U.S. NUCLEAR REGULATORY COMMISSION (NRC)

REGION II

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License Nos:	NPF-2 and NPF-8
Report No:	50-348/97-04 and 50-364/97-04
Licensee:	Southern Nuclear Operating Company, Inc.
Facility:	Farley Nuclear Plant (FNP), Units 1 and 2
Location:	7388 North State Highway 95 Columbia, AL 36319
Dates:	January 25 - March 14, 1997
Inspectors:	T. Ross, Senior Resident Inspector J. Bartley, Resident Inspector R. Caldwell, Resident Inspector (In training)
Approved by:	P. Skinner, Chief, Projects Branch 2 Division of Reactor Projects

Enclosure

EXECUTIVE SUMMARY

Farley Nuclear Power Plant, Units 1 And 2
NRC Inspection Report 50-348/97-04, 50-364/97-04

This special inspection documents the results of a detailed Engineered Safeguards Feature system review and walkdown of the Unit 1 and Unit 2 Penetration Room Filtration (PRF) systems, including associated surveillance test and system design requirements.

Operations

- The PRF system was physically well maintained. However, procedural guidance for normal operation, surveillance testing, and emergency conditions was inadequate. Licensee corrective actions to date have been thorough and prompt. The most serious procedural deficiency was the lack of guidance for ensuring system operation prior to and during post loss of coolant accident (LOCA) cold leg recirculation in a manner consistent with the Updated Final Safety Analysis Report (UFSAR) design and safety function descriptions. Based on the combination of inadequate PRF procedural guidance and excessive penetration room boundary (PRB) in-leakage, the Unit 1 and 2 PRF systems may not have been able or available to perform their intended safety function under all required accident conditions (Sections O2.1, M2.1).

- Fuel movement was performed in the Unit 2 spent fuel pool (SFP) with both trains of the PRF system inoperable. This was a condition prohibited by Technical Specification (TS) 3.9.13 (Section O8.1).

Maintenance

- The inspectors and licensee identified many discrepancies in the data recorded during PRF surveillance testing. Unclear test procedure guidance contributed significantly to the many documented errors. One surveillance test conducted on December 1, 1992, resulted in failing to meet TS system flow acceptance criteria (Section M1.1).

- The PRB has degraded to such an extent that in-leakage was many times greater than assumed in the UFSAR. Excessive in-leakage prevented the PRF system from operating per the design description in the UFSAR. This condition has existed for many years and could have been recognized by the licensee with the evidence available from routine surveillance testing (Section M2.1).

- The PRF system surveillance test procedures contained numerous deficiencies and failed to provide adequate guidance for testing the PRF system (Section M2.1 and M3.1).

- The licensee failed to fully implement the Unit 1 and 2 TS surveillance requirements (SR) for airflow capacity tests, visual inspections, and heater testing for the PRF system, Control Room Emergency Filtration System, and Containment Purge exhaust filter (Section M3.2).

Report Details

I. Operations

O2 Operational Status of Facilities and Equipment

O2.1 Engineered Safeguards Feature System Walkdown

a. Inspection Scope (IP 71707)

Inspectors used Inspection Procedure (IP) 71707 to perform a detailed walkdown of the accessible portions of the Unit 1 and Unit 2 Penetration Room Filtration (PRF) system. The inspectors also performed a detailed review of the current licensing basis for PRF and compared it to the existing plant configuration and procedural guidance, including Emergency Response Procedures (ERPs), System Operating Procedures (SOPs), Annunciator Response Procedures (ARPs), and Surveillance Test Procedures (STPs). Refer to paragraphs M1.1, M2.1, M3.1, and M3.2 for inspection findings regarding PRF system surveillance testing and discrepancies between the as-built versus Updated Final Safety Analysis Report (UFSAR) design description.

b. Observations and Findings

The UFSAR identifies that the PRF system is a dual purpose system designed to: 1) process air from the fuel handling area during a fuel handling accident, and 2) establish a negative pressure within the penetration room boundary (PRB) and provide a filtered release path for airborne radioactivity during a loss of coolant accident (LOCA). The PRF system is normally aligned to exhaust air from the spent fuel pool (SFP) and is designed to automatically start upon receipt of a high radiation signal or low SFP ventilation system exhaust flow. In the event of a LOCA, the PRF system is designed to automatically start on a containment phase B signal (i.e., high-high-high containment pressure setpoint of 27 psig) and must be manually realigned to allow cleanup of radioactive containment leakage and emergency core cooling system (ECCS) component leakage into the PRB.

