UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
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ATLANTA, GEORGIA 30303-8931

January 27, 2005

Southern Nuclear Operating Company, Inc.
ATTN: Mr. L. M. Stinson
Vice President - Farley Project
P. O. Box 1295
Birmingham, AL 35201-1295

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT - NRC INTEGRATED INSPECTION REPORT 05000348/2004005 and 05000364/2004005

Dear Mr. Stinson:

On December 31, 2004, 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 January 6, 2005, with Mr. Randy Johnson 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, two licensee-identified violations which were determined to be of very low safety significance (Green) are listed in Section 4OA7 of the report. Because these violations are of very low safety significance and were entered into your corrective action program, the NRC is treating these violations as non-cited violations (NCVs) consistent with Section VI.A of the NRC Enforcement Policy. If you contest any NCV in this report, 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 the Farley Nuclear Plant.

In accordance with 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/

Malcolm T. Widmann, 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 05000348/2004005 and
05000364/2004005
w/Attachment: Supplemental Information

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.:	50-348, 50-364
License Nos.:	NPF-2, NPF-8
Report Nos.:	05000348/2004005 and 05000364/2004005
Licensee:	Southern Nuclear Operating Company, Inc. (SNC)
Facility:	Joseph M. Farley Nuclear Plant
Location:	7388 N. State Highway 95 Columbia, AL 36319
Dates:	September 26 - December 31, 2004
Inspectors:	C. Patterson, Senior (Sr.) Resident Inspector R. Fanner, Resident Inspector C. Rapp, Sr. Project Engineer (Section 1R07) J. Baptist, Project Engineer (Section 1R11) J. Lenahan, Sr. Reactor Inspector (Sections 1R08, 4OA5.3, and 4OA5.4) G. Kuzo, Sr. Health Physicist (Sections 2OS1, 2OS2, 4OA1, and 4OA5.6) A. Nielsen, Health Physicist (Section 2PS2) M. Scott, Sr. Reactor Inspector (Section 4OA5.5) L. Mellen, Sr. Operations Examiner (Sections 1EP2 - 1EP5 and 4OA1) L. Miller, Sr. Emergency Preparedness Inspector (Sections 1EP2 - 1EP5 and 4OA1) R. Chou, Reactor Inspector (Section 4OA5.6)
Approved by:	Malcolm T. Widmann, Chief Reactor Projects Branch 2 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000348/2004-005, 05000364/2004-005; 9/26/2004-12/31/2004; Joseph M. Farley Nuclear Plant, Units 1 & 2; routine integrated report.

The report covered a three-month period of inspection by resident inspectors and regional project engineers, reactor inspectors, health physicists, and emergency preparedness inspectors. Two Green non-cited violations were identified by the licensee. The significance of most findings is indicated by their color (Green, White, Yellow, or 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 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 3, dated July, 2000.

A. NRC-Identified and Self-Revealing Findings

No findings of significance were identified.

B. Licensee-Identified Violations

Violations of very low safety significance, which were identified by the licensee, have been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. These violations and corrective actions are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Unit 1 was shut down on October 2 for a routine refueling outage. The unit was synchronized to the grid on November 17 ending the outage. The unit operated at or rated thermal power (RTP) the rest of the inspection period.

Unit 2 operated at or near RTP during this inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope

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 on the Main Steam valve rooms grating, on circulating water piping, and heat tracing lines on the condensate storage tanks, reactor makeup water storage tanks, and refueling water storage tanks (RWSTs).

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

a. Inspection Scope

Partial System Walkdowns. The inspectors performed partial walk-downs of the following four 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 listed in the Attachment, and checks of control room and plant valves, switches, components, electrical power line-ups, support equipment, and instrumentation.

- 1A Auxiliary building battery during 1B Auxiliary building battery replacement
- 2A and 2B Centrifugal Charging Pumps (CCP) during 2C CCP equipment outage
- Emergency Diesel Generators (EDGs) 1-2A, 1B, 1C, and 2C during 2B EDG testing.
- 2A and 2A battery chargers during 2C battery charger inspection.

Complete Walkdown. The inspectors conducted a complete walkdown of the accessible portions of the Unit 2 Component Cooling Water (CCW) system. The inspectors used

licensee procedures FNP-2-SOP-23.0, Component Cooling Water System, and FNP-2-STP-23.7, Component Cooling Water System, Flow Path Verification Test, as well as drawings D-205002-1, D-205002-2 and D-356343-1 to verify adequate system alignment of on-service equipment. The inspectors also interviewed personnel and reviewed control room logs, Maintenance Rule (MR) monthly reports, condition reports (CRs), outstanding work orders, and industry operating experience to verify that alignment and equipment discrepancies were being identified and appropriately resolved.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

Fire Area Tours. The inspectors conducted a walkdown of the ten 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. In addition, the inspectors reviewed procedure changes to FNP-0-ACP-35.2, Flammable Material, Combustible Material, and Chemical Product Control, that established interim compensatory measures to limit transient combustible materials in areas having large penetration seals with less than a three-hour rating. To verify implementation, the inspectors also checked that compensatory measures, including fire watches, were in place for degraded fire barriers. Documents reviewed are listed in the Attachment.

- 1B Auxiliary battery room, Fire Zone 16
- Unit 1 Auxiliary building DC switchgear, Fire Zone 18A
- Unit 1 CCW heat exchanger/pump room, Fire Zone 6C
- Unit 1 Auxiliary building 121' hallway, Fire Zone 4A10
- 1-2A EDG, Fire Zone 61
- Unit 2 Auxiliary Building 100' (SE Quad), Charging/High Head Safety Injection pump room area, Fire Zone 5
- Unit 2 Auxiliary Building 100' (SE Quad), Common Area, Fire Zone 4
- Unit 1 Auxiliary Building 139' (NW Quad), Electrical Penetration Room, Fire Zone 34
- Unit 1 Auxiliary Building 139' (NW Quad), 4.16kV Switchgear, Fire Zone 41
- Unit 2 Auxiliary Building 121' (NW Quad), 1E Hot Shutdown Panel, Fire Zone 12

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance

a. Inspection Scope

The inspectors reviewed test results for FNP-0-ETP-4367, Performance Test for Unit 1 & 2 Colt-Pielstick (Large) Diesel Generator Jacket Water Heat Exchangers, to verify the licensee had adequately identified and resolved any potential heat exchanger deficiencies which could mask degraded performance, common cause heat sink performance problems that could increase risk, and heat sink performance problems that could result in initiating events or affect multiple heat exchangers in mitigating systems. The inspectors also reviewed UFSAR Section 9.5.5 and system design document A-181005, Diesel Generator System, to verify the acceptance criteria for FNP-0-ETP-4367 was appropriate. The inspectors also reviewed the licensee's CR database to verify that heat exchanger problems were being identified and resolved.

b. Findings

No findings of significance were identified.

1R08 Inservice Inspection Activities

a. Inspection Scope

Inservice Inspection (ISI). The inspectors reviewed ISI procedures, components (samples) selected for the ISI exams, and reviewed selected ISI records. The Risk-Informed Inservice Inspection Program approved by NRC in a Safety Evaluation Report dated March 9, 2004, was used for selecting samples, and the ASME Boiler and Pressure Vessel Code, Section XI, 1989 Edition, No Addenda, to verify compliance. The licensee's inservice inspection report for the previous Unit 1 refueling outage was reviewed, which documented no recordable indications were identified during the outage.

Non-destructive examination (NDE) procedures for the ISI examination activities were reviewed. The inspectors reviewed NDE reports for visual inspection of six pipe supports, two hydraulic snubbers, and the reactor vessel supports performed during the current outage. The inspectors also reviewed records documenting ultrasonic examinations performed on reactor vessel studs, penetrant examinations performed on welded attachments at three pipe supports, and magnetic particle examinations performed on two pipe welds. Qualification and certification records for examiners, and equipment for selected examination activities were reviewed. The records were compared to the Technical Specifications (TSs), License Amendments, and applicable industry established performance criteria to verify compliance.

In addition, the inspectors examined snubbers, spring cans, and pipe supports during a walkdown of the Unit 1 containment. Examination of the snubbers included attachment to supporting structures and piping, fluid levels in reservoirs, absence of fluid leakage from the snubbers, and overall condition of the snubbers.

The inspectors reviewed implementation of the licensee's boric acid corrosion control program to determine if commitments made in response to Generic Letter 88-05 and Bulletin 2002-01 were being effectively implemented. The inspectors reviewed licensee procedures which were performed before and after outages to identify boric acid leakage onto various components, evaluate the cause of the leakage, and evaluate the effects of leakage on components. The inspectors also reviewed records documenting boric acid leaks, corrective actions, and examined completed corrective actions during a walkdown of the Unit 1 containment building. Documents reviewed are listed in the Attachment.

The inspectors reviewed Indication Evaluation Reports (IER) 010, IER 012, and IER 013, Bound Spherical Bearing on Piping Hangers SI -R64, CS-R297, and RHR8-R52 to confirm that problems were being identified, placed in the corrective action program, and appropriate corrective action were being initiated.

