



UNITED STATES  
 NUCLEAR REGULATORY COMMISSION  
 REGION II  
 101 MARIETTA STREET, N.W., SUITE 2900  
 ATLANTA, GEORGIA 30323-0199

Report Nos.: 50-348/94-04 and 50-364/94-04

Licensee: Southern Nuclear Operating Company, Inc.  
 P.O. Box 1295  
 Birmingham, AL 35201-1295

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

Facility Name: Farley Nuclear Plant, Units 1 and 2

Inspection Conducted: February 15 - March 13, 1994

Inspectors:	<u>For R. W. Wright</u>	<u>4/8/94</u>
	T. M. Ross, Senior Resident Inspector	Date Signed
	<u>For R. W. Wright</u>	<u>4/8/94</u>
	M. J. Morgan, Resident Inspector	Date Signed
	<u>For R. W. Wright</u>	<u>4/8/94</u>
	M. A. Scott, Resident Inspector	Date Signed
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	Reactor Projects Section 1B	
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SUMMARY

Scope:

This routine resident inspection was conducted onsite in the principal areas of plant operations, maintenance, surveillance, safety system verification, review of nonroutine events, and follow-up of previous inspection findings; and to a lesser degree, health physics, physical security, fire protection, engineering attributes, and technical support. Deep backshift inspections were conducted on February 15 and 17, and March 3, 4 and 5, 1994.

Results, as summarized by SALP functional area:

Operations

Inspection results in the operations area indicate that operations personnel were generally very knowledgeable, attentive to changes in plant conditions, and consistently conducted assigned activities in accordance with applicable plant procedures and in compliance with Technical Specifications. A planned shutdown of Unit 1 for the unit's twelfth refueling outage was conducted in a well controlled and orderly manner, without incident. One cited violation

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involving several examples of unauthorized operation/removal of plant equipment, was identified (paragraph 3.b.(2)); and one non-cited violation was identified for failure to declare the 2A Residual Heat Removal Pump inoperable during room cooler maintenance(paragraph 3.b.(1)). No deviations were identified in this area.

#### Maintenance and Surveillance

Inspection results indicate that licensee personnel conducted assigned maintenance and surveillance activities in accordance with applicable surveillance procedures and work instructions. Furthermore, responsible maintenance and operations personnel demonstrated a high degree of knowledge and craft skill in their activities. Familiarity with maintenance and testing activities, and plant equipment, was consistently evident. No violations or deviations were identified in this area.

#### Engineering and Technical Support

Engineering and technical support during conduct of the Unit 1 containment integrated leakrate test was exemplary. No violations or deviations were identified in this area.

#### Plant Support

Health physics (HP) personnel provided strong support of operations and maintenance related activities during the Unit 1 refueling outage. HP management and supervision established challenging goals and pursued them aggressively with positive effect. Security personnel were consistently alert and appeared to be implementing the plant's security plan effectively. Fire protection measures observed by the inspectors were adequate. No violations or deviations were identified in the areas of radiation protection, fire protection and security; however, one unresolved item regarding poor reliability of the #1 diesel-driven fire pump and ineffectual corrective actions was identified (paragraph 8.a.).

## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

W. Bayne, Safety Audit and Engineering Review Site Supervisor  
C. Buck, Technical Manager  
S. Casey, Systems Performance Supervisor  
\*R. Coleman, Plant Modification & Design Manager  
P. Crone, Instrumentation and Controls Superintendent  
L. Enfinger, Administrative Manager  
H. Garland, Mechanical Maintenance Superintendent  
\*R. Hill, General Manager - Farley Nuclear Plant  
J. Kale, Chemistry/Environment Superintendent  
M. Mitchell, Health Physics Superintendent  
\*C. Nesbitt, Operations Manager  
J. Odom, Superintendent Unit Operations  
J. Osterholtz, Assistant General Manager - Plant Support  
J. Powell, Superintendent Unit Operations  
\*L. Stinson, Assistant General Manager - Plant Operations  
\*J. Thomas, Maintenance Manager  
\*B. Yance, Systems Performance Manager  
L. Williams, Training Manager

#### NRC Personnel

\*S. Koenick, Intern

\*Attended the exit interview

Other licensee employees contacted included, health physics, operators, technical staff, security, maintenance, I&C and office personnel.

Acronyms and initialisms used throughout this report are listed in the last paragraph.