As described in the UFSAR, each PRF train is composed of: 1) a filter bank containing a prefilter, High Efficiency Particulate Air (HEPA) filter, and charcoal adsorber section, 2) two fans, a 4500 cubic feet per minute (cfm) recirculation fan and a 500 cfm exhaust fan, which take a suction on the outlet end of the filter bank, and 3) the associated ducting and dampers to control the flow path of the system. The exhaust fan has only one discharge path, which is out the plant vent stack. The recirculation fan has two discharge paths, one out the plant vent stack (exhaust) and the other back into the PRB (recirculation). On a phase B actuation, both fans are designed to start in the exhaust mode to rapidly draw a negative pressure in the PRB. When the Residual Heat Removal (RHR) system heat exchanger room reaches approximately -2 inches of water pressure, the recirculation fan recirculation valve is designed to automatically modulate open until pressure in the PRB reaches approximately -1.7 inches of water. In this alignment, the recirculation path provides for cleanup of the PRB and reduces the exhaust flow out the plant vent stack, thus reducing the amount of radioactivity released to the environment and providing for filtration of the PRB atmosphere for increased cleanup.

UFSAR Section 6.2.3.2.2 describes two manual operator actions necessary to operate the PRF system in the post-LOCA mode. The operator has to: 1) shut the SFP area suction dampers to the PRF system, and 2) shut the recirculation fan exhaust damper, when the recirculation valve receives an open signal or the PRB low pressure annunciator is received, to place the PRF system in the recirculation mode. The UFSAR also identifies that the safety function of the PRF system is to: 1) keep the SFP area at a negative pressure for fuel handling accidents, and 2) maintain the PRB at a negative pressure to ensure that containment and ECCS component leakage during post-LOCA reactor coolant recirculation is filtered prior to release.

The inspectors reviewed applicable ERPs, SOPs, ARPs, and STPs to verify that operator actions were properly specified and that the PRF system was tested in a manner to ensure that it would operate as stated in the UFSAR. On January 28, 1997, the inspectors determined that shutting the suction dampers from the SFP area to the PRF system was identified in plant operating and test procedures. However, shutting the PRF recirculation fan exhaust damper, to shift into the recirculation mode, was not identified in any ERP or SOP. Existing ERP guidance only directed operations to verify that both trains of the PRF system started, and then place one train in standby. UFSAR Section 6.2.3.2.2 states, "When either a two out of three differential pressure signal of -2 in. or a recirculation line valve open signal is annunciated in the control room, the operator closes the valve at the discharge of the recirculation fan;" and "the analysis of the combined system (fans vs. in-leakage) indicates a setpoint of -2 in. wg pressure to be used for switching to recirculation operation." Also, Alabama Power Company Drawing D-205013, HVAC: Process Flow Diagram Penetration Filtration System, Revision 6, specifically identifies Post LOCA Recirc Mode and Post LOCA Exhaust Mode as PRF system configurations which correspond with the system operation described in the UFSAR. However, instructions for PRF system operation in the recirculation mode, exhaust mode, or combined mode of operation, were not contained in plant procedures. Further review by the inspectors discovered that this UFSAR discrepancy was identified by the licensee's UFSAR reverification program on September 30, 1996. However, no corrective actions had been taken.