IWE Containment Vessel Inspection. The inspectors reviewed the licensee's ISI procedures for the containment inspection to determine if the procedures complied with the TSs, ASME Boiler and Pressure Vessel Code, Articles IWE and IWL of Section XI, 1992 Edition and 1992 Addenda, and 10 CFR 50.55a. The inspectors examined the interior surfaces of the containment liner and the moisture barrier at the intersection of the liner and interior concrete floor area and the Unit 1 containment tendon gallery. The inspectors also reviewed records documenting visual inspections performed on the Unit 1 containment post tensioning system in June 2002, the results of liftoff tests performed in 1997 to measure prestress level in the Unit 1 containment tendons, and the records documenting visual inspection of the Unit 1 tendons performed in 1997 to determine if the licensee's program for inspection of the containment structure was being performed in accordance with the requirements specified in Article IWL of Section XI, 1992 Edition and 1992 Addenda, and 10 CFR 50.55a.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

Quarterly Resident Review. On December 16, 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 Operator Continuing Training Program Administration. The inspectors observed scenarios conducted in the licensee's simulator for a failure of a nuclear instrument, steam generator tube rupture, anticipated transient without reactor trip, and a small break loss of coolant accident. 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. In addition, the inspectors observed implementation of the applicable emergency operating procedures to verify that licensee expectations in

procedures FNP-0-AP-16 and FNP-0-TCP-17.6 were met. 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-0-87, Maintenance Rule Scoping Manual; FNP-0-SYP-19, Maintenance Rule Performance Criteria; and FNP-0-89, FNP Maintenance Rule Site Implementation Manual; and compliance with 10 CFR 50.65. 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 maintenance rule coordinator, and operations personnel to assess their knowledge of the program.

C CR 2004104441, 1D Service Water (SW) pump breaker failure
C CR 2004103380, 1C CCW pump breaker failure

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

The inspectors assessed the licensee's planning and control for the following five planned licensee activities to verify the requirements in licensee procedures FNP-0-ACP-52.3, Guidelines for Scheduling of On-Line Maintenance; FNP-0-AP-52, Equipment Status Control and Maintenance Authorization; and FNP-0-AP-16, Conduct of Operations - Operations Group; and the MR risk assessment guidance in 10CFR50.65 (a)(4) were met.

- CR 2004103671, Unit 1 Hydrogen supply line leak under asphalt road
- CR 2004104303, Unit 1 single bent rodlet during rod cluster control assembly transfer
- CR 2004105743, Unit 1 steam dump required repair of a welded pipe cap/nipple downstream of the "E" steam dump
- CR 2004106637, Unit 2 2C CCP suction line gas intrusion venting.
- CR 2004105343, 1B motor-driven auxiliary feedwater pump motor supply breaker trip

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, 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 Functional System Descriptions, to verify system operability was not affected.

- CR 2004104415, Source Range Calibration
- CR 2004104423, Metal Found in 6B Feedwater Heater
- CR 2004104872, Unit 2 leakage out of Reactor coolant drain tank past isolation valves
- CR 2004104979, Unexpected alarms during solid-state protection system testing
- CR 2004105152, Reactor Coolant Pump Motor Cooler SW inlet relief leaking

b. Findings

No findings of significance were identified.

1R16 Operator Work-Arounds

a. Inspection Scope

Cumulative Review. The inspectors reviewed the cumulative effects of the operator work-arounds to verify they did not affect the operator's ability to perform actions in both abnormal and emergency operating procedures, did not increase initiating event frequency, and did not affect multiple mitigating systems. The inspectors reviewed the current list of work arounds for each unit and procedure, FNP-0-ACP-17, Operator Work-Arounds, to verify that item listed was controlled in accordance with the procedure.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed the following plant modification to verify the implementation of procedure FNP-0-AP-8, Design Modification Control. This included verification that the design bases, licensing bases, and performance capability or risk significant systems, structures, and components would not be degraded through the modifications and the

modifications would not place the plant in an unsafe condition. The inspectors also discussed the modifications with engineering and operations personnel, and reviewed the related procedures and drawings.

- DCP 03-0-9962, Auxiliary Building Doors

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

The inspectors reviewed the criteria contained in licensee procedure FNP-0-PMT-0.0, Post Maintenance Test Program, to verify post-maintenance test procedures and test activities for the following five systems/components were adequate to verify system operability and functional capability.

- FNP-1-STP-4.2, Charging Pump 1B Inservice Test
- FNP-2-STP-23.2, Component Cooling Water Pump 2B Inservice Test
- FNP-2-STP-4.1, Charging Pump 2A Inservice Test
- FNP-1-STP-40.2, B1G and B1J Sequencer Load Shedding Circuit Test
- FNP-0-EMP-2352.10, TDAFW Uninterruptible Power Supply

b. Findings

No findings of significance were identified

1R20 Refueling and Outage Activities

a. Inspection Scope

Refueling Activities. The inspectors reviewed the following activities related to the Unit 1 refueling outage for conformance to licensee Procedures 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 required specification. Shut-down 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
- Mid-loop operation and 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 Cooling

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 test 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—050, Master List of Surveillance Requirements; and FNP-0-AP-16, and attended selected briefings to determine if procedure requirements were met.

Surveillance Tests
- FNP-0-FSP-53, Fire Distribution System Flow Test (Triennial)
- FNP-2-STP-1.0, Operations Daily and Shift Surveillance Requirements
- FNP-2-STP-912, Reactor Coolant Pump Bus Reactor Trip Undervoltage Relay Test
- FNP-1-STP-101, Zero Power Physics Testing

In-Service Tests
- FNP-1-STP-4.2, Charging Pump 1B Inservice Test

Reactor Coolant System (RCS) Leak Detection
- FNP-1-STP-32.1, Accumulator Discharge Check Valves Leakage Test
- FNP-11-STP-9.0, RCS Leakage Test

Containment Isolation Valves
- FNP-1-STP-40.0, Safety Injection With Loss of Off-Site Power Test, Table 2, Containment Isolation Phase A Isolation System

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the following four temporary modifications (TMs) and associated 10 CFR 50.59 screening criteria against the system design bases information and documentation and the licensee's temporary modifications 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 this temporary modification.

- TM 1040728401, Capping of Unit 1 Bulk Hydrogen Line to Support Continued operation of Unit 2
- TM 1040728401, Motor-Driven Auxiliary Feedwater Hand Switch Modification
- TM 1042084901, Temporary Modification to 1A Steam Dump and 1D Steam Dump to Swap Operating Characteristics to Allow 1D to Serve in the Cooldown Tandem with the 1E Steam Dump
- TM 1041168803, Temporary Modification for installation of FRN-R-6 in the fuse blocks for the current limiting fuses in breaker LB21 for ground protection relay, U/V Relay, Local Voltmeter and Remote Voltmeter

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP2 Alert and Notification System (ANS) Testing

a. Inspection Scope

The inspectors ascertained the licensee's commitments with respect to the testing and maintenance of the ANS, which comprised three sirens and 3200 Tone Alert radios in the ten-mile-radius emergency planning zone. The inspectors evaluated the design of the ANS, the licensee's methodology for testing the system, and the adequacy of the testing program design. Assessment of the program as actually implemented included review of siren test records (with an emphasis on identification of any repetitive individual siren failures), system changes during the past two years, procedures for periodic preventative maintenance (including post-maintenance testing), and a sample of corrective actions and their effectiveness for siren failures and issues. The review of this program area encompassed the period January 2003 through October 2004. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization (ERO) Augmentation

a. Inspection Scope

The inspectors identified the licensee's commitments with respect to timeliness and numbers of personnel for staffing emergency response facilities (ERFs) in the event of an emergency declaration at Alert or higher. The licensee's automated paging system and manual backup system for call-out of ERO personnel were reviewed to determine

whether they would support staff augmentation in accordance with the criteria for ERF activation timeliness. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level (EAL) and Emergency Plan Changes

a. Inspection Scope

The inspectors reviewed a selected sample of changes made to the Emergency Response Plan (ERP) since the last inspection in this program area against the requirements of 10 CFR 50.54(q) to determine whether any of the changes decreased ERP effectiveness. The subject changes, which were incorporated in ERP Revision 39, did not include modifications to the EALs. The inspectors reviewed documentation of the licensee's 10 CFR 50.54(q) screening evaluations for Revision 39. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies

a. Inspection Scope

The inspectors evaluated the efficacy of licensee programs that addressed weaknesses and deficiencies in emergency preparedness. The inspectors reviewed event documentation to assess the adequacy of implementation of ERP requirements, as well as the licensee's self-assessment of ERO performance during the event. The inspectors evaluated selected drill scenarios and associated critiques to determine whether the licensee had properly identified failures to implement regulatory requirements and planning standards. A sample of weaknesses and deficiencies identified by means of these licensee processes was evaluated to determine whether corrective actions were effective and timely. Documents reviewed are listed in the Attachment.

Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstones: Occupational Radiation Safety and Public Radiation Safety

2OS1 Access Control 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.

The inspectors directly observed controls established for workers and HPT staff in airborne radioactivity area, radiation area, high radiation area (HRA), exclusion high radiation area (EHRA), and very high radiation area (VHRA) locations. Controls and their implementation for EHRA keys and for storage of irradiated material within Unit 1 and Unit 2 spent fuel pool (SFP) areas were reviewed and discussed in detail. The inspectors reviewed/evaluated Unit 1 Refueling Outage 19 (1R19) tasks which included reactor vessel head disassembly, removal from containment and temporary storage activities; seal table equipment maintenance; fuel off-load; valve maintenance and replacement; reactor coolant pump maintenance; RCS filter change-out; and radioactive waste (radwaste) handling and storage. The inspectors attended pre-job briefings, and reviewed radiation work permit (RWP) details to assess communication of radiological control requirements to workers. Occupational workers' adherence to selected RWPs and HPT proficiency in providing job coverage were evaluated through direct observations and interviews with licensee staff. Electronic dosimeter (ED) alarm set points and worker stay times were evaluated against area radiation survey results with a focus on reactor vessel head disassembly and removal. Worker exposure as measured by ED and by licensee evaluations of skin doses resulting from discrete radioactive particle or dispersed skin contamination events during the previous Unit 2 outage and the current 1R19 activities were reviewed and assessed independently. For HRA tasks involving potentially significant dose rate gradients, such as seal table equipment maintenance and reactor vessel head replacement, the inspectors evaluated the potential for use of dosimeter multi-badging to monitor worker exposure.