### 2. Plant Status and Activities

- a. Unit 1 operated at power most of the period. The unit began coasting down from full power on February 17 due to reactor fuel depletion. On March 4, Unit 1 shutdown for the unit's twelfth refueling outage.
- b. Unit 2 operated at slightly less than full power during the entire inspection period due to administrative limits on Tavg (i.e., the average Tavg was limited to less than 575 degrees Fahrenheit).

### 3. Review of Plant Operations (71707) and Refueling (60710)

#### a. Plant Tours

Routine plant tours, particularly of the control room and the auxiliary building, were performed to verify that operating license and regulatory requirements were being met. In general, inspectors looked for the existence of unusual fluid leaks, piping vibrations, pipe hanger/seismic restraint settings, valve and breaker positions, equipment caution/danger tags, material and equipment conditions, overall housekeeping, fire protection features, and instrument calibration dates. Tours were conducted both on dayshift and backshifts.

#### 1) Walkdowns of Safety-Related Equipment/Areas

Limited walkdowns of accessible portions of the following safety-related systems and surrounding areas were performed:

- Unit 1 and 2 AFW Pump Rooms
- Unit 1 and 2 4160 VAC Switchgear Rooms
- Unit 1 and 2 125 VDC Battery and Inverter Rooms
- Unit 1 and 2 CCW Heat Exchanger and Pump Rooms
- Unit 1 Charging Pump Rooms
- Unit 1 RHR Heat Exchanger and Pump Rooms
- Unit 1 Cable Spreading Rooms
- Unit 2 Containment Spray Pump Rooms

Breaker/valve line-ups, equipment conditions, and housekeeping were examined both locally and in the control room. System lineups were verified to meet operability requirements. Safety-related equipment material conditions and area housekeeping looked very good.

#### 2) High HVAC Moisture Conditions

During a tour of the Unit 1 4160 VAC switchgear rooms, inspectors observed water dripping from overhead HVAC ducting in the hallway outside of switchgear room #335. Inside this room, water was also observed misting from a grilled exhaust vent connected to the dripping HVAC ducting, about 5 feet from the train "A" AMSAC output relay box. There was clear evidence of moisture on the wall between the vent and the relay box.

When informed of the situation, operations and maintenance personnel secured the in-service essential room cooler SWS supply and checked cooler drains. These drains were found to be fully functional. However, due to high humidity from heavy outside rain, a buildup of excess condensation had overloaded the cooler drip tray. The essential room cooler thermostat then was adjusted from 80 to 95 degrees F to

reduce the rate of condensation. The AMSAC relay box cover was removed for inspection. A small amount of water, about the size of a fifty cent piece, was found inside the box and subsequently cleaned up. This amount of condensation and its specific location in the relay box did not appear to pose a significant threat to the AMSAC electronics.

On the same day, the inspectors observed that the Unit 2 battery room essential room cooler drip tray drains were also over-burdened with moisture. Operations was notified and the thermostat was promptly adjusted from a normal 70 degrees to 80 degrees Fahrenheit to reduce the overflow of condensation. At the time it was identified, this overflow did not pose a threat to any particular equipment.

### 3) Loose Electrical Cable Tray Covers

Electrical cable trays are, by design, covered in various locations throughout the plant. These covers are in place for mechanical protection and not fire barrier separation.

In Unit 1 Room #117, near safety-related switchgear Room #335, two such metal covers were loose and part of a tray was uncovered. A cover for vertical tray #BHI-27 was no longer attached and merely leaning up against the cable tray. In addition, a cover for vertical tray #BHK-24 had been removed and was laying on the floor. Room #117 is small, with dead end spaces and limited traffic flow. Therefore, cable trays in this room run a very low risk from physical damage. The inspectors examined all exposed cabling and found no evidence of cable damage. Plant operations was notified of the loose cable tray covers. These covers were promptly reinstalled by plant electrical maintenance (EM) personnel.

### 4) Simulator Shutdown Scenarios Prior Unit 1 Outage

On the night of March 3 and afternoon of March 4, FNP training department personnel conducted special simulator training for the night shift and dayshift crews scheduled to shutdown Unit 1 on March 4. Inspectors observed the crews perform shutdown operations on the simulator. Initial Unit 1 plant conditions on the simulator were modeled after actual plant conditions (e.g., the "A" loop S/G level controller in a tripped condition). Both crews performed well during the simulated shutdown operations.