The inspector discussed the post-LOCA PRF system operation with several licensed reactor operators and senior reactor operators. These personnel were not aware of the post-LOCA PRF system recirculation mode nor with the design basis requirement to shut the PRF system recirculation fan exhaust valve. Failing to shift the PRF system into the post-LOCA recirculation mode as described in the UFSAR would cause higher than designed exhaust flow and lower than designed recirculation cleanup of the PRB. Although the higher exhaust flows could increase the rate of radioactive release, the quantity of release would be within the bounds of the UFSAR evaluation that concluded such releases would be less than 10 CFR 100 limits. The lower than designed recirculation flow would reduce the effectiveness of the recirculation cleanup and could result in higher dose rates and exposures in the PRB during accident recovery activities. Failure to operate the PRF system in the recirculation mode would adversely affect licensee ability to maintain doses "as low as reasonably achievable."

UFSAR Sections 6.2.3 and 15.4.1.10 describe that the safety function of the PRF system is to maintain the PRB at a negative pressure to ensure that ECCS equipment leakage during the post-LOCA reactor coolant recirculation phase is filtered prior to release. UFSAR Section 6.2.3.2.2 stated, "In the event of a LOCA, the penetration room filtration system will be manually realigned to operate in the LOCA mode prior to the end of injection [underline added] and will operate automatically." However, the PRF system is only designed to start automatically on a phase B containment isolation signal, as a consequence of a very large break LOCA. For the broad range of smaller LOCA break sizes that do not reach the phase B setpoint, the PRF system is not designed to automatically start. The inspectors reviewed FNP-1/2-ESP-1.3, Transfer to Cold Leg Recirculation, Revision 11, and other applicable ERPs, and found that they did not provide any instructions for starting the PRF system. Since plant ERPs did not direct starting the PRF system prior to initiation of post-LOCA cold leg recirculation (i.e., prior to the end of injection), the PRF system would only perform its intended safety function for those LOCAs that result in containment pressure over 27 psig. There was no indication that the PRF system would ever be started during LOCAs involving small or medium sized breaks. The inspectors also noted that plant ERPs did not direct the operators to periodically monitor PRF system operation to ensure that it was operating properly. Interviews of operators determined that they were not aware that the PRF system was required to be running prior to initiating cold leg recirculation.

The inspectors reviewed FNP-1/2-ESP-1.1, SI Termination, Revision 11, and FNP-1/2-ESP-1.2, Post LOCA Cooldown and Depressurization, Revision 12. FNP-1/2-ESP-1.1, step 3, and FNP-1/2-ESP-1.2, step 4, direct the operators to secure one train of the PRF system and place it in standby. However, the procedures did not provide operator instructions for monitoring the PRB to atmosphere differential pressure (dP) to ensure that the remaining PRF train was performing properly. The PRB to atmosphere differential pressure is not indicated in the main control room at-the-controls area nor does an annunciator alarm to indicate loss of PRB negative pressure. The inspectors concluded that the ESPs did not provide adequate operator guidance for placing one train of the PRF system in standby during post-LOCA operation. This lack of guidance could have resulted in operators securing one train of the PRF system, with the other train being unable to maintain a negative pressure due to excessive PRB in-leakage.

The inspectors reviewed FNP-1/2-SOP-60.0, Penetration Room Filtration System, Revision 11, and determined that it did not contain guidance for aligning the PRF system to the recirculation mode nor how to operate and monitor system performance after one train was secured as directed in the ERPs.

Plant procedural deficiencies regarding PRF system operation, testing (see Sections M2.1 and M3.1), and emergency response are examples of Escalated Enforcement Item (EEI) 50-348, 364/97-04-01, Inadequate Procedural Guidance for PRF System Operation and Testing - Multiple Examples.

The inspectors identified each of above discrepancies to plant management as they were identified. Several meetings were held with licensee personnel between January 29 and February 14 to discuss these and other findings described in this report. On January 31, the licensee informed the inspector that the plant was within the design basis because: 1) the offsite dose calculations for the design basis accident did not depend on the PRF system exhaust flow rate, and 2) PRF was able to achieve a negative pressure in the PRB with the current plant procedural guidance. The licensee also stated that it considered the PRF system to be operable because FNP-1/2-STP-20.0, Penetration Room Filtration System Train A(B) Quarterly Operability and Valve Inservice Test, Revision 23, had demonstrated the system's capability to maintain a negative pressure in the PRB (albeit in the exhaust mode only, and only while running one train at a time).

