2 A RHR Pump Room, 1/06/07
Radiological Survey No. 29292, Contamination Survey of 1A H2 Dilution Fan Motor in the Low Level Radioactive Waste Building, 1/24/07

Corrective Action Program (CAP) Documents
Health Physics Self Assessment of FNP Dosimetry Program, 4/18 - 4/21/06
Health Physics Self Assessment of HP Corrective Action Program, 7/24 - 7/28/06
Health Physics Review of Hot Spot Program, 2/6/06 - 2/9/06
QA Audit of Radiation Protection and Control Program, QA-F-HP-2005
CRs 2006100835, 2006101738, 2006103023, 2006103238, 2006103273, 2006103556, 2006103942, 2006106263, 2006109857, 2006109947, 2006110350, 200710067

Section 2OS3: Personnel Radiation Monitoring Instrumentation and Protective Equipment

Procedures, Instructions, and Guidance Documents
FNP-0-RCP-102, Selection of Respirators for Radiological Applications, Rev. 15
FNP-0-RCP-103, Maintenance and Care of Respiratory Protection Equipment, Ver. 23.0
FNP-2-RCP-252, Radiation Monitoring System Setpoints, Ver. 31.0
FNP-0-DOS-3, Schedule, Dosimetry Activities, Ver. 10.0
NMP-GM-002-001, Corrective Action Program Instructions, ver. 1.0

Records and Data Reviewed
Control Room Ventilation Monitor R-35A, Calibrations, 9/14/05 and 9/8/06
Incore Instrumentation Seal Table ARM R-7, Calibrations, 4/9/04 and 11/11/05
Charging Pump Room ARM R-4, Calibrations, 3/1/04 and 9/15/05
PM-7 Serial No. HP-GSD-007A:RCA Exit, Calibrations, 01/11/06 and 01/10/07
U1 Containment High Range ARM R-27B, Calibrations, 10/26/04 and 4/17/06
Main Control Room ARM R-1, Calibrations, 5/13/04 and 6/24/05
Auxiliary Building WBC , Calibrations, 6/5/05 and 11/6/06
10 CFR Part 61 Analysis, Dry Active Waste, 9/7/06
Auxiliary Building WBC Radionuclide Library (Inhalation)
Radiological Survey No. 28476, U1 SFP Transfer Canal, 12/4/06
Radiological Survey No. 24996, U1 Reactor Cavity, 5/17/06
Radiological Survey No. 28417, U1 SFP Area, 11/20/06

SCBA Breathing Air Quality Analyses, 8/15/05, 12/20/05, 1/26/06, 3/29/06, 8/30/06, and 12/21/06
U1 Service Air Quality Analyses, 12/5/05, 3/2/06, 4/17/06, 5/19/06, 11/1/06, 11/2/06, and 12/3/06
U2 Service Air Quality Analyses, 12/5/05, 4/30/06, and 11/27/06
Respiratory Qualification Records, Randomly Chosen Operations and Maintenance Personnel
MSA SCBA Repair Course Completion Certificate, 6/11/03

CAP Documents
QA Audit F-HP-2005, Health Physics, 5/20/05
CRs: 2005106868,2006110257, 2006110778, 2006111024, 2006111342, 2007100661, 2007100719