Postings for access to radiologically controlled areas (RCAs) and physical controls for the Unit 1 containment and for Unit 1 and Unit 2 reactor auxiliary building (RAB) locations designated as EHRAs 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 Unit 1 containment equipment and work locations, Unit 2 drumming/storage room, outside material storage areas, and selected Unit 1 and Unit 2 RAB locations. Following transport to and packaging of the Unit 1 old reactor vessel head at the Old Steam Generator Storage Facility (OSGSF) location, the inspectors conducted, observed, and evaluated results of detailed surveys of the final

package and general area. All results were compared to current licensee surveys and assessed against established postings and radiological controls.

Licensee controls for airborne radioactivity areas with the potential for individual worker internal exposures of greater than 30 millirem (mrem) Committed Effective Dose Equivalent were evaluated. For selected RWPs identifying potential airborne areas associated with 1R19 activities, e.g., RAB valve maintenance and Unit 1 seal table equipment maintenance, the inspectors evaluated the implementation and effectiveness of administrative and physical controls including air sampling, barrier integrity, engineering controls, and postings. Licensee identification and assessment of potential radionuclide intakes by workers between January 1, through October 21, 2004, were reviewed and evaluated.

Radiation protection activities were evaluated against the UFSAR, TSs, and 10 Code of Federal Regulations (CFR) Parts 19 and 20 requirements. Specific assessment criteria included UFSAR Section 11, Radioactive Waste Management, and 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, Procedures, and 5.7, High Radiation Area Controls; and approved procedures. Documents reviewed are listed in the Attachment.

Problem Identification and Resolution. Licensee Corrective Action Program (CAP) documents associated with access control to radiologically significant areas were reviewed and assessed. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with NMP-GM-GL-02, Corrective Action Program Details and Expectations Guideline, and Farley Nuclear Plant Radiation Control and Protection Procedure (RCP)-10, Health Physics Condition Reports and the Health Physics Observation Program. CRs reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

2OS2 As Low As Reasonably Achievable (ALARA) Planning and Controls

a. Inspection Scope

ALARA Implementation. The inspectors reviewed ALARA program guidance and its implementation for ongoing 1R19 job tasks. The inspectors evaluated the accuracy of ALARA work planning and dose budgeting, observed implementation of ALARA initiatives and radiation controls for selected jobs in-progress, assessed the effectiveness of source-term reduction efforts, and reviewed historical dose information.

Projected dose expenditure estimates detailed in ALARA planning documents were compared to actual dose expenditures and noted differences were discussed with cognizant ALARA staff. Changes to dose budgets relative to changes in radiation source term and/or job scope also were discussed. The inspectors attended pre-job briefings and evaluated the communication of ALARA goals, RWP requirements, and

industry lessons-learned to job crew personnel. The inspectors also reviewed ALARA procedural guidance and the minutes from the four most recent Plant ALARA committee meetings.

The implementation and effectiveness of ALARA planning and program initiatives during work in progress were evaluated. The inspectors made direct field or closed-circuit-video observations of work activities involving reactor vessel head replacement activities, reactor coolant pump maintenance, valve maintenance, and scaffold construction activities. For the selected tasks, the inspectors evaluated radiation worker (radworker) and HPT job performance; extent of management oversight; individual and collective dose expenditure versus percentage of job completion; surveys of the work areas, appropriateness of RWP requirements; and adequacy of implemented engineering controls. The inspectors interviewed radworkers and job sponsors regarding understanding of dose reduction initiatives and their current and expected final accumulated occupational doses at completion of the job tasks.

Implementation and effectiveness of selected program initiatives with respect to source-term reduction were evaluated. Shutdown chemistry program actions and cleanup initiatives, and their effect on Unit 1 containment and Unit 1 RAB area dose rates, were compared to previous refueling outage trending data. The effectiveness of selected shielding packages installed for the current outage was assessed through reviews of survey records and comparison to expected planning data. Cobalt reduction initiatives for Unit 1 valve maintenance and replacement activities were reviewed and discussed.

The plant exposure history for calendar years 2002 and 2003 and data reported to the NRC pursuant to 10 CFR 20.2206, were reviewed as were established goals for reducing collective exposure during the current 1R19 outage. Dose rate trending data for selected in-plant monitoring points were reviewed and compared to previous Unit 1 outages. The inspectors reviewed procedural guidance for and examined dose records of declared pregnant workers to evaluate assignment of current gestation dose.

ALARA program activities and their implementation were reviewed against 10 CFR Part 20, and approved licensee procedures. In addition, licensee performance was evaluated against Regulatory Guide (RG) 8.8, Information Relevant to Ensuring that Occupational Radiation Exposures at Nuclear Power Stations will be As Low As Reasonably Achievable; RG 8.10, Operating Philosophy for Maintaining Occupational Radiation Exposures As Low As is Reasonably Achievable; and RG 8.13, Instruction Concerning Prenatal Radiation Exposure. Documents reviewed are listed in the Attachment.

Problem Identification and Resolution. Licensee CAP documents associated with ALARA activities were reviewed and assessed. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with NMP-GM-GL-02, Corrective Action Program Details and Expectations Guideline, and FNP RCP-10, Health Physics Condition Reports and the Health Physics Observation Program. The inspectors also discussed post-job reviews with licensee supervisors and evaluated whether issues were appropriately entered in the CAP. CRs reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

2PS2 Radioactive Material Processing and Transportation

a. Inspection Scope

Waste Processing and Characterization. Selected liquid and solid radwaste processing system components were inspected for material condition and for configuration compliance with the UFSAR and Process Control Program (PCP). Inspected equipment included hot shower/laundry drain tanks; waste monitor tanks; resin transfer piping; resin and filter packaging components; and abandoned waste evaporator equipment. The inspectors discussed component function, equipment operability, and changes to radwaste storage areas with licensee staff.

The 2003 Effluent Report and radionuclide characterizations from January 1, 2003, through Year-to-Date 2004 for each major waste stream were reviewed and discussed with radioactive waste (radwaste) staff. For RCS filters, SFP filters and Dry Active Waste, the inspectors evaluated analyses for hard-to-detect nuclides, reviewed the use of scaling factors, and examined comparison results between gamma emitting radionuclides reported in the licensee waste stream characterizations and the vendor laboratory data. For selected shipments of spent resin and Low Specific Activity wastes, the methodology used for waste stream mixing and concentration averaging was evaluated. The inspectors also reviewed the licensee's procedural guidance for monitoring changes in waste stream isotopic mixtures.

Radwaste processing activities were reviewed for compliance with 10 CFR Part 50.59 and consistency with the licensee's current PCP and UFSAR, Chapter 11. Waste stream characterization analyses and selected shipping records were reviewed against regulations detailed in 10 CFR Part 20, 10 CFR Part 61, and 49 CFR Part 173, and guidance provided in the Branch Technical Position on Waste Classification and Waste Form. Documents reviewed are listed in the Attachment.

Transportation. The inspectors directly observed preparation activities for shipments of a reactor missile shield and of contaminated laundry. The inspectors noted package markings and placarding and interviewed shipping technicians regarding Department of Transportation (DOT) regulations. The inspectors also performed independent dose rate measurements of the shipping packages and compared the results to DOT limits.

Five shipping records were reviewed for consistency with licensee procedures and compliance with NRC and DOT regulations. The inspectors reviewed emergency response information, DOT shipping package classification, radiation survey results, and evaluated whether receiving licensees were authorized to accept the packages. The licensee's procedure for opening and closing their Type B shipping cask was compared to recommended vendor protocols and Certificate of Compliance requirements. In addition, training records for all individuals currently qualified to ship radioactive material were reviewed.

Transportation program implementation was reviewed against regulations detailed in 10 CFR Parts 20 and 71, 49 CFR Parts 172-178; as well as the guidance provided in NUREG-1608. Training activities were assessed against 49 CFR Part 172 Subpart H. Documents reviewed are listed in the Attachment.

Problem Identification and Resolution. Four CRs and one licensee audit were reviewed in detail and discussed with HP supervision. The inspectors assessed the licensee's ability to characterize, prioritize, and resolve the identified issues in accordance with licensee procedure NMP-GM-002-GL02, Corrective Action Program Details and Expectations Guideline. CRs reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspectors sampled the licensee data submittal for the PIs listed below to verify the accuracy of the data reported. The PI definitions and the guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Rev. 2, and licensee procedure FNP-0-AP-54, Preparation and Review of NRC Performance Indicator Data, were used to verify procedure and reporting requirements were met.

Cornerstone: Barrier Integrity
- Unit 1 and Unit 2 Reactor Coolant System Activity
- Unit 1 and Unit 2 Reactor Coolant System Leakage

The inspectors reviewed raw PI data for the period from October 2003 through September, 2004 consisting of daily chemistry analysis and daily leak rate logs. The inspectors reviewed the recent PI report to verify the data was accurately reflected in the report.

Cornerstone: Occupational Radiation Safety
- Occupational Exposure Control Effectiveness

The inspectors reviewed PI data collected from January 1, through September 30, 2004. For the period reviewed, 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 associated with dose rates exceeding 1 rem/hr and cumulative dose rates exceeding established set-points from January 1, through September 30, 2004.