On February 5, the licensee provided the inspectors a copy of the PRF system operability determination. That afternoon, the Plant Operations Review Committee reviewed and approved a safety evaluation to change the UFSAR. This change allowed operators the flexibility to align the PRF system in either the recirculation or exhaust mode of operation. The inspectors reviewed these documents and considered them to be adequate. However, the inspectors disagreed with the specific statement in the safety evaluation that described the operator action to shut the recirculation fan exhaust damper as an "inconsistency between FSAR sections." The licensee also revised all applicable ERPs and SOP to incorporate adequate instructions to ensure PRF system operation during all LOCAs.

Licensee corrective actions to address the procedural deficiencies were prompt and thorough. All procedure deficiencies were corrected by temporary change notices and/or procedure revisions. The inspectors reviewed these procedure corrections and determined that they adequately addressed the deficiencies. Most changes were implemented within seven days of identification. The procedure changes for the ERP deficiencies were implemented two days after the inspectors identified the deficiency to the licensee.

The system components were in good condition and installed as described in the UFSAR. The PRF system room was clean and well-maintained.

c. Conclusions

The system was physically well maintained. However, procedural guidance for normal operation, surveillance testing, and emergency conditions was inadequate. Licensee corrective actions to date have been thorough and prompt. A lack of procedural guidance for ensuring system operation prior to and during post-LOCA cold leg recirculation in a manner consistent with the UFSAR design and safety function descriptions was identified. The inspectors determined that, based on the combination of inadequate PRF system procedural guidance, and excessive PRB in-leakage (Section M3.2), the Unit 1 and Unit 2 PRF systems may not have been able or available to perform their intended safety function under all required accident conditions.

O8 Miscellaneous Operations Issues (IP 92901)

O8.1 (Closed) URI 50-364/96-13-01, PRF Operability Requirements for SFP.

This issue concerned the failure to meet the TS operability requirements for the PRF system on October 31, 1996, while moving fuel in the Unit 2 SFP area. Both the onshift operating crew and inspectors independently concluded that two trains of PRF were inoperable during fuel movement in the Unit 2 SFP. Plant management disagreed with this conclusion and subsequently documented its position in a letter to the NRC dated November 27, 1996, requesting a formal TS interpretation. On March 6, 1997, the NRC issued a reply to Southern Nuclear Operating Company, Inc. (SNC), supporting the operators' and inspectors' original conclusions. Consequently, on October 31, 1996, fuel movement had been performed in the Unit 2 SFP while both trains of the PRF system were inoperable. This was a condition prohibited by TS 3.9.13 and should have been terminated as soon as possible and reported pursuant to 10 CFR 50.73. The licensee's failure to conform with their TS and required reporting requirements is identified as EEI 50-364/97-04-02, Moving Fuel in a Condition Prohibited by TS. URI 50-364/96-13-01 is closed based on identifying this item as an apparent violation.

II. Maintenance

M1 Conduct of Maintenance

M1.1 Penetration Room Filtration (PRF) System Performance Test

a. Inspection Scope (IP 37551)

The inspectors reviewed past test data packages of FNP-1/2-STP-124.0, Penetration Room Filtration Performance Test, performed in 1995 and the test results dating back to 1992.