Section 2PS1: Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems

Procedures, Instructions, and Guidance Documents
Offsite Dose Calculation Manual, Version (Ver.) 22.
FNP- 0- Chemistry-Radiochemistry Control Procedure (CCP) - 212, Liquid Waste Release Program, Version (Ver.) 20.0
FNP-1-CCP-212.1, Liquid Effluent Radiation Monitoring System Setpoints, Ver. 11.0
FNP-2-CCP-212.1, Liquid Effluent Radiation Monitoring System Setpoints, Ver. 11.0
FNP-0-CCP-213, Gaseous Waste Release Program, Ver. 31.0
FNP-1-CCP-213.1, Gaseous Effluent Radiation Monitor System Setpoints, Ver. 19.0
FNP-2-CCP-213.1, Gaseous Effluent Radiation Monitor System Setpoints, Ver. 19.0
FNP-0-CCP-220, Radiochemistry Cross Check Program, Ver. 10.0
FNP-0-CCP,-204, Standardization and Control of Chemical Analysis Instruments, Ver. 78.0
FNP-0-CCP-647, Operation and Calibration of the Multichannel Analyzer Systems, Ver. 29.0
Nuclear Management Instruction (NMP-GM-002-001, Corrective Action Program Instructions, Ver. 1.0
FNP-1-CCP-650, Radiological Process Stream Sampling, Ver. 19.0
FNP-1-System Operating Procedure (SOP) - 50.1, Liquid Waste Processing System Liquid Waste Release from Waste Monitor Tank, Ver. 57.0
FNP-1-SOP-51.1, Waste Gas System Gas Decay Tank Release, Ver. 23.0
FNP-1-Surveillance Test Procedure (STP) 227.7, Waste Disposal System Liquid Monitor N2D11RE0018 Calibration and Operational Test, Ver. 20.0
FNP-2-STP 227.9, Radiation Monitor Q2D11RE0024A Containment Purge and Exhaust Isolation Calibration and Channel Operational Test, Ver. 31
FNP-1-Instrument Maintenance Procedure (IMP) 227.7, Vent Stack Air Particulate MonitorR-21 N1D11RE0021, Ver. 18.0
FNP-1-STP-227.13, Vent Stack-Gas Monitor N1D11RE0014 Calibration and Operational Test, Ver. 22
FNP-1-Surveillance Test Procedure (STP) 227.17, Vent Gas Monitor N1D11RE0022, Calibration and Channel Operational Test, Ver. 16
FNP-1-Surveillance Test Procedure (STP) 227.17, Vent Gas Monitor N1D11RE0022, Calibration and Channel Operational Test, Ver. 19
FNP-1-CCP-650, Radiological Process stream sampling, Ver/ 19

FNP-1-SOP-12.2, Batch Release of Containment Atmosphere, Appendix 3, Continuous Release of Containment Atmosphere (Mini=purge Not Running) Ver. 41.0

Records and Data Reviewed

2004 Farley Nuclear Plant Annual Radioactive Effluent Release Report
2005 Farley Nuclear Plant Annual Radioactive Effluent Release Report
Radiochemistry Cross-check Program Results, 3rd Quarter Calendar Year (CY) 2005
Radiochemistry Cross-check Program Results, 2nd Quarter CY 2006, 05/12/2006
Radiochemistry Cross-check Program Results, Amended Report, 2nd Quarter CY 2006, 05/12/2006
Georgia Power Environmental Radiochemistry - CY 2005 Performance Evaluation Samples For Air Filter, Water, and Milk Matrices, 04/20/2006
10 CFR Part 50/61 Certificate of Analysis Data for Dry Active Waste (DAW) 07/13/05
WOs 1052843401, 1060340701, 1040973201, 1041896301, 1052186501, 1041010101, 2053185301, 2050570201, 1052856901, 2052843501, S400031601, S400031701, S400031801, S400031901, 1040471701, C063332001
Drawing (D) -175029, FNP U1 HVAC Process Flow Diagram Radwaste Area, Revision (Rev.) 14
D -205029, FNP U2 HVAC Process Flow Diagram Radwaste Area, Rev. 09
D -175015, FNP U2 HVAC Process Flow Diagram, Spent Fuel Pool Ventilation System,
D -205015, FNP U2 HVAC Process Flow Diagram, Spent Fuel Pool Ventilation System, Rev. 5
System Health Report, SFP Cooling and Cleanup, 4th Quarter 2006
System Health Report, Radiation Monitors (1D11/2D11) 1st through 4th quarter Calendar Year (CY) 2006
Minimum Detectable Concentration Documentation for Georgia Power Company Environmental Chemistry Laboratory Analyses of Strontium (Sr) - 89 and Sr-90 in Liquid Effluents, 01/03/94
Minimum Detectable Concentration Documentation for Georgia Power Company Environmental Chemistry Laboratory Analyses of Iron (Fe) -55, Sr-89 and Sr-90 in Air Particulate Filter (09/26/06) and Water (02/24/06 and 08/18/06)
Gaseous Waste Release Permit (GWRP) Number (No.) 60628.017.042.G, Unit 1 Plant Vent Stack, 01/07/07
GWRP No. 60632.647.039.G, Unit 2 Plant Vent Stack, 01/0707
GWRP No. 70029.015.004.G, U1 Steam Jet Air Ejector, 01/16/07
GWRP No. 70030.016.004.G, U1 Containment Purge, 01/23/07
GWRP No. 70031.017.004.G, Unit 1 Plant Vent Stack, 01/23/07
Liquid Waste Release Permit (LWRP), No. 60928.014,054L, U1 Steam Generator Blow-down (SGBD), 01/01/07
LWRP No. 60932.024,053L, U2 SGBD, 01/05/07
Annual Calibration Data, Gamma Spectroscopy System No. 3, Various Geometries, 06/02/06
Annual Calibration Data, Gamma Spectroscopy System No. 7, Various Geometries, 06/02/06