Cornerstone: Public Radiation Safety
C RETS/ODCM Radiological Effluent Release Occurrences

The inspectors reviewed the PI data for the period from December 1, 2003, through September 30, 2004. The inspectors reviewed data reported to the NRC, and CR documents listed in the Attachment. In addition, the inspectors reviewed out-of-service effluent monitor logs and four effluent release permits.

Cornerstone: Emergency Preparedness
- Emergency Response Organization Drill/Exercise Performance
- ERO Drill Participation
- Alert and Notification System Reliability

For the specified review period, the inspectors examined data reported to the NRC and a sample of drill and event records to verify the accuracy of the PI data for ERO drill and exercise performance. The inspectors reviewed selected training records to verify the accuracy of the PI for ERO drill participation for personnel assigned to key positions in the ERO. The inspectors reviewed a sample of the licensee's records of periodic ANS tests to verify the accuracy of the PI data for ANS reliability. The inspectors also interviewed the licensee personnel who were responsible for collecting and evaluating the PI data. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

1. Daily Condition Report 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 inspectors performed a daily screening of items entered into the licensee's corrective action program. This review was accomplished by reviewing hard copies of each condition report, attending daily screening meetings, and accessing the licensee's computerized database.

2. Annual Sample Review

a. Inspection Scope

The inspectors performed a detailed review of CRs 2004104441, 2004104611, and 2004104535. The condition reports were associated with the failure of the 1D SW pump breaker, DL03. The reports were reviewed to ensure that the full extent of the issues were identified, an appropriate evaluation was performed, and appropriate corrective actions were specified and prioritized. The inspectors evaluated the reports against their requirements of the licensee's Corrective Action Program as delineated in Nuclear

Management Procedure NMP-GM-002, Problem Identification and Correction, and 10 CFR 50, Appendix B Criterion XVI.

b. Findings and Observations

No findings of significance were identified. The residents observed inconsistent application of troubleshooting to investigate performance deficiencies related to the Siemens-Allis 4.16 kV safety related breakers. Procedure FNP-0-SOP-0.0, General Instructions to Operations Personnel, states if a breaker has malfunctioned maintenance personnel shall be contacted for troubleshooting prior to restoration efforts. Procedure, FNP-0-EMP-1313.04, Maintenance of Siemens-Allis 4.16 kV Metal-Clad Switchgear in Attachment 2 Table 1, As-Found Breaker Status Sheet, states to record the conditions found at the breaker when a failure does occur.

CR 2004104441 was written October 18, because of annuciator alarms (SW Pump Breaker Tripped) that occurred with the 1D service water pump while surveillance procedure FNP-1-STP-40.2, B1G & B1J Sequencer Load Shedding Circuit Test, was being conducted. The breaker was cycled three times without taking the as found data and troubleshooting. CR 2004104535 was written on October 20, after the 1D SW pump did not start on demand when being energized during a transfer of service trains. Again the breaker was cycled several times and the as found data was not taken nor was a troubleshooting plan developed. While later investigation by the licensee determined the breaker had not actually failed, the inspectors observated that there was inconsistent implementation of troubleshooting activities for 4.16kV safety breakers issues. The inspectors discussed this observation with the licensee. CR 2004104611 was generated to capture the inspectors' concern.

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 safety significant safety issue. The inspector's review focused on CRs with corrective action that were not sufficiently comprehensive to reduce the likelihood or prevent recurrence of the condition. The review also considered the results of the daily inspector CAP item screening discussed in Section 4OA2.1, licensee trending efforts, and licensee human performance results. The inspectors reviewed the licensee trending efforts, and licensee human performance results. The inspectors reviewed the licensee quarterly trend report for May-July 2004, plant key performance indicator report for November 2004, daily CRs, selected completed CRs, Maintenance Rule (a)(1) list, equipment health reports, and quality assurance reports to identify trends. The inspectors compared and contrasted their results with the results contained in the licensee's quarterly trend reports. Corrective actions associated with a sample of the issues identified in the licensee's trend report were reviewed for adequacy. The inspectors also evaluated the reports against the requirements of the licensee's CAP procedures FNP-0-AP-30.0, Corrective Action

Reporting and NMP-GM-002-GL05, Corrective Action Program Trend Coding and Analysis Guideline, and the requirements of 10 CFR 50, Appendix B.

b. Assessments and Observations

No findings of significance were identified. The inspectors compared the licensee's reviews with the results of the inspectors daily screening and did not identify any discrepancies or potential trends in the data which the licensee had failed to identify.

4OA3 Event Follow-up

1. Loss of 'B' Train Offsite Power

a. Inspection Scope

On November 5, 2004, with the reactor in Mode 6, Unit 1 experienced a B train loss of site power during surveillance testing resulting in a loss of power to the running B Residual Heat Removal (RHR) pump. The inspectors responded to the control room within minutes following the event and observed plant conditions. Plant operators had immediately started the A RHR pump in accordance with plant procedures to restore cooling to the reactor. The refueling cavity was flooded at the time and the time to boil was greater than 20 hours. There was no increase in reactor coolant temperature. The licensee secured from the surveillance testing and initiated CR 2004105289 to address corrective action.

b. Findings

No findings of significance were identified. No immediate safety concerns were apparent to the inspectors. The licensee will submit an Licensee Event Report (LER) on this event.

2. (Closed) LER 2001-002-00, Penetration Fire Seals Do Not Meet 3-hour Fire Rating

This LER reported that approximately 49 penetration fire seals were larger than the tested configuration for a three-hour fire barrier. Therefore, the seals could not qualified as a three-hour fire barrier as required by 10 CFR 50 Appendix R. The inspectors walked down the affected plant fire areas and determined that only eight plant fire areas were not safe-shutdown independent. To determine the safety significance for the these eight plant fire areas, the inspectors analyzed a single fire scenario that was bounding for all eight fire areas. Based on the bounding analysis, the inspectors determined this condition was of very low safety significance (Green). The enforcement aspects of this LER are discussed in Section 4OA7. This condition is in the licensee's CAP as CR 2001001509. This LER is closed.

4OA5 Other Activities

1. (Closed) Temporary Instruction (TI) 2515/152, Reactor Pressure Vessel Lower Head Penetration Nozzles (NRC Bulletin 2003-02) (Unit 1)

a. Inspection Scope

The inspectors reviewed the licensee's inspection activities related to the Unit 1 reactor vessel lower head penetrations in response to NRC Bulletin 2003-02, Leakage from Reactor Pressure Vessel Lower Head Penetrations and Reactor Coolant Pressure Boundary Integrity, in accordance with NRC TI 2515/152, Reactor Pressure Vessel Lower Head Penetration Nozzles (NRC Bulletin 2003-02), dated August 21, 2003. The inspection included review of Visual Test (VT) procedures, assessment of VT personnel training and qualifications, and observation and assessment of VT examinations. Specifically, the inspectors visually inspected the lower penetration nozzles and observed in-process bare metal video VT inspection. The inspectors reviewed the complete video inspection.

b. Findings and Observations

The inspectors found that the VT examinations were performed by trained and American Society of Mechanical Engineers (ASME) VT-2 Level III qualified inspection personnel. The examiners were experienced and had additional training in inspecting the lower head penetrations. The inspectors verified the adequacy of licensee procedure FNP-0-NDE-100.47, Visual Examination of Reactor Vessel Bottom Mounted Instrumentation Penetrations, used to conduct the examination

The licensee performed VT examinations of all 50 nozzle penetrations and the lower head. The VT-2 inspection included inspection of the circumference of each nozzle and was capable of identifying any pressure boundary leakage as described in the Bulletin and any lower head corrosion. There were no impediments identified that would impact VT examination.

The inspectors observed the visual clarity, resolution and color of the video inspection process allowed for effective visual examination of the vessel lower head surface and circumferential coverage of each head penetration. The visual inspection was capable of identifying small debris or boric acid deposits as a result of primary water stress corrosion cracking through evidence of leakage from a penetration. No leakage was identified from any of the vessel lower head penetrations.

The examination involved a camcorder and video taping of the lower reactor vessel head surface in the area of the 50 nozzles as well as the circumference of each nozzle. The inspection was conducted using a camcorder manually positioned around the bottom head area. The inspectors observed the condition of the bottom head area and a portion of the video taping.

There were no indication of leakage sources, insulation, debris, dirt, or other physical impediments that prevented a complete visual examination. The vessel lower head was free of debris, dirt, or large boron deposits. The head was clean except for evidence,

identified during a previous outage, of a rusty stain indication at the bottom head area. A CR was written to address this condition. No chemical analysis of any material was required.

2. (Discussed) TI 2515/153, Reactor Containment Sump Blockage (Unit 1)

a. Inspection Scope

The inspectors reviewed the licensee's activities in response to NRC Bulletin 2003-01, Potential Impact of Debris Blockage on Emergency Sump Recirculation at Pressurized Water Reactors, dated June 9, 2003. The inspection included review of the licensee's 60 day Bulletin response letter dated August 7, 2003, review of interim compensatory measures implemented to reduce the potential risk due to post-accident debris blockage on emergency sump recirculation, and walk-down of the Unit 1 containment prior to re-start from the current refueling outage to identify if any sources of potential debris existed that could impact the containment recirculation sump performance. The inspectors reviewed the following compensatory actions identified in the licensee's August 7, 2003, response to verify the actions were either implemented or planned and scheduled.

b. Findings and Observations

1. Operator training on indications of and response to sump clogging:

The inspectors reviewed Training Advisory Notice (TAN) 20030714A, FNP Response to NRC Bulletin 2003-01, Potential Impact of Debris Blockage on Emergency Sump Recirculation at Pressurized Water Reactors. The Emergency Core Cooling System (ECCS) logs were revised to annotate specific RHR/Low Head Safety Injection, Charging/High Head Safety Injection, and Containment Spray System (CSS) parameters to monitor for signs of sump clogging. Possible indications of sump clogging would be oscillations or unexplained reductions in system flows, pump amperes or discharge pressure. The TAN was issued to licensed personnel.