b. Observations and Findings

On January 28, 1997, the inspectors reviewed seven data packages which documented the performance of FNP-1/2-STP-124.0 in 1995 on both units. The inspectors identified discrepancies in the data entries for the tests and asked the licensee to verify the data and test results for prior tests. The licensee performed an evaluation of Unit 1 and Unit 2 test data for FNP-1/2-STP-124.0 starting in 1992. Licensee engineers identified four data transposition errors and one calculational error in the 1992 tests. The calculational error was corrected and flow was still within the Technical Specification (TS) acceptance criteria. Data transposition errors resulted in the wrong duct size being used to determine flow through the 14-inch recirculation exhaust line. After correcting the data and recalculating, the licensee determined that the system flow rate for the Unit 2 A train PRF system, as measured on December 1, 1992, was 5615 cubic feet per minute (cfm). This flow rate was outside the TS Surveillance Requirement (SR) 4.7.8.b.3 acceptance criteria of 5000 $\pm$ 10%. However, the next 18-month performance of FNP-1/2-STP-124.0 for the 2A PRF system on May 18, 1994 did meet the TS acceptance criteria. No modifications or attempts to change system performance were made during the intervening period. The licensee's failure to meet TS acceptance criteria is identified as EEI 50-364/97-04-03, Failure to Meet TS SR 4.7.8.b.3 Acceptance Criteria.

c. Conclusions

The inspectors and licensee identified many discrepancies in the data recorded during PRF system surveillance testing. Unclear test procedure guidance contributed significantly to the many documented errors. An apparent violation was identified in one surveillance test conducted on December 1, 1992, which resulted in failing to meet TS system flow acceptance criteria.

M2 Maintenance and Material Condition of Facilities and Equipment

M2.1 Penetration Room In-leakage

a. Inspection Scope (IP 61726)

The inspectors reviewed past test data packages of FNP-1/2-STP-124.0, Penetration Room Filtration Performance Test, performed in 1995 and the test results dating back to 1992. Data from the tests were compared with design assumptions identified in the Updated Final Safety Analysis Report (UFSAR). The inspector also reviewed the guidance contained in FNP-1/2-STP-20.0, Penetration Room Filtration System Train A(B) Quarterly Operability and Valve Inservice Test. PRF system testing conducted on February 6, 1997 was observed by the inspectors.

b. Observations and Findings

UFSAR section 6.2.3.1.2 describes the criteria used to determine PRF design flow rates, and states, "The exhaust flow rate is equivalent to the penetration room boundary in-leakage; i.e., the sum of all possible in-leakages when a pressure of -1.5 in. wg is maintained within the penetration room boundary." It also states, "Minimizing the penetration room in-leakage increases the system effectiveness," and "...for estimating the exhaust fan capacity, it has been conservatively assumed that, with a -1.5 inches wg pressure, the in-leakage is 100 percent of the penetration room volume per day. This in-leakage is equivalent to 250 scfm.

The previous FNP-1/2-STP-124.0 test results from 1995, indicated that the penetration room boundary (PRB) in-leakage was much greater than that assumed by the UFSAR. The data reviewed by the inspectors indicated approximately 3700 cfm in-leakage on Unit 1, and 3000 cfm on Unit 2, while at slightly less than -1.5 inches of water pressure. This condition has been evident in surveillance test data since at least 1992. A surveillance test procedure (STP) observed on January 25, 1997, (refer to Inspection Report (IR) 50-348, 364/97-01) indicated that the Unit 1 PRB in-leakage was greater than 4000 cfm, far in excess of the 250 cfm allowed in the UFSAR.

The excessive in-leakage of the Unit 1 and Unit 2 PRBs was reconfirmed when the licensee performed FNP-1/2-STP-124.0 on the Unit 1 Train A PRF on February 6, 1997. This test demonstrated that Train A could only attain -0.9 inches of water in the Unit 1 PRB with both fans running in the exhaust mode (indicating in-leakage of at least 4500 cfm). Three minutes after shifting Train A to the recirculation mode, the Unit 1 PRB returned to atmospheric pressure. Concurrently, on Unit 2 the licensee performed FNP-1/2-STP-20.0, Penetration Room Filtration System Train A(B) Operability Test, on the B train PRF. The inspector observed that while the 2B PRF system was in the recirculation mode, the Unit 2 PRB pressure was atmospheric. This indicated that Unit 2 PRB in-leakage was greater than the capacity of the exhaust fan (which has a minimum design capacity of 500 cfm). UFSAR section 6.2.3.3.2, states, "The penetration rooms are maintained at a pressure of -0.5 to -1.5 in. wg with only the exhaust fan operating. If the recirculation fan were to remain in operation in the exhaust mode, the pressure in the penetration rooms could be maintained at -3.0 in. wg." These tests indicated that the Unit 1 and Unit 2 PRBs did not meet the UFSAR design descriptions. This is identified as EEI 50-348, 364/97-04-04, PRB In-leakage in Excess of UFSAR Design.