### 5) Tagout/Clearances

During the inspection period, the following tagouts/clearances were verified to have been properly implemented:



- 94-0369-1 Charging pumps 1A and 1B
- 94-0570-2 2B CCW heat exchanger
- 94-0588-2 2B Charging pump

6) Walkdown of Unit 1 Containment

The inspectors conducted a general area visual inspection of the Unit 1 containment immediately following shutdown of the unit for its twelfth refueling outage (U1RF12). Every level of containment was inspected for cleanliness, equipment material conditions, and safety system integrity. The inspectors were especially sensitive to any signs of leakage. Overall interior conditions of the Unit 1 containment were excellent. Minimal leakage was observed and physical appearances of equipment did not exhibit any abnormal wear or deterioration. The inspectors did not identify any circumstances that would call into question safety system operability.

b. Routine Plant Operations Review

The inspection staff periodically reviewed FNP shift logs and plant operating records including instrument traces, chemistry reports, auxiliary logs, operating/standing orders, night order entries, and equipment tagout records. Inspectors routinely monitored operator alertness/demeanor, control room staffing and access, shift turnovers, and operator performance during routine operations. Random off-hours inspections were conducted to verify that operations and security performance remained at acceptable levels. Control room annunciator status and alarms were verified.

1) Technical Specifications Compliance

FNP compliance with selected Technical Specifications (TS) Limiting Condition of Operation (LCO) were verified throughout the inspection report period by the inspection staff. During this period the inspector's did not identify any circumstances of noncompliance with TS.

However, on November 7, 1993, the licensee identified that while Unit 2 was in Mode 6 during the past refueling outage (i.e., U2RF9), the 2A Residual Heat Removal (RHR) pump room cooler was removed from service for maintenance. The requirements for removing a RHR room cooler from service are addressed by paragraph 16.1 of FNP-0-SOP-0, General Instructions To Operations Personnel. This paragraph states, "when a room cooler is removed from service either electrically or mechanically the equipment cooled by the room cooler shall be declared inoperable and the TS for the covered component met". In the case of RHR, TS LCO 3.9.8.2

requires both trains to be operable during Mode 6. When either train becomes inoperable, the applicable Action statement requires immediate action to return the RHR loop(s) to an operable status. Contrary to the above, the responsible Shift Supervisor did not declare the 2A RHR loop inoperable. FNP Incident Report #2-93-262 was issued that very same day.

Failure to declare the 2A RHR loop inoperable is considered a violation of SOP-0 and TS LCO 3.9.8.2. However, since the 2A RHR room cooler was only out-of-service for about 45 minutes the impact on plant safety was insignificant. Furthermore, the Shift Supervisor involved was counseled and similar work on the 2B RHR room cooler was deferred to a less restrictive "mode" of plant operation. Thus, based on the minimal safety significance and SNC corrective actions, this violation is identified as non-cited violation (NCV) 50-364/94-04-01, RHR Room Cooler Inoperability. This NCV will not be subject to enforcement action because of the licensee's efforts in identifying and correcting the violation meet criteria specified in Section VII.B of the Enforcement Policy.

2) Mispositionings/Removal Of Safety-Related Snubbers, Valves and Breakers

On March 6, the B-train of the control room ventilation system (CRVS) was rendered inoperable when breaker #FGF5L was opened unexpectedly. FNP operations personnel detected the loss of power immediately, by virtue of various control room alarms, and promptly began a search for the source of the problem. Within an hour, breaker FGF5L was reclosed restoring power to the 1S 120/208VAC distribution panel, thereby returning the B-train of CRVS to service. Although operators could not determine exactly how the breaker had been opened, one plausible explanation may have been the inadvertent collision of a plant laundry cart with the breaker panel. A plastic chain/stanchion assembly was positioned in the walkway area to divert traffic away from the motor control center (MCC).

On November 2, 1993, during the Unit 2 outage, the "A" RHR room cooler was inexplicably isolated. A system operator (SO) recognized that the cooler was not cooling properly in that room temperatures were abnormally high. A walkdown of the associated service water system (SWS) piping was promptly initiated by plant personnel, who discovered that the "A" train SWS to RHR pump room cooler isolation valve (Q2P16V774) was closed. This valve was subsequently reopened to restore cooling water to the 2A room cooler.

Plant operations was unable to determine why the SWS valve was closed. An investigation of clearances and work orders failed to identify any plausible reasons for uncontrolled closure. The licensee has amended its outage procedures to emphasize precautions against unauthorized component operation. Furthermore, this and other similar events have been discussed with maintenance, operations and contractor personnel prior to UIRF12.

On November 21, 1993, during the Unit 2 outage, a "B" RCS intermediate leg snubber was found detached from one of its main supporting brackets. This snubber had been removed to allow for intermediate leg piping work on October 11, 1993. The snubber was reinstalled on October 22 and verified by inspection to be installed correctly on October 24. The licensee was unable to determine how the snubber was disconnected. The snubber was re attached, re-inspected, and functionally accepted on November 22, 1993.