2. Procedural modifications, if appropriate, delaying the switchover to containment sump recirculation:

The licensee determined the existing procedural guidance in ECA-1.1, Loss of Emergency Coolant Recirculation, provided adequate guidance for a complete loss of Safety Injection or CSS recirculation flow path. However, the licensee planned to review any future Westinghouse Owners Group recommendations when issued and determine if any specific changes are required.

The procedure provides guidance to reduce ECCS and CSS flows to conserve RWST inventory while efforts to restore normal ECCS flow paths are undertaken.

3. Ensuring that alternate water sources are available to refill the RWST or to otherwise provide inventory to inject into the reactor core and spray into the containment atmosphere:

The licensee determined procedure ECA-1.1, Loss of Emergency Coolant Recirculation, has guidance to add makeup to the RWST and/or consult the Technical Support Center (TSC) staff to determine alternate sources for makeup. Severe Accident Management Guideline, SAG-8, Flood Containment, has details for providing alternate un-borated sources of RWST makeup if needed.

The inspectors reviewed procedure ECA-1.1. Step 5 states makeup to the RWST as necessary in accordance with procedure SOP-2.3, Chemical and Volume Control System Reactor Makeup Control System, or consult the TSC.

4. More aggressive containment cleaning and increased foreign material controls:

   The licensee determined existing procedures provided adequate guidance for containment cleaning and foreign material control. The inspectors reviewed the following procedures used during the Unit 1 Fall 2004 outage:

   C FNP-1-STP-34.0, Containment Inspection (General)
   C FNP-1-STP-34.2, Containment ECCS Sump Intake Inspection
   C FNP-1-STP-34.1, Containment Inspection (Post Maintenance)

   In addition, the inspectors performed a walk-down of the Unit 1 containment at the start of the outage to check containment conditions near the sumps. The inspectors inspected the sumps during the licensee's sump inspection. The inspectors conducted a closeout inspection of containment at the end of the outage.

5. Ensuring containment drainage paths are unblocked:

   The inspectors reviewed procedure FNP-1-UOP-4.1, Controlling Procedure for Refueling, and verified it contains procedure steps for ensuring the reactor cavity drain valves are open and blind flanges removed. In addition, the inspectors verified the procedure was implemented during the refueling outage.

6. Ensuring sump screens are free of adverse gaps and breaches:

   The inspectors reviewed procedure FNP-1-STP-34.2, Containment ECCS Sump Intake Inspection and verified it contained steps for ensuring that sump screens are not restricted by debris, are properly installed, the wire mesh is not damaged, and gaps greater than 1/8 of an inch are not present in the mesh.

3. TI 2515/160, Pressurizer Penetration Nozzles and Steam Space Piping Connections in U.S. Pressurized Water Reactors (Unit 1)

   a. Inspection Scope

   The inspectors reviewed procedures and records documenting activities relative to inspection of the Unit 1 pressurizer penetrations to verify that the licensee complied with commitments made in July 26, 2004, response to NRC Bulletin 2004-01. The inspectors reviewed the records documenting the results of visual inspections performed on the dissimilar welds and the video images of the as-found welds. The inspectors

also independently performed a bare metal visual examination of the following pressurizer penetrations: two of the three six inch diameter safety nozzles, the six inch diameter relief nozzle, the manway diaphragm, and the four inch diameter spray nozzle on the pressurizer head. Documents reviewed are listed in the Attachment.

b. Findings and Observations

For each of the examination methods used during the outage, was the examination:

1. Performed by qualified and knowledgeable personnel?

   The “bare-metal” visual examinations of the pressurizer penetrations were conducted by licensee NDE inspection personnel who had been trained and qualified in accordance with applicable visual inspection procedures, and were certified in accordance with ASME Code requirements.

2. Performed in accordance with demonstrated procedures?

   The visual inspections were conducted in accordance with licensee procedure FNP-0-NDE-100.22, Visual Examination, VT-2, Version 5.0. The inspectors reviewed the inspection procedure and verified that it had been reviewed and approved in accordance with the licensee’s procedure review process and NRC requirements. The inspectors verified that the procedure specified inspection prerequisites, inspection requirements, included minimum lighting requirements, adequate instructions for performing the visual examination of the pressurizer penetrations, and inspection documentation requirements.

3. Able to identify, disposition, and resolve deficiencies?

   The inspectors reviewed the licensee’s procedure controlling the visual examination and determined that the procedure provided adequate guidance to identify, disposition and resolve identified deficiencies in the pressurizer head penetrations.

4. Capable of identifying the leakage in pressurizer penetration nozzle or steam space piping components, as discussed in NRC Bulletin 2004-01?

   The visual examination method was capable of identifying leakage through and around areas adjacent to the pressurizer penetrations.

5. What was the physical condition of the penetration nozzle and steam space piping components in the pressurizer system?

   Prior to the visual inspections, insulation was removed from the pressurizer head and penetrations. The areas were free of debris, dirt, boron from other sources. The physical layout of the area was congested, however, with the insulation removed, NDE inspection personnel were able to perform visual inspections around 360E of the circumference of each penetration. There were no viewing obstructions.

6. How was the visual inspection conducted?

   Inspections were conducted by direct visual by NDE inspection personnel. In addition, the licensee recorded the as-found conditions of the penetrations using a video camera. Resolution of the images recorded by the camera were excellent.

7. How complete was the coverage?

   360E around the circumference of all the nozzles.

8. Could small boron deposits, as described in the Bulletin 2004-01, be identified and characterized?

   With the lighting available, boron deposits, as described in the Bulletin, could have been readily identified and characterized. No boron deposits were found.

9. What material deficiencies were identified that required repair?

   No material deficiencies were identified that required repair.

10. What, if any, impediments to effective examinations, for each of the applied methods, were identified?

    No significant items were encountered that impeded the bare metal examinations of the pressurizer penetrations.

11. If volumetric or surface examination techniques were used for the augmented inspections examinations, what process did the licensee use to evaluate and dispose any indications that may have been detected as a result of the examinations?

    No indications were identified.

12. Did the licensee perform appropriate follow-on examinations for indications of boric acid leaks from pressure-retaining components in the pressurizer system?

    No indications of leakage were identified during the current outage.

4. Visual Inspection of Plant Systems, Structures, and Components in Containment

   a. Inspection Scope

   The inspectors performed visual inspections of the interior of the Farley Unit 1 containment during Refueling Outage 19. This included observation of accessible portions of plant systems, structures, components, instrumentation lines, and electrical cables inside the containment to observe material condition and inspect for aging

conditions that might not have been previously recognized and addressed in the License Renewal Application. The following is a partial list of equipment observed:

- Main steam and feedwater systems pipe supports
- Personnel and equipment hatches
- SGs “A”, “B”, and “C” supports
- CS spray headers and piping
- Ventilation ducting
- Electrical cables and supports
- Instrumentation lines, instrumentation, and supports
- “A”, “B”, and “C” reactor coolant pump cubicles/loop rooms
- Containment electrical penetrations
- Accumulator tanks
- Pressurizer relief tank
- Containment piping penetration area
- Containment liner and coatings
- Containment tendon gallery

The observations of general material conditions included: inspection of piping components for evidence of leaks or corrosion, inspection of coatings (piping, tanks, and structural components), and inspection of electrical cables and instrumentation lines for indications of deterioration. With the exception of housekeeping in the tendon gallery and some minor degradation of coatings on the containment liner plate, the material condition at Farley was good and no significant aging management issues were identified. The degraded coatings are confined to a few small areas which have been monitored since 1999. Further evaluation of the degraded coatings will be performed by the licensee under Generic Letter 2004-01. Ground water continues to infiltrate into the tendon gallery. Portions of the “rain gutter” constructed to direct the water to the sumps have filled with mud and collapsed, resulting in mud and debris collecting on the tendon gallery floor. Documents reviewed are listed in the Attachment.

b. Findings and Observations

No findings of significance were identified. The material condition at Farley was good and no significant aging management issues were identified.

5. (Closed) URI 0500348, 364/2004004-03, Non-conservative Acceptance Criteria For Service Water Pump Testing (TI 2515/160)

The inspectors reviewed additional documentation on SW pump ASME Code testing and Safety Analysis documentation on the process described in the 1998 NRC relief request (TAC Nos. M99186 and M99187) to verify the licensee was performing the described review process. The relief request granted dual pump flow testing (each set of three pumps tested with one another as a pair). Per the request, the licensee was to use an analytical process to identify individual pump performance. For the pump evaluations sampled, the licensee was reviewing individual pump data to insure that the pumps exhibiting degraded performance were properly evaluated. Of the evaluations sampled, the licensee had identified individual pumps that had degraded into Code action/acceptance ranges and they had taken actions as required. Based on this

review, the unresolved item is closed. Documents reviewed are listed in the Attachment.

6. Unit 1 Reactor Vessel Closure Head Replacement Project (RVCHRP)

Radiation Protection Inspection. The inspectors reviewed and evaluated radiation protection planning and preparation and implementation of radiological controls for reactor vessel head replacement activities. Specifically, the inspectors reviewed, discussed, and evaluated ALARA planning documents; dose estimates and dose tracking; exposure controls including temporary shielding; contamination and airborne radioactivity controls; radioactive material management; transportation work plan documents; emergency contingencies; and project staffing and training plans.