The inspectors reviewed the licensee's STPs to determine if any testing was performed to specifically identify PRB degradation. FNP-1/2-STP-20.0, contained a "Note" describing indications of proper system operation (with PRB doors closed), acceptance criteria (i.e., recirculation valve open at -2.2 inches of water, -3 inches of water at the PRB with both fans in the exhaust mode), and requirements for corrective action if the expected system operation was not observed. However, the procedure did not direct the operator to observe nor record PRB-to-atmosphere differential pressure (dP) when the system was configured in the modes identified by the note. Also there was no evidence (e.g., deficiency report) that operators recognized the degraded PRB conditions during prior tests. This lack of guidance for PRF testing is identified as an example of EEI 50-348, 364/97-04-01, Inadequate Procedural Guidance for PRF System Operation and Testing - Multiple Examples.

c. Conclusions

The PRB had degraded to such an extent that in-leakage was many times greater than the design described in the UFSAR. The excessive in-leakage prevented the PRF system from operating as described in the UFSAR and was not recognized by the licensee staff even during the conduct of FNP-1/2-STP-20.0, due to inadequate procedure guidance and training.

M3 Maintenance Procedures and Documentation

M3.1 Unit 1 Penetration Room Filtration Performance Test (IP 61726)

The inspector observed the performance of FNP-1-STP-124.0, on the Unit 1, Train A PRF system. Details of this observation were documented in IR 50-348, 364/97-01. As a result of this observation the inspector identified the following procedural deficiencies in FNP-1/2-STP-124.0.

- Several steps were no longer applicable due to updated equipment.
- The procedure did not specify the technique for obtaining the air velocities. On one of the ducts, the test personnel performed both horizontal and vertical traverses because the readings for the horizontal traverse put the air flow below the acceptance

criteria. Only a vertical traverse was performed on the other duct.

- The procedure did not identify from which ducts to take air velocity measurements. There are three ducts per train but the STP provides data columns for only two ducts.

- The note prior to step 7.7 incorrectly specifies that the individual velocity readings be within 20% of the average velocity.

- TS 4.7.8.b.3 states that system flow rates be tested in accordance with Section 8 of ANSI N510-1980. However STP-124.0, which implements this TS required test, did not perform system resistance flow tests as identified in Section 8 of ANSI N510-1980.

- The inspector also determined that, while FNP-1/2-STP-124.0, step 7.5, directed operations to start the PRF train to be tested and align it in the recirculation mode, neither the STP nor the system operating procedure (SOP) contained guidance for configuring the system for the recirculation mode. The inspector noted that the system was not aligned in the recirculation mode as described by the UFSAR for the performance of this test.

The inspectors concluded that the above identified deficiencies are examples of inadequate guidance for testing the PRF system. This is an example of EEI 50-348, 364/97-04-01, Inadequate Procedural Guidance for PRF System Operation and Testing - Multiple Examples. These deficiencies were discussed with Engineering Support (ES) management during various meetings between January 27 and February 14. ES management was responsive to the inspectors' findings. FNP-1/2-STP-124.0 was subsequently revised and reperformed.