On November 18, 1993, during the Unit 2 outage, two MCB annunciators alarmed indicating a loss of power to the Unit 1 omniguard panel. This panel is used to monitor various bearing temperatures associated with both safety and non-safety equipment. Upon subsequent investigation, operations personnel found the main breaker of the 11 120/208VAC distribution panel open. The control room was notified of the problem, the breaker was closed and power was restored to the omniguard monitoring panel. Various groups, who may have had access to the panel, were questioned to determine who could have been responsible for the loss of power. However, the licensee was unsuccessful in determining who or what may have opened the breaker.

In each event, SNC spent a considerable amount of time attempting to determine the root cause, but, without success. Each incident was promptly corrected and long-term corrective actions were implemented by the licensee to prevent recurrence; however, these actions have not prevented subsequent events.

The aforementioned items are identified as cited violation (NOV) 50-348,364/94-04-02, Unauthorized Operation/Removal Of Plant Equipment.

### 3) Unit 1 Shutdown for Refueling

On March 4, inspectors observed the planned shutdown of FNP Unit 1 from full power for UIRF12. The unit was shutdown in an orderly, well-controlled manner, pursuant to UOP 3.1, step 5.4, "Power Decrease to Minimum Load," and UOP-2.1, "Shutdown of Unit from Minimum Load to Hot Standby." Throughout this evolution, plant equipment performed as



attentive to changing plant parameters. Control room distractions were kept to a minimum. Shift coverage of the shutdown was augmented by both Operations Superintendents to provide additional support for Unit 1 Shift Supervisors.

Inspection results in the operations area indicate that operations personnel were generally very knowledgeable, attentive to changes in plant conditions, and consistently conducted assigned activities in accordance with applicable plant procedures and in compliance with Technical Specifications. A planned shutdown of Unit 1 for the unit's twelfth refueling outage was conducted in a well controlled and orderly manner, without incident. However, one cited violation involving several examples of unauthorized operation/removal of plant equipment, was identified and one non-cited violation was identified for failure to declare the 2A Residual Heat Removal Pump inoperable during room cooler maintenance. No deviations were identified in this area.

4. Maintenance Observation (62703)

The inspectors observed/reviewed portions of various FNP preventative and corrective maintenance activities, to determine conformance with facility procedures, work requests and NRC regulatory requirements. Work requests and instructions were also evaluated to determine the status of outstanding jobs and to ensure that proper priority was assigned to safety-related equipment.

a. MWR-276500; B2G Diesel Sequencer Undervoltage Relay  
Phase 3-1 Test Switch Lock Replacement

The B2G Diesel Sequencer Undervoltage Relay Phase 3-1 key-lock test switch used a different key from those used for similar switches. To help eliminate confusion and improve human factors, the licensee decided to replace the Phase 3-1 test switch lock such that its key would be the same as the test switch keys used for the other two phases.

Using portions of the normal sequencer surveillance procedure, FNP-2-STP-80.16, operations personnel took the subject switch out of service by placing the entire sequencer in the "test" position to ensure that any inadvertent manipulation of the key would not perturb the B2G sequencer unnecessarily. (Note, being in "test" does not place the sequencer in an inoperable status because an emergency signal will override the "test" condition).

An inspector watched EM personnel during replacement of the lock assembly, which did not necessitate lifting any wires. The lock assembly was tested for freedom of motion prior to installation. Responsible electricians demonstrated good work practices during the job. A new lock key was turned over to operations and the sequencer was returned to service. The B2G sequencer was in test for only about 40 minutes. Operations subsequently performed a

satisfactory Unit 2 sequencer test to fulfill the monthly surveillance requirements and test the new lock.

- b. WO-360015; 1A Component Cooling Water (CCW) Pump Room Cooler Replacement (PCN B90-1-6986)

On-site construction support personnel, using work order instructions and PCN information, were observed removing the 1A CCW room cooler. The 1B cooler remained in service while the 1A cooler was out of service. The 1A cooler was located in the overhead about 15 feet above one of the CCW heat exchangers and was surrounded by a cluster of piping and cable trays. Rigging activities were well controlled and no adjacent equipment was damaged. An instrumentation stanchion, not initially identified in the rigging package, had to be temporarily removed to allow for easy movement of the 4000 pound cooler. Notwithstanding this oversight, the rigging package was sufficient for job scope and difficulty.