ALARA work plan details for the reactor vessel head replacement were reviewed. The radiation, contamination, and airborne radioactivity surveys in the packages were reviewed for radiological work conditions and the adequacy of prescribed postings and surveys. The inspectors reviewed RWPs to determine projected exposure, expected conditions, ED dose and dose-rate alarm settings, dosimetry requirements, protective clothing/equipment, worker instructions, and HPT instructions. The ALARA exposure estimates were reviewed and evaluated against work scope/radiological conditions. In addition, the inspectors reviewed internal dosimetry assessments for engineering controls. Corrective action documentation was reviewed for significant trends or recurring problems with work practices and controls. The expected and measured source term and ALARA initiatives implemented during the tasks evolutions were discussed.

The inspectors discussed contingency plans associated with movement of the reactor vessel head from the Unit 1 containment to the OSGSF temporary on-site storage location. In addition, dose-rate data and resultant cumulative dose to workers involved with removal and packaging of the Unit 1 vessel head were reviewed and discussed in detail. The inspectors toured and conducted independent surveys of the temporary storage facility environs; and discussed radiological controls and temporary monitoring programs at the OSGSF location.

Licensee program activities and their implementation were evaluated against 10 CFR 19.12; 10 CFR 20, Subparts B, C, F, G, H, and J; and approved licensee procedures. Licensee guidance documents, records, and data reviewed within this inspection area are listed in Sections 2OS1 and 2OS2 of the report Attachment.

Review of RVCHRP Lifting and Transportation Program Activities. The inspectors reviewed the adequacy of the RVCHRP lifting program as described in Design Change Package 03-1-9914-0-001, “Replace Reactor Vessel Head and Implement Simplified Head Assembly Upgrade”, assuring that it was prepared in accordance with regulatory requirements, appropriate industrial codes and standards, and verified that the maximum anticipated loads to be lifted would not exceed the capacity of the lifting equipment and supporting structures.

The inspectors examined the RVCHRP lifting equipment including a Gantry Crane, a down/up-ender, a head lifting tripod and rigs, runway skid systems, load paths, and a Self Propelled Modular Transport.

The inspectors reviewed the adequacy of the transport programs, procedures, work packages and load test records, to assure that they had been prepared and tested in accordance with regulatory requirements, appropriate industrial codes, and standards.

The inspectors also reviewed the adequacy of the licensee's analyses and calculations for handling loads during the rigging and lifting, the load path analysis, polar crane maintenance records, and lifting and rigging drawings.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

On January 6, the inspectors presented the inspection results to Mr. Randy Johnson and the other members of his staff who acknowledged the findings. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

4OA7 Licensee-Identified Violations

The following violations of very low safety significance (Green) were identified by the licensee and are violations of NRC requirements which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as NCVs.

1. TS 5.7.1 requires each HRA to be barricaded and conspicuously posted. Contrary to this requirement, on October 12, 2004, at 08:30, the HRA posting at the biowall entrance to the Unit 1 'B' Steam Generator area was found turned over making the HRA posting inconspicuous. At 12:00 on the same day, the rope and posting were found in a configuration which did not extend across the access point resulting in the failure to maintain the required HRA entrance barricade. Both examples were identified and immediately corrected by the licensee during routine posting checks of the Unit 1 containment. This event is documented in the licensee's CAP as CR 2004104156. This violation is of very low safety significance because there was no evidence of unauthorized worker entries into the area nor unexpected/unintended radiation exposures to licensee personnel.

2. 10 CFR 50 Appendix R, III.G.2.a. required that fire barriers separating redundant trains have a 3-hour fire rating. Contrary to the above, the licensee identified 49 fire penetration seals that could not be qualified as having a 3-hour rating. This violation was is of very low safety significance because the detection and suppression systems were not degraded and there were no credible fire scenarios that would challenge the penetration seals. This condition is in the licensee's CAP as CR 2001001509.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

J. Aycock, Corporate ISI Inspection Specialist
R. Badham, Security Manager
W. Bargeron, Assistant General Manager - Operations
W. Bayne, Performance Analysis Supervisor
S. Chestnut, Engineering Support Manager
C. Collins, Nuclear Support General Manager, Farley Project
R. Fucich, Work Control Superintendent
P. Harlos, Health Physics Manager
J. Horn, Training and Emergency Preparedness Manager
J. Johnson, Plant General Manager
M. Johnson, Engineering Support
R. Johnson, General Manager
T. Livingston, Chemistry Manager
R. Martin, Operations Manager
B. Moore, Maintenance Manager
W. Oldfield, Quality Assurance Supervisor
T. Youngblood, Assistant General Manager - Plant Support

NRC personnel
B. Bonser, Chief, Reactor Projects, Branch 2

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Closed		
05000348,364/2001-002-00	LER	Penetration Fire Seals Do Not Meet 3-hour Fire Rating (Section 4OA3.2)
2515/152 (Unit 1)	TI	Reactor Pressure Vessel Lower Head Penetration Nozzles (Section 4OA5.1)
2515/160 (Unit 1)	TI	Pressurizer Penetration Nozzles and Steam Space Piping Connections in U.S. Pressurized Water Reactors (Section 4OA5.3)
05000348,364/2004004-03	URI	Non-conservative Acceptance Criteria Used For Service Water Pump Testing (Section 4OA5.5)
Discussed		
2515/153 (Docket 50-348)	TI	Reactor Containment Sump Blockage (Section 4OA5.2)

LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

AI 2004204372
CR 2004101977
CR 2004102818
CR 2004102795
CR 2004102496

Section 1R05: Fire Protection

Fire Zone data sheet A-508651-6
Fire Zone data sheet A-508650-16
Fire Zone data sheet A-508650-20
Fire Zone data sheet A-509018-10
Fire Zone data sheet A-508650-33
Fire Zone data sheet A-508650-32
Fire Zone data sheet A-509018-20
FNP-1,2-FSP-9, Portable Extinguishers, Monthly
FNP-1-63.17, Visual Inspection of Penetration Fire Barriers

Section 1R08: Inservice Inspection Activities

Procedure FNP-100, Nondestructive Examination Performance
Procedure FNP-100.5, Liquid Penetrant Examination (Color Contrast and Fluorescent)
Procedure FNP-100.11, Magnetic Particle Examination
Procedure FNP-100.21, Visual Examination VT-1
Procedure FNP-100.22, Visual Examination VT-2
Procedure FNP-100.23, Visual Examination VT-3
Procedure FNP-100.39, Ultrasonic Examination Performance
Procedure FNP-1-STP-157.0, Inservice Inspection of Class 1, 2, &3 Systems and Components, dated 2/3/04
Procedure FNP-1-STP-609, Containment Tendon Surveillance Test, dated 7/10/2002
Procedure FNP-0-ETP-4496, Corrosion Assessment, dated 10/8/2004
Procedure FNP-0-—101, Boric Acid Control Program, dated 9/14/2004
Wes Dyne QA Procedure WDP-9.2, Qualification and Certification of Personnel in Non Destructive Examination, Rev. 3, and Field Changes 1, 2, & 3, dated 3/5/2004
Letter number NL-03-1259, Risk-Informed Inservice Inspection Program, ASME Category B-F, B-J, C-F-1, and C-F-2 Piping, dated July 17, 2003
Safety Evaluation Report dated March 9, 2004, TAC Nos. MCO 178 and 179, Risk-Informed Inservice Inspection - ASME Code B-F, B-J, CF-1, and CF-2 Piping
Visual Inspection records for two hydraulic snubbers
CR 2004104601, Degradation of Containment Moisture Barrier at Azimuth 163 and 260 degrees
MWR 98008009, Monitor Unit 1 Containment Liner Coatings in Representative Areas That Contain Linear Blisters

Section 1R11: Licensed Operator Requalification
FNP-1-ARP-1.9, Annunciator Response Procedure
FNP-1-EEP-0, Reactor Trip or Safety Injection
FNP-O-EIP-9.0, Emergency Classification and Actions

Section 1R20: Refueling and Outage Activities
FNP-1-STP-35.0, Reactor Coolant System Pressure and Temperature/Pressurizer Temperature Limits Verification
FNP-1-UOP-4.1, Controlling Procedure For Refueling
FNP-1-STP-18.4, Containment Mid-Loop and/or Refueling Integrity Verification and Containment Closure
FNP-0-UOP-4.0, General Outage Operations Guidance
FNP-0-ACP-47.1, Outage Readiness Review Process
FNP-0-AP-94, Outage Nuclear Safety
FNP-1-UOP-4.3, Mid-Loop Operations
FNP-1-UOP-3.1, Power Operation
FNP-1-UOP-1.2, Startup of Unit from hot standby to minimum load

Section 1EP2: Alert and Notification System Testing
GO-EIP-136, Rev 10, Alert Radio Distribution and Maintenance
GO-EIP-137, Rev 6, ANS Siren System Testing and Maintenance

Section 1EP3: Emergency Response Organization (ERO) Augmentation
GO-EIP-131, Rev 15, Emergency Plan Drills and Exercises
FN-0-ACP-88.1, Rev. 39 FNP Emergency Plan
EP Focused Self Assessment - EP Annual Exercise (08/27/03)

Section 1EP4: Emergency Action Level (EAL) and Emergency Plan Changes
GO-EIP-131, Rev 15, Emergency Plan Drills and Exercises
GO-EIP-135, Rev 9, Emergency Plan Review and Revision
FN-0-ACP-88.1, Rev. 39 FNP Emergency Plan
EP Focused Self Assessment - EP Annual Exercise (08/27/03)

Section 1EP5: Correction of Emergency Preparedness Weaknesses and Deficiencies
EP Focused Self Assessment - EP Annual Exercise (08/27/03)