M3.2 Surveillance Testing of Safety-Related Ventilation Systems Per American National Standards Institute, Inc. (ANSI) N510

a. Inspection Scope (IP 61726)

The inspectors compared the PRF system STPs to the TS surveillance requirements, including ANSI N510-1980; reviewed previously completed STPs; and reviewed original acceptance tests.

b. Observations and Findings

TS SR 3.7.8.b describes the 18-month testing requirements for the High Efficiency Particulate Air (HEPA) filter and charcoal filter efficiency, and system flow. TS SR 3.7.8.b.3 requires "verifying system flow rate of 5000 cfm ± 10% during system operation when tested in accordance with Section 8 of ANSI N510-1980." The inspector reviewed Section 8 of

ANSI N510-1980 to verify that the observed tests met the ANSI specifications. On January 28, 1997, the inspector reviewed FNP-1/2-STP-124.0 and determined that it did not incorporate the "dirty filter" tests specified in steps 8.3.1.6 and 8.3.1.7 of ANSI N510-1980, Section 8.3.1, Airflow Capacity Test. The inspector asked the licensee to address why the "dirty filter" testing of section 8 was not being performed. The licensee stated that the "dirty filter" tests are only required for acceptance tests and are not required for periodic surveillance. The inspectors disagreed with this interpretation. The inspectors requested that the licensee provide the acceptance test packages for the PRF system documenting the conduct of the "dirty filter" tests. The licensee provided the PRF system acceptance test package for Unit 2 but was unable to locate any Unit 1 PRF system acceptance package indicating that "dirty filter" testing was performed. Also, the Unit 2 package did not clearly demonstrate that the "dirty filter" tests were performed per ANSI N510-1980. The inspectors verified that the "dirty filter" testing was not performed by any periodic STP. This failure to perform TS SR 3.7.8.b.3 per ANSI N510-1980 is identified as EEI 50-348, 364/97-04-05, Failure to Perform TS Surveillance Requirements for Safety-Related Ventilation Systems - Multiple Examples. The licensee commenced "dirty filter" testing of the Unit 1 and Unit 2 PRF systems on February 19 in accordance with ANSI N510-1980, and successfully completed this testing by February 21, 1997.

In addition to system flow testing to demonstrate PRF operability, TS SR 4.7.8.b.1.a requires a visual inspection of PRF filters every 18 months, in accordance with Section 5 of ANSI N510-1980, and TS SR 4.7.8.d.3 requires PRF heater testing, in accordance with Section 14 of ANSI N510-1980 every 18 months. Testing to ANSI N510-1980 requirements every 18 months also applies to other safety-related ventilation systems. To demonstrate operability of the Control Room Emergency Filtration System (CREFS), TS SR 4.7.7.1 requires visual filter inspections, in accordance with Section 5; system flow verifications, in accordance with Section 8; and pressurization system heater testing, in accordance with Section 14. TS SR 4.9.14 requires visual inspection of the Containment Purge exhaust filter, in accordance with Section 5.

On February 23, 1997, after considerable review effort, the licensee concluded that its surveillance test program did not include numerous portions of ANSI N510-1980, Sections 5, 8, and 14. Testing and inspection in accordance with these sections of ANSI N510 were required by TS SR 4.7.8 (PRF system), TS 4.9.14 (Containment Purge exhaust) and TS SR 4.7.7.1 CREFS. This issue is identified as an example of EEI 50-348, 364/97-04-05, Failure to Perform TS Surveillance Requirements for Safety-Related Ventilation Systems - Multiple Examples.

On February 26, 1997, at 12:27 PM CST, the licensee declared that it had entered into TS 3.0.3 for Units 1 and 2, for failing to comply with the

TS SRs of the PRF system (TS 4.7.8), Containment Purge (TS 4.9.14) and CREFS (TS 4.7.7.1). After entry into TS 3.0.3, the licensee requested that the NRC issue a notice of enforcement discretion (NOED), which was subsequently granted by the NRC. After receiving verbal notification of the NOED, the licensee exited TS 3.0.3 at 1:51 PM CST the same day. The licensee submitted its formal request for an NOED by letter dated February 27. By letter dated February 28, the NRC issued the NOED.

c. Conclusions

The licensee failed to fully implement the Unit 1 and Unit 2 TS SRs for airflow capacity tests, visual inspections, and heater testing for the PRF system, CREFS, and Containment Purge exhaust filter.