- c. WO-500585; 2C CCW Pump 4160 VAC Breaker Prop Latch Spring Replacement

During an attempt to realign the Unit 2 CCW system, the 2C CCW pump would not start. Subsequent investigation by the licensee, discovered that the applicable 4160 VAC power supply breaker (DF04) would not close because one of the prop latch springs had come loose and wedged itself into the breaker closing mechanism.

Inspectors observed the replacement of both prop latch springs with an appropriate set of springs from plant stores. The breaker and prop latch mechanism were subsequently tested satisfactorily. Breaker work was performed in accordance with instructions contained in the work order and breaker technical manual.

As part of their incident investigation, FNP EM personnel have initiated a detailed study of this and other past problems with Allis-Siemens 4160 VAC breaker prop latch springs and their effect on breaker performance. High speed camera equipment is being employed to conduct slow-motion analysis of prop latch spring dynamics. Results of FNP's study will be reviewed by the resident inspectors for followup.

- d. WO-404535; MOV Actuator Inspection/Adjustment - Unit 1 SWS Isolation From 2C D/G Valve "V529"

The inspectors observed MOVATS contractor personnel, using FNP procedure, EMP-1501.11, MOV Inspection/Adjustment, to determinate the V529 actuator, remove and refurbish the assembly, reterminate the actuator and adjust the limit/torque switch. This valve was then functionally stroke tested.

During actuator refurbishment, the drive shaft bearings and bevel gear were replaced due to bearing and gear teeth damage. All of the work observed by the inspectors was accomplished in a satisfactory manner consistent with work order instructions.

e. Scaffolding Installation for Unit 1

As part of the pre-outage preparations for U1RF12, SNC constructed a large number of scaffolds in the Unit 1 turbine building. These scaffolds were staged in anticipation of upcoming outage work on Unit 1 secondary systems. An inspector examined a significant percentage of the newly constructed turbine building scaffolds and verified that plant operations were not adversely impacted and FNP administrative procedures (i.e., scaffolding permits) were followed. However, the inspector identified several scaffolds that did not meet applicable Occupational Safety and Health Administration (OSHA) standards. In particular, for platforms greater than 10 feet off the floor, some scaffolds were missing guardrails and all were missing the screening between the guardrail and toeboard. These conditions were brought to the attention of site management and promptly corrected. In no case were any of the deficient scaffolds actually in use at the time this inspection.

No violations or deviations were identified in this area. The results of inspections in the maintenance area indicate that maintenance personnel conducted assigned activities in accordance with applicable procedures. Mechanics demonstrated familiarity with administrative and radiological controls, and good craft skills.

5. Surveillance Observation (61726)

Inspectors witnessed surveillance test activities performed on safety-related systems and components, in order to verify that such activities were performed in accordance with facility procedures and NRC regulatory requirements. Portions of the following surveillance tests were observed:

a. FNP-2-STP-22.24; AFW System Check Valve Reverse Flow Closure Operational Test

The inspector accompanied a licensed and non-licensed operator during the satisfactory performance of this test. The A-train pump was run while the inspector was present. No evidence of check valve back leakage was observed. The licensed operator demonstrated a high level of knowledge regarding the details of this test and AFW system operation.

b. FNP-2-STP-23.2; CCW Pump 2B Quarterly Inservice Test

This test was performed satisfactorily without incident. The licensed operator conducting the test was familiar with the test requirements and attributes of the CCW pumping system.

- c. FNP-1-STP-256.21, B1F Sequencer Loss of Voltage Relay (27XF) and Degraded Grid Voltage Relay (27XF1) Response Time Test

STP-256.21 is performed on a refueling outage frequency. An inspector observed the successful performance of this test during UIRF12. The installation of test equipment, including jumpers, and conduct of the test were in accordance with procedure steps. Independent verification of the landing and lifting of temporary electrical jumpers was adequate. Responsible I&C technicians performing the test were cautious and attentive to procedural details.

- d. FNP-1-STP-45.0, Refueling Valve Inservice Test

An inspector observed the valve alignment and successful functional stroke testing of the isolation valves for B-train SWS to 1B AFW (MOVs 3209B and 3210B). These valves can be opened under emergency conditions to provide the 1B AFW pump with an alternate water supply when the condensate storage tank is unavailable. Personnel and plant equipment performed as expected.