Section 2OS1: Access Controls to Radiologically Significant Areas
Procedures, Manuals, and Guidance Documents
Farley Nuclear Plant (FNP)-0-Administrative Control Procedure (ACP)-88.1, Applicability Determination, Version (Ver.) 2.0
FNP-0-Administrative Procedure (FNP-0-AP)-88, 10CFR 50;59 Screening and Evaluation, Ver. 8.0
Farley Nuclear Plant Radiation Control and Protection Procedure (FNP-0-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-0.3, Health Physics Stop Work Authority and Guidance on Response, Ver. 1.0
FNP-0-RCP-10, Health Physics Condition Reports and The Health Physics Observation Program, Ver.41
FNP-0-RCP-12, Unit 1 Moveable Incore Detector (MID) Work, Ver. 14
FNP-0-RCP-29.1, Guidelines for Personnel Decon and Response to Personnel Contamination Events, Ver. 5.0
FNP-0-RCP-114, Operation and Care of Safety and Supply's Model RC 2095, Lanc's Model LI-520Y Series All Clear Air-fed Hood, and Defense Apparel's HSQ-10 Supplied Air Hood Assembly, Ver. 7.0
FNP-0-RCP-190, Skin Dose Assessment Due to Contamination on Personnel Skin or Clothing, Ver. 13.0
FNP-0-RCP-848, Operation and Use of Negative Pressure Units, Ver. 8.0
FNP-0-Dosimetry Procedure (DOS) - 1, Personnel Monitoring, Ver. 41.1
Nuclear Management Procedure (NMP)-GM-002-GL02, Corrective Action Program Details and Expectations Guidelines, Ver. 2
NMP-SH-002, Heat Stress, Ver. 1.0
Radiation Work Permit (RWP) 04-1301, Health Physics-HP; All Work Associated with General Health Physics Job Coverage in the Auxiliary Building or Unit 1 Containment to Support the 1R19 Outage, Rev. 1
RWP-04-1438, Maintenance-I&C; All Seal Table Disassembly/Reassembly and Thimble Cleaning in the Unit 1 Containment to Support the 1R19 Outage (Not To Include Incore Drive Work), Rev. 0
RWP-04-1451, Maintenance-MM, All Work Associated with Maintenance on Valves Reading Less Than 1000 mrem/hr Contact and not Specifically Covered by Other RWPs in the Auxiliary Building and U1 Containment to Support the 1R19 Outage, Rev. 1
RWP-04-1461, Maintenance-MM, EM, I&C; All Work Associated with Disassembly and Reassembly of Rx Head in U1 CTMT to Support the U1 R19 Activities (Including Work on Sand Box Covers, NI Covers, Stud Hole Plugs, Dirt Barrier, and Cavity Seal Ring), Rev. 1; Pre-Job Checklist, 9/21/04; and Work Plan for Head Disassembly and Reassembly
RWP 04-1480, Maintenance; All work Associated with Scaffolding in the Reactor Auxiliary Building (RAB) and Containment to Support the 1R19 Activities
RWP- 04-1482, Maintenance; All Work Associated with Insulation Removal and Replacement in U1 CTMT and RAB to Support the 1 R19 Outage; HP Form 299, Pre-Job Checklist, dated 9/9/04
RWP 04-1626, ES-Westinghouse, Williams, ES, MM, EM, HP; All Work Associated with Replacement of the U1 Reactor Head during the 1 R19 Outage, Rev. 0; HP Form 299, Pre-Job Checklist, dated 9/21/04; and 1 R19 Health Physics Reactor Head Replacement Work Plan, dated 9/29/04; Reactor Head Replacement Cutting, Welding, and Burning Guideline, dated 9/23/04
RWP- 04-1738, Operations-ES, HP Westinghouse; All Work Associated with the Split Pin Modification in the U1 CTMT to Support the 1 R19 Outage, Rev. 0; HP Form 299, Pre-Job Checklist, dated 9/21/04; Health Physics Work Plan for Split Pin Replacement
RWP- 04-1782, Engineering Support-ES, WMS, Westinghouse; All Work Associated with the Inspection of the Rx Vessel Nozzle in the U1 CTMT to Support the 1 R19 Outage, Rev. 0; HP Form 299, Pre-Job Checklist, dated 10/4/04

Licensee Records and Data
Access Control Dose Rate Alarm Setpoints > 1 rem per hour; January 1, 2004, through September 9, 2004
Access Control Dose Alarms Exceeding Established RWP Setpoints: January 1, 2004, through September 9, 2004
U1 and U2 Spent Fuel Pool Inventories as of October 22, 2004
RER F1040639901, Temporary Storage of Unit 1 Old Reactor Vessel Head Onsite: Applicability Determination Checklist and 10 CFR 50.59 Screening Determination, 10/14/04
Radiation Survey No. 13264, Old Steam Generator Storage Facility Survey, 10/20/04
Radiation Survey No. 11899, U1 155 Foot (') Elevation, Auxiliary Building, 9/6/04
Radiation Survey No. 11906, U1 155' Elevation, Auxiliary Building, 9/6/04
Radiation Survey No. 11932, U1 155' Elevation, Auxiliary Building, 9/8/04
Radiation Survey No. 12729, U1 105' Elevation, Containment, 10/09/04
Radiation Survey No. 13043, U1 105' Elevation, Containment, 10/16/04

Corrective Action Program (CAP) Documents
Condition Report (CR) Number (No.) 2004001587, Dose Rate Alarms for Two Workers During Unit 2 Transfer Canal Clean-out, 04/05/04
CR No. 2004001623, Discrete Radioactive Particle, 600,000 dpm/scan, Detected On Worker's Face, 4/6/04
CR No. 2004100218, Exclusion Area Fence Door Lock to U2 CVCS Demineralizer Valve Hallway Pipe Chase Broken, 6/11/04.
CR No. 2004101630, U1 "A" Flux Map Detector Stuck in Fully Withdrawn Position at Drive Box and Could Not be Inserted Into Storage, 07/29/04

Section 2OS2: As Low As Reasonably Achievable
Procedures, Manuals, and Guidance Documents
FNP-0-RCP-19, Pre and Post Job ALARA Planning for Work in Radiation Controlled Areas of the Plant, Ver. 19
FNP-Unit 1-Chemistry Control Procedure (CCP)-203, Chemistry and Environmental Group Considerations during Operational Transients, Ver. 23

Licensee Records and Data
Declared Pregnant Work Election Forms, January 1, 2003 through October 22, 2004; and Supporting Documentation
Plant ALARA Review Committee (PARC) Quarterly Meeting Minutes: 4th quarter CY 2003 and 1st, 2nd, and 3rd Quarter 2004
Unit 1 Refueling Outage 19 (1RF19), RCS Shutdown Chemistry Data, from 03:35 Hours on 10/02/2004 through 11:30 hrs on 1004/2004.
1RF19 Crudburst Data Including: Actual versus Theoretical Cobalt (Co)-58 Cleanup Rate 10/02-04/2004; Manganese(Mn)-54, Co-58, and Co-60 Activity Concentration Data, 0 through 70 hours post shutdown
1RF19 Shutdown Chemistry Crudburst Peak Cobalt 58 Values for RF 13 through RF 18,
1RF19 General Area Survey Point Comparison Data Outside and Inside Bioshield for 1RF18 and RF 19
1R19 Health Physics Old Reactor Head Transportation Plan, dated 9/29/04
1R19 Health Physics Reactor Replacement Work Plan, dated 9/29/04

1R19 Dose Update Data Sheets: October 2-22, 2004
Work Order (WO) 3002362, Part Stock Number 0000000000302 Plug/Stem Assembly Material Composition Description
WO 99008233, Parts Stock Number 0000000156441, Disc Valve, Material Composition Description

CAP Documents
Action Item 2004203221, Evaluate Methods for Securing Cables from Tri-Nuclear Filters in the U2 SFP Using Exclusion Area Locks, 7/6/04
CR No. 2004000105, Tri-Nuc Filters Stored in U1 and U2 SFP Locations Have Exceeded 1E+6 Rad Threshold, 1/09/04
CR No. 2004001999, Scaffolds Are Being Built in Non-Rad and Radiation Areas to Support Work that Does Not Require a Scaffold, 03/26/04
CR No. 2004100400, Unit 2 Steam Generator Level Transmitter Actual Dose Expenditure Exceeded Estimates by More Than 50 Percent, 6/17/04
CR No. 2004001148, Unnecessary Stockpiling of Lead Shielding in Containment During U2 Outage, 3/16/04
CR No. 2004101936, Redundant Leak Checks On U1 Residual Heat Removal Sump Pumps on Work Orders OM 53608301 and OM 53608201, 8/12/04

Section 2PS2: Radioactive Material Processing and Transportation
Procedures, Manuals, and Guidance Documents
FNP-0-RCP-810, Shipment of Radioactive Waste, Ver. 42.0
FNP-0-RCP-811, Shipment of Radioactive Material, Ver. 32.0
FNP-0-RCP-812.7, Use of the RWE NUKEM, Corp. (RSM) 10-142B Shipping Cask, Ver. 4.0
FNP-0-RCP-820, Scaling Factor Utilization for Waste Classification, Rev. 10
FNP-0-RCP-809, Isotopic Characterization of Radioactive Waste Streams for Offsite Shipments and/or Burial, Ver. 15.0
FNP-1-SOP-50.4, Demineralizer Resin Removal and Addition, Ver. 29.0
FNP-0-—030, Process Control Program, Rev. 15
User's Information Package for the 10-142B Shielded Transportation Cask, RWE NUKEM Corp.
NMP-GM-002-GL02, Corrective Action Program Details and Expectations Guideline, Ver. 2.0.