V. Management Meetings and Other Areas

X1 Review of Updated Final Safety Analysis Report (UFSAR) Commitments

A recent discovery of a licensee operating its facility in a manner contrary to the UFSAR description highlighted the need for a special focused review that compares plant practices, procedures and/or parameters to the UFSAR descriptions. While performing the inspections discussed in this report, the inspectors reviewed the applicable portions of the UFSAR that related to the areas inspected. Several significant inconsistencies were identified between the wording in the UFSAR and actual plant practices, procedures and/or parameters. These inconsistencies principally involved the PRF system as described in UFSAR Section 6.2.3, and are discussed in detail in the previous inspection report paragraphs.

X2 Exit Meeting Summary

The resident inspectors presented the inspection results to members of licensee management on March 13, 1997. The licensee acknowledged the findings presented.

The resident inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

M. Ajluni, SNC (Corporate) Licensing Manager - Farley Project
R. Coleman, Maintenance Manager
D. Grissette, Operations Manager
R. Hill, General Manager - FNP

D. Jones, SNC (Corporate) Engineering Manager - Farley Project
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C. Nesbit, Assistant General Manager - Support
R. Rogers, Engineering Support Supervisor - Engineering Support
J. Sims, SNC (Corporate) Project Engineer
L. Stinson, Assistant General Manager - Plant Operations
J. Thomas, Engineering Support Manager

NRC

J. Zimmerman, Project Manager - Farley Nuclear Plant

INSPECTION PROCEDURES USED

IP 37551: Onsite Engineering
IP 61726: Surveillance Observations
IP 71707: Plant Operations
IP 92901: Followup - Operations

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

Type	Item Number	Status	Description and Reference
EEI	50-348, 364/97-04-01	Open	Inadequate Procedural Guidance for PRF System Operation and Testing - Multiple Examples (Sections O2.1, M2.1, and M3.1).
EEI	50-364/97-04-02	Open	Moving Fuel in a Condition Prohibited by TS (Section O8.1).
EEI	50-364/97-04-03	Open	Failure to Meet TS SR 4.7.8.b.3 Acceptance Criteria (Section M1.1).
EEI	50-348, 364/97-04-04	Open	PRB In-leakage in Excess of UFSAR Design (Section M2.1).
EEI	50-348, 364/97-04-05	Open	Failure to Perform TS Surveillance Requirements for Safety-Related Ventilation Systems - Multiple Examples (Section M3.2).

Closed

Type	Item Number	Status	Description and Reference
URI	50-364/96-13-01	Closed	PRF Operability Requirements for SFP (Section 08.1).

LIST OF ACRONYMS USED

ANSI	American National Standards Institute, Inc.
ARP	Annunciator Response Procedure
cfm	Cubic Feet per Minute
CFR	Code of Federal Regulations
CREFS	Control Room Emergency Filtration System
dP	Differential Pressure
ECCS	Emergency Core Cooling System
EEI	Escalated Enforcement Item
ERP	Emergency Response Procedure
ES	Engineering Support
FNP	Farley Nuclear Plant
HEPA	High Efficiency Particulate Air
HVAC	Heating, Ventilation, and Air Conditioning
IP	Inspection Procedure
IR	Inspection Report
LCO	Limiting Condition of Operation
LOCA	Loss of Coolant Accident
NOED	Notice of Enforcement Discretion
NRC	U.S. Nuclear Regulatory Commission
PRB	Penetration Room Boundary
PRF	Penetration Room Filtration
psig	pounds per square inch gauge
RHR	Residual Heat Removal
scfm	standard cubic feet per minute
SFP	Spent Fuel Pool
SI	Safety Injection
SNC	Southern Nuclear Operating Company, Inc.
SOP	System Operating Procedure
SR	Surveillance Requirement
STP	Surveillance Test Procedure
TS	Technical Specifications
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
wg	Water Gauge