- e. FNP-0-STP-123.0; Control Room Emergency Ventilation Test

An inspector observed B-train performance testing and visual examinations of the control room ventilation system (CRVS) by a FNP Systems Performance engineer and a contractor. Testing was accomplished in a step-by-step manner in strict accordance with the instructions of STP-123.0. All specialized test equipment used by the contractor appeared to be appropriately calibrated. In particular, the inspector witnessed the extraction of representative charcoal samples, the performance of Freon and dioctyl phosphate contaminant testing, and the measurement of system flowrates and filter differential pressures. All measurements and test results were within STP-123.0 acceptance criteria, thereby demonstrating that train B CRVS equipment can perform as designed. The charcoal absorber samples were taken from the site by the contractor to be analyzed, results are required within 30 days.

- f. FNP-2-STP-80.17; Diesel Generator 2C Operability Test

An inspector observed a "slow start" of the 2C EDG for routine surveillance testing. The diesel generator was started from the main control room, while aligned to the number 2 air start header. Engine speed was gradually increased to rated speed manually at a local control panel. The 2C EDG was subsequently synchronized to grid and electrically loaded. Plant operators, with mechanical maintenance (MM) support, conducted this test in a controlled and



methodical manner following STP-80.17 instructions step-by-step. The 2C EDG met established acceptance criteria.

g. FNP-1-STP-608.1; Main Steam Safety Valve Test

Inspectors observed lift testing of Main Steam Safety Valves (MSSV) on the A and B main steam lines (i.e., V010C and V011C) while Unit 1 was at power. MSSV lift testing was conducted by contractor personnel, under MM oversight, using Furmanite Trevitest equipment in accordance with Furmanite Engineering Procedure No. TT-94004. The inspectors verified that procedural Precautions and Limitations, and Prerequisites and Initial Conditions, were satisfied prior to MSSV testing. Both MSSVs, observed by the inspectors, were lifted three times. The average lift setpoint for V010C and V011C were determined to be 1102 and 1110 psig, respectively. These valves met the acceptance criteria established by STP-608.1 (i.e., 1091 - 1113 psig).

The licensee had originally planned to test only five of 15 MSSVs (note, Unit 1 has three MS lines with five MSSVs each). However, subsequent MSSV failures required all 15 MSSVs to be lift tested. Although no MSSV failed to lift, a total of five MSSVs (i.e., V010A, V010B, V012B, V011D, and V010E) were found to be outside their allowable setpoint tolerance of plus or minus one percent.

The worst case failure was 2.8% below the nominal. These MSSVs were adjusted by the contractor and lift tested again confirming the "as left" lift setpoints were acceptable. The licensee has concluded that the "as found" setpoints of the Unit 1 MSSVs would have provided adequate protection from an overpressurization event. This conclusion is based principally on the fact that the FNP secondary system is protected against overpressurization even if one MSSV per loop fails to operate. However, due to the number of failures and past problems with out-of-tolerance MSSVs (e.g., during U2RF9, 13 of 15 MSSVs failed), SNC is in the process of issuing a 10CFR50.73 report. Furthermore, SNC is evaluating a license amendment request to increase the TS required tolerance to plus/minus 3 per cent. Resident inspectors will continue to follow licensee actions.

h. FNP-1-STP-33.0B; Solid State Protection System Train B Operability Test

An inspector observed performance of this test by FNP's licensed operators and I&C technicians. The test was performed step-by-step in accordance with procedural instructions and with little difficulty. Plant equipment and personnel performed satisfactorily throughout the test.



i. FNP-1-STP-912.0; 1B RCP Undervoltage Trip Relay Test

An inspector observed test set-up, performance and restoration by two FNP EM technicians with support from plant operators. The test was conducted in accordance with STP instructions. Plant equipment and personnel performed in a satisfactory manner.

No violations and no deviations were identified in this area and results of inspections in this area indicate that personnel conducted assigned surveillance activities in accordance with applicable procedures. Furthermore, responsible personnel were knowledgeable and skilled in such activities.

7. Engineering and Technical Support

a. Unit 1 Containment Integrated Leak Rate Test

Corporate Southern Services personnel and site systems performance personnel conducted the Unit 1 containment ILRT from March 8 through the 10th. During this three day evolution, the inspectors queried responsible test engineers and technicians, reviewed portions of test procedures, monitored data acquisition, verified test equipment, and evaluated certain test results. Test engineers interviewed by the inspectors were knowledgeable, experienced, and attentive to the many details of this complex test.

Conduct of the ILRT went very smoothly, and Unit 1 containment leakage was well within established acceptance criteria.

Engineering and technical support during conduct of the Unit 1 Containment ILRT was exemplary. No violations and no deviations were identified in this area.