CAP Documents

Farley Chemistry and Radioactive Waste (F-CRW)-2004 Quality Assurance Audit, January 1, 2005
Farley Chemistry and Radioactive Waste (F-CRW)-2006 Quality Assurance Audit, November 17, 2006

CRs 2005103851, 2005106246, 2005107943, 2005108008,2006100355, 2006107576, 2007100593, 2007100626

Section 2PS3: Radiological Environmental Monitoring Program (REMP) and Radioactive Material Control Program

Procedures, Instructions, and Guidance Documents
FNP-0-ENV-17, Meteorological Tower, Version 26.1
FNP-0-RCP-29, Contamination Guidelines, Version 39.0
FNP-0-STP-791.0, Air Particulates and Iodine Sampling, Version 17.0
FNP-0-STP-793.0, River Water Samples, Version 19.0
FNP-0-STP-794.0, Forage Samples, Version 10.0

Records and Data Reviewed
Joseph M. Farley Nuclear Plant Annual Radiological Environmental Operating Report for 2005
Environmental Air Sampler Maintenance and Calibration per FNP-0-IMP-255.2, Location 1101, performed 06/19/2006; Location 1218, 06/13/2006; Location 0501, 05/22/2006; Location 0703, 06/19/2006; Location 1601, 05/25/2006
Environmental Water Sampler Maintenance, Location WRB (Andrew Lock and Dam), Performed 01/12/2006, 06/13/2006, 11/21/2006
Calibration/Response Check Data for SAM-9 Monitor No. HP-GSD-012, performed 11/01/2005, 11/01/2006
Calibration of PCM-1B Portal Monitor Serial No. 662 per FNP-0-RCP-78, performed 07/12/2005, 07/13/2006
Calibration of Primary Meteorological Station Instrumentation per FNP-0-STP-255.OA, performed 05/03/2006, 11/01/2006
Calibration of Backup Meteorological Station Instrumentation per FNP-0-STP-255.1, performed 05/04/2006, 11/02/2006
10 CFR Part 61 Report, Dry Active Waste, 09/07/2006

CAP Documents
Audit No. F-ENV-2005, Audit of Environmental, 12/21/2005
CRs 2005100528, 2005100694,2005105094, 2005105269, 2006103945, 2006110244

Section 4OA1: Performance Indicator Verification

Procedures, Manuals, and Guidance Documents
FNP-0-AP-54, Preparation and Reporting of NRC Performance Indicator Data and NRC Operating Data, Ver. 8.0
FNP-2-STP 726, Plant Vent Stack Contingency Sampling Ver. 15

Records and Data Reviewed
Electronic dosimeter dose rate alarm logs, April 2006 - December 2006
LCO-2-005-379, R-29B Inoperable for STP-814, 11/29/05
Special Report No. 2005-001-00, Inoperable Radiation Monitor R-29B, 50-364
FNP Surveillance Test Review Sheet, Surveillance Test No. FNP-2-STP-726, Technical

Requirements Manual Reference TR 13.3.4, action C.1 and Offsite Dose Calculation Manual References 3.1.1.3 action 37, 3.1.1.3 action 39, 12/21/06

CAP Documents
CRs 2006103204, 2006105114, 2006108879

Official Use Only - OI Investigation Information

SYNOPSIS

This investigation was initiated on March 16, 2006, by the U.S. Nuclear Regulatory Commission (NRC) Office of Investigations, (OI), Region II, (RII), to determine whether a security officer at Farley Nuclear Plant (FNP) willfully failed to perform required fire watches.

Based on the evidence developed during this investigation, OI substantiated that a former Apprentice Mechanic-Nuclear, (formerly identified as a Security Officer) at Farley Nuclear Plant (FNP), willfully failed to perform the required fire watches.

Approved for release - SES, 3/29/07

Case No. 2-2006-014

Attachment 2