Records and Data
Radioactive Material Shipment (RMS) 02-42, Outage Equipment, 10/8/02
RMS 02-20, Primary Resin, 11/22/02
RMS 03-50, U1 Reactor Vessel Specimen, 8/20/03
RMS 03-61, U1 Baffle Bolts, 11/21/03
RMS 04-04, Primary Resin, 2/10/04
10 CFR Part 61 Radioactive Waste Stream Analysis Reports, SFP filters, RCS filters, and DAW, 2003 and 2004
CoC no. 9208, Model no. 10-142 Shipping Package
RER F1040639901, Temporary Storage of Unit 1 Old Reactor Vessel Head Onsite: Applicability Determination Checklist and 10 CFR 50.59 Screening Determination, 10/14/04

CAP Documents
CR No. 2002002468, Shipment from Farley Received at Waltz Mill with Higher than Expected Package Dose Rates, 10/10/02.
CR 2002002821, Type B shipping cask tie-down cable found corroded upon receipt inspection, 11/19/02.
CR 2004101888, increased concentrations of C-14 in U1 and U2 radwaste streams, 8/6/04.
CR 2004104433, outside vendor comparison of 10 CFR Part 61 results was out of tolerance with in-house data, 10/15/04.
Audit No. 03-RAD/02, Audit of Radiological Controls and Radioactive Waste Management, 9/30/03.

Section 4OA1: Performance Indicator Verification
Cornerstone: Occupational Radiation Safety
CR No. 2004001587, Dose Rate Alarms Received by Two Workers Conducting U2 Transfer Canal Cleanout, 4/5/04
CR No. 2004100240, U1 Containment Purge Line Does Not Have Adequate Flow, 6/12/04.

Cornerstone: Public Radiation Safety
Out-of-Service Effluent Monitor Report, December 2003 - September 2004 Liquid Radioactive Waste Release Permits 40467.021.046.L and 40470.012.152.L
Gaseous Radioactive Waste Release Permits 40276.017.040.G and 40279.027.043.G
CR No. 2004100783, Simultaneous Effluent Monitor Spikes on U1 monitors R22 and R14, 6/30/04.

Cornerstone: Emergency Preparedness
GO-EIP-131, Rev 15, Emergency Plan Drills and Exercises
GO-EIP-135, Rev 9, Emergency Plan Review and Revision
GO-EIP-136, Rev 10, Alert Radio Distribution and Maintenance
GO-EIP-137, Rev 6, ANS Siren System Testing and Maintenance
FN-0-ACP-88.1, Rev. 39 FNP Emergency Plan
EP Focused Self Assessment - EP Annual Exercise (08/27/03)

Section 4OA5: Other Activities
TI 2515/160
Wes Dyne QA Procedure WDP-9.2, Qualification and Certification of Personnel in Non Destructive Examination, Rev. 3, and Field Changes 1, 2, & 3, dated 3/5/2004
Visual Inspection (VT-3) reports for reactor vessel supports, and six pipe supports
Records for Penetrant Exams (PT) performed on piping welded attachments (pipe lugs) at three pipe supports
Ultrasonic examination reports for exams performed on reactor vessel studs S39 through S58
Visual Inspection (VT-1) reports for reactor vessel stud washers S39 through S 58
Records of visual inspections performed on Unit 1 pressurizer penetrations
Material certifications for Ultragel II, lot numbers 01225 and 02225, and Magnaflux powder, Batch 95H062.

Visual Inspection of Plant Systems, Structures, and Components in Containment
Procedure FNP-1-ETP-237, RHR Leakage Assessment, Version 14. dated 9/14/2004
Procedure FNP-1-ETP-262, CVCS Leakage Assessment, Version 12. dated 9/14/2004
Procedure FNP-1-ETP-265, Sampling System Leakage Assessment, Version 14. dated 9/14/2004
RHR Leakage Assessment, Procedure FNP-1-ETP-237, completed 10/2/2004
CVCS Leakage Assessment, Procedure FNP-1-ETP-262, completed 9/27/2004
Sampling System Leakage Assessment, Procedure FNP-1-ETP-265, Completed 9/29/2004
Records for Magnetic Particle Exams (MT) performed on two piping welds
Indication Evaluation Report (IER) 010, Bound Spherical Bearing on Piping Hanger AL2-4631-SI-R64 (CR2004104034)
IER 012, Bound Spherical Bearing on Piping Hanger AL2-4701-CS-R297 (CR2004103985)
IER 013, Bound Spherical Bearing on Piping Hanger AL2-4517-RHR8-R52 (CR2004104027)
Action Item 2004201811, Revise FSAR Sections 3.8.1.7 and 3A to Update FSAR for ASME Section XI IWL Requirements

URI 0500348,364/2004004-03
Procedures:
FNP-1-STP-24.1, 1A, 1B,and 1C Service Water Pump Quarterly Inservice Test, Version 48.0 (TYPICAL)

Service Water Pump Documented Evaluations
FNP-1-STP-24.2 - Pump 1D, dated 3/18/2003
FNP-1-STP-24.12 & 24.13 - Pumps 1A, 1D, and 1E, dated 4/23/2003
FNP-1-STP-24.2 - Pumps 1D and 1E, dated 2/19/2003
FNP-1 and -2-STP-24.2 - Pumps 1C, 1D, 1E, 2C, 2D, and 2E, dated 7/12/2004
FNP-2-STP-24.13 - Pump 2D, dated 4/6/2004
FNP-2-STP-24.1 - Pump 2B, dated 1/9/2004
FNP-2-STP-24.2, Pump 2D, 8/29/2003

Other Documents
NRC Letter to Southern Nuclear Company : SUBJECT: Relief Request for the Pump and Valve Inservice Testing Program - Joseph M. Farley Nuclear Plant, Unit 1 and 2 (TAC NOS. M99186 and M99187), dated October 29, 1998
Johnston Pump Company As-Found & Repair Plan for Alabama Power company - Farley Nuclear Plant, Purchase Order # QP 030076, Revision 2
Johnston Pump Company As-Found & Repair Plan for Alabama Power company - Farley Nuclear Plant, Purchase Order # QP 030396, Revision 1
Johnston Pump Company As-Found & Repair Plan for Alabama Power company - Farley Nuclear Plant, Purchase Order # QP 030070, Revision 4
Drawing D-170119, Unit 1 Service Water system, P&ID, Revision 10
Johnston Pump Company Plant Service Water Pump Curve NE-4539 (TYPICAL)

Self Assessments/Audits:
Condition Report 2004103535, Self Assessment Performed on Service Water Dye Testing per FNP-0-IMP-212.2

Condition Reports
2004105795, Pump Evaluation Guidelines
2004204509, Revise Inservice Test Plan, FNP-1-M-95, to Provide More Guidance for Review and Evaluation of Individual SW Pump Flow

Review of RVCHRP Lifting and Transportation Program Activities
Procedures
Procedure 2101-P1, Procedure of Initial Outside Lift of New Head, Placement on Transporter, Hauling, and Upending at the Turbine Building, Rev. 1
Procedure 2101-P3, Procedure to Install and Remove Containment Building Runway System and Upending Beams, Rev. 1
Procedure 2101-P4, Procedure to Downend Old Head in Containment, Roll Out, Load to Trailer, Tie Down, and Haul to Storage, Rev. 1
Procedure 2101-P5, Procedure to Haul New Head to Containment, Transload to Runway, Upend and Set, Rev. 1.
Procedure 2101-P6, Procedure to Upend Old Reactor Vessel Closure Head, Install WMG Canister, Downend and Haul to Storage, Rev. 1
Procedure 2101-P8, Procedure for Load Test of a Frame Arms in a Vertical Position, Rev. 0
Procedure 2101-P9, Procedure for Load Test of Reactor Vessel Closure Head Lifting Rig, Rev. 2
Procedure MRS-SSP-1631, RV Head Replacement and HAUP Installation for Farley Unit 1, Rev. 2

Other Documents
Bigge Document 2101-D1, Engineering, Rigging, and Transport Services, Rev. 0
Eval 04-104, Reactor Vessel Head Assembly Lift Rig Load Test, Rev. 0
Calculation 2101-C1.1, Gantry and Rigging for Lifting the New and Old Reactor Vessel Head Assemblies, Rev. 2
Calculation 2101-C3.1, Runway and Upending Frame in Containment, Rev. 1
Calculation 2101-C3.2, Cart/Idler System for Runway, Rev.1
Calculation 2101-C4.1, Upending Downending Frame, Rev. 0
Calculation 2101-C9.1, Runway and Upend/Downend Frame Loading Effects at Support Points, Rev. 1
Calculation CN-RVHPIS-04-3, Load Path Analysis for RV Head Replacement, Rev. 0
Bigge ENGR No. 03E34 Drawings 1, 20, 30, 40, 41, 42, 43, 51, 80, and 82.
Procedure FNP-0-EMP-1231.01, Rector Building Polar Crane Inspection, Rev. 5, Performed and dated April 1, 2003 and October 7, 2004
Procedure FNP-1-MP-11.1, Reactor Polar Crane Monthly Checks, Rev. 7, performed and dated April 1, 2003 and October 2, 2004
Procedure FNP-1-MP-11.3, Reactor Polar Crane Annual Check, Rev. 8, Performed and dated April 1, 2003 and October 8, 2004
Work Authorizations W00690215, W00690216, W00690217, W00717285, W00717286, and W00717287
Design Change Package (DCP) 03-1-9914-0-001, Replace Reactor Vessel Head and Implement Simplified Head Assembly Upgrade, Rev. 2