8. Plant Support

a. Fire Protection Review (64704)

During the course of their normal tours, the inspectors routinely examined aspects of the Fire Protection Program such as transient fire loads, flammable materials storage, fire brigade readiness, use of fire watches, ignition source/fire risk reduction efforts, and fire protection features.

Failure of the #1 Diesel Driven Fire Pump (DDFP) To Start

On March 9, during performance of test procedure FSP-201.1, the #1 Diesel Driven Fire Pump (DDFP) failed to start in both the "test" and "manual A" positions. This post-maintenance test of the DDFP was performed after pump repairs were made following a prior failure to start on February 24. Subsequent investigative and troubleshooting

efforts by the licensee disclosed that one of the A-bank batteries was defective and required replacement. The inspectors observed the battery replacement and subsequent successful start of the DDFP during post-maintenance testing.

During an investigation of the defective battery by plant EM personnel, the licensee discovered that the battery was a "rebuilt" rather than being brand new. By the end of the inspection period, FNP's procurement manager was continuing to investigate why and how such a battery was obtained, and how the "rebuilt" DDFP battery was issued and placed into the field.

Frequent failures of the #1 DDFP to start have been reported by the inspectors since 1991. A "failure to start when tested" incident occurred on October 8, 1991 (See IR 50-348,364/91-21). More recently, the #1 DDFP failed to start on November 25, 1993 and during the week of December 27, 1993 (See IR 50-348,364/93-31). On December 29, 1993, a test of the pump was satisfactorily performed following control circuitry timing relay replacement; however, during tests performed on January 4 and February 24, 1994 the pump once again failed to start.

Over the past several months, the #1 DDFP has demonstrated extremely poor reliability. Up to now, SNC's corrective actions have been ineffectual. Consequently, this situation is considered unresolved item (URI) 50-348/94-04-03, "#1 Diesel-Driven Fire Pump Electrical Starting Problems".

b. Physical Protection (81054)

The inspectors verified by observation during routine activities that security program plans were being implemented as evidenced by: proper display of picture badges; tours and stationing of security personnel; searching of packages and personnel at the plant entrance; and vital area portals being locked and alarmed.

Licensee activities observed during the inspection period appeared adequate to ensure physical protection of the plant. Guards were alert and particularly attentive to dysfunctional vital area doors. Their posted positions were well manned with good relief.

c. Health Physics

In general, health physics technicians demonstrated a strong ALARA ethic and constant vigilance for changing radiological conditions. Their support and coverage of UIRF12 activities has been a positive contribution to the overall safety of plant personnel during the inspection period.

HP management has established aggressive goals with respect to personnel exposure and contamination events for the Unit 1 outage. Progress towards these goals was tracked daily; corrective actions to address actual and potential problems areas have been effective.

Health physics (HP) personnel provided strong support of operations and maintenance related activities during the Unit 1 refueling outage. HP management and supervision established challenging goals and pursued them aggressively with positive effect. Security personnel were consistently alert and appeared to be implementing the plant's security plan effectively. Fire protection measures observed by the inspectors were adequate. No violations and no deviations were identified in this area; however, an unresolved item (URI 50-348/94-04-02) involving continuing failures of the #1 DDFP to start was identified.

9. Followup and Closeout Actions (92700 - nonroutine reports)

- a. (Closed) LER 50-348/92-008, Reactor Trip on Low Steam Generator Level Coincident With Feedwater Flow Less Than Steam Flow

The longterm corrective actions documented in LER 50-348/92-008 are essentially complete. These longterm corrective actions were implemented as follows:

Surveillance procedures, such as STP-215.1, Main Feedwater Loop Calibration and Functional Test, have been amended to require I&C technicians to contact operations personnel prior to removing electronic control cards from the Westinghouse 7300 instrument racks. The pulling of a card without pre-notification was a contributor to the trip.

I&C personnel were trained in January of 1993 on proper handling of removed electronic cards. Inspectors reviewed training records associated with the subject LER.

A licensee sample inspection program was initiated to verify the integrity of fuses in the 7300 instrument racks. This effort was consistent with vendor recommendations. An inspector review of an onsite Operating Experience Review Evaluation, dated February 10, 1994, revealed that the sampling of the Unit 2 cards during the last outage only discovered one failed fuse. Thereby confirming failed fuses did not represent an endemic problem. A work order has been issued to sample the Unit 1 7300 rack cards during the current outage.

Based on the satisfactory completion of the aforementioned corrective actions, and recent initiation of the Unit 1 card sampling, this LER is considered closed.

b. (Closed) URI 50-364/93-28-04, Use Of Out-Of-Date Plant Surveillance Test Procedure

During the last Unit 2 refueling outage (U2RF9), the licensee conducted FNP-2-STP-40.0, Safety Injection with Loss of Offsite Power Test. While this test was in progress, an inspector observed that operators were using an out-of-date revision of STP-40.0. The use of out-of-date test procedures was discussed with site management and documented in NRC IR 50-364/93-28-04 as an unresolved item.

Subsequent investigation by the inspector determined that the procedure steps performed by the operators in accordance with the out-of-date revision of STP-40.0 were not significantly different from those in the latest revision. Consequently, in this instance, there was no adverse impact on plant safety. However, in order to preclude the inadvertent use of out-of-date test procedures in the future, the licensee revised its administrative procedure (i.e., AP-92) for conducting pre-test briefings. Furthermore, Shift Supervisors were instructed, via "night orders," to ensure plant testing is performed using the latest effective procedure revision. Based on the minimal significance and licensee corrective actions this URI is considered closed.

10. Exit Interview

Inspection scope/findings were summarized during management interviews throughout the report period and on March 16, with the plant manager and selected members of his staff. Inspection findings were discussed in detail and the licensee acknowledged these findings. SNC did not identify as proprietary any material reviewed by the inspectors during this inspection.

<u>ITEM NUMBER</u>	<u>DESCRIPTION AND REFERENCE</u>
50-364/94-04-01 (NCV)	RHR Room Cooler Inoperability
50-348,364/94-04-02 (NOV)	Unauthorized Operation/Removal of Plant Equipment
50-348/94-04-03 (URI)	#1 Diesel-Driven Fire Pump Starting Problems

11. Acronyms and Abbreviations

AFW	-	Auxiliary Feedwater
AMSAC	-	ATWS Mitigating System Actuation Circuitry
AP	-	Administrative Procedure
ASME	-	American Society of Mechanical Engineers
ATWS	-	Anticipated Transient Without Scram
CCW	-	Component Cooling Water
CR	-	Control Room

EDG	-	Emergency Diesel Generator
DEH	-	Digital-Electro-Hydraulic System (main turbine control)
DRP	-	Division of Reactor Projects
DRS	-	Division of Reactor Safety
DRSS	-	Division of Reactor Safeguards and Security
ECCS	-	Emergency Core Cooling System
EHC	-	Electro-hydraulic Control System
EM	-	Electrical Maintenance
ESF	-	Engineered Safety Features
FHP	-	Fuel Handling Procedure
FNP	-	Farley Nuclear Plant
FP	-	Fire Protection
FW	-	Feedwater
GMP	-	General Maintenance Procedure
HP	-	Health Physics
HVAC	-	Heating Ventilation and Air Conditioning
ILRT	-	Integrated Leak Rate Test
ISI	-	In-service Inspection
I&C	-	Instrumentation and Control
KW	-	Kilowatt
LCO	-	Limiting Condition for Operation
LER	-	Licensee Event Report
LOSP	-	Loss of Offsite Power
MCC	-	Motor Control Center
MM	-	Mechanical Maintenance
MOV	-	Motor-Operated Valve
MSIV	-	Main Steam Isolation Valve
MW	-	Megawatt
MWR	-	Maintenance Work Request
NDE	-	Non-Destructive Examination
NCV	-	Non-cited violation
NIS	-	Nuclear Instrumentation System
OOS	-	Out Of Service
PCN	-	Plant Change Notice
PM	-	Preventive Maintenance
PRF	-	Penetration Room Filtration System
psig	-	pounds per square inch
RCS	-	Reactor Coolant System
RHR	-	Residual Heat Removal
RO	-	Reactor Operator
RWT	-	Reactor Water Storage Tank
SBO	-	Station Blackout
SFI	-	Shift Foreman Inspecting
SFO	-	Shift Foreman Operating
SFP	-	Spent Fuel Pool
S/G	-	Steam Generator
SGFP	-	Steam Generator Feedwater Pump
SNC	-	Southern Nuclear Operating Company
SO	-	Systems Operator
SOP	-	System Operating Procedure
SRO	-	Senior Reactor Operator
SS	-	Shift Supervisor



STAR - "Stop", "Think", "Act", "Review"  
STP - Surveillance Test Procedure  
SWS - Service Water System  
Tavg - Temperature (average) in the RCS  
TCN - Temporary Change Notice  
UOP - Unit Operating Procedure  
URI - Unresolved Item  
VAC - Volts Alternating Current  
VDC - Volts Direct Current  
WO - Work Order