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

Report No.: 50-395/94-03

Licensee: South Carolina Electric & Gas Company
Columbia, SC 29218

Docket No.: 50-395 License No.: NPF-12

Facility Name: Virgil C. Summer Nuclear Station

Inspection Conducted: January 1-31, 1994

Inspectors: _____ 2/8/94
R. C. Haag, Senior Resident Inspector Date Signed

_____ 2/8/94
T. R. Farnholtz, Resident Inspector Date Signed

Approved by: _____ 2/9/94
for Floyd S. Cantrell, Chief Date Signed
Reactor Projects Section 1B
Division of Reactor Projects

SUMMARY

Scope:

This routine inspection was conducted by the resident inspectors onsite in the areas of monthly surveillance observations, monthly maintenance observations, operational safety verification, engineered safety features system walkdown, fire protection, review of licensee self-assessment capabilities and action on previous inspection findings. Selected tours were conducted on backshift or weekends. These tours were conducted on four occasions.

Results: (Summarized by SALP functional area)

Operations

A violation for inadequate control of the chill water system was identified (paragraph 5.c). The requirement to isolate air handling units at low SW temperatures was not performed promptly when a limit was exceeded as required by procedure. Several areas of needed improvement were noted for the process of ensuring correct service water flows to the chill water system chillers.

Maintenance and Surveillance

Inspection results indicate that activities in this area were conducted in accordance with applicable procedure requirements. The failure to recognize the TS applicability for a leaking containment isolation valve identified a weakness in the oversight of the maintenance work request (MWR) program.

Engineering and Technical Support

Technical support for the change of lubricant manufacturers failed to adequately address several key attributes in the transition process. Engineering did not aggressively pursue the resolution of a potential problem in the fire protection system.

Plant Support

For activities involving health physics and security personnel, a high level of performance was exhibited. The failure to identify and resolve a low flow condition for the fire protection system in a timely manner was a violation (paragraph 7.b). Another violation was identified for the failure to declare portions of the fire suppression inoperable when it was determined that corresponding flows were outside design basis requirements (paragraph 7.b).

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*W. Baehr, Manager, Health Physics
*C. Bowman, Manager, Maintenance Services
*M. Browne, Manager, Design Engineering
L. Faltus, Acting Manager, Chemistry
*M. Fowlkes, Manager, Nuclear Licensing & Operating Experience
*S. Furstenberg, Associate Manager, Operations
*L. Hipp, Manager, Materials and Procurement
*S. Hunt, Manager, Quality Systems
*A. Koon, Nuclear Operations Project Coordinator
*D. Lavigne, General Manager, Nuclear Safety
*J. Nesbitt, Acting Manager, Technical Services
*K. Nettles, General Manager, Station Support
H. O'Quinn, Manager, Nuclear Protection Services
*M. Quinton, General Manager, Engineering Services
*J. Skolds, Vice President, Nuclear Operations
*G. Taylor, General Manager, Nuclear Plant Operations
*R. Waselus, Manager, System Engineering
R. White, Nuclear Coordinator, South Carolina Public Service Authority
*B. Williams, Manager, Operations

Other licensee employees contacted included engineers, technicians, operators, mechanics, security force members, and office personnel.

*Attended exit interview

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

2. Plant Status

- During the week of January 10, 1994, a regional inspection of the steam generator replacement project was performed (NRC Inspection Report No. 395/94-01).

- Also, during the week of January 10, 1994, a regional inspection in the areas of radiological effluent monitoring and chemistry control was performed (NRC Inspection Report No. 395/94-04).

- Mr. Floyd Cantrell, Section Chief, DRP, was onsite January 11 through 13, 1994, to review resident inspector's activities, tour the plant and meet with licensee management.

3. Monthly Surveillance Observation (61726)

The inspectors observed surveillance activities of safety related systems and components listed below to ascertain that these activities were conducted in accordance with license requirements. The inspectors

verified that required administrative approvals were obtained prior to initiating the test, testing was accomplished by qualified personnel in accordance with an approved test procedure, test instrumentation was calibrated, and limiting conditions for operation were met. Upon completion of the test, the inspectors verified that test results conformed with technical specifications and procedure requirements, any deficiencies identified during the testing were properly reviewed and resolved and the systems were properly returned to service. Specifically, the inspectors witnessed/reviewed portions of the following test activities:

a. Eighteen month service test of 1A-1B backup battery charger (STP 501.005). The test was performed for eight hours with an output of greater than 300 amperes at 132 volts as required by TS 4.8.2.1.c.4.

b. Train "B" solid state protection system surveillance test (STP 345.074). This test included a changeout of one reactor trip breaker for the purpose of performing surveillance tests on the breaker which was removed.

c. Quarterly operational test on the reactor building purge exhaust radiation monitor RMA4 (STP 360.038). Due to the operational test not meeting the STP acceptance criteria, the monitor was calibrated per the instructions in STP 360.037.

d. Quarterly test of "B" service water booster pump XPP45B (STP 223.002A).

e. Reactor core flux mapping using the incore movable detectors (STP 212.001).

The observed surveillance tests were performed in a satisfactory manner and met the applicable acceptance criteria. No discrepancies were noted.

4. Monthly Maintenance Observation (62703)

Station maintenance activities for the safety-related systems and components listed below were observed to ascertain that they were conducted in accordance with approved procedures, regulatory guides, and industry codes or standards and in conformance with TS.

The following items were considered during this review: that limiting conditions for operation were met while components or systems were removed from service, approvals were obtained prior to initiating the work, activities were accomplished using approved procedures and were inspected as applicable, functional testing and/or calibrations were performed prior to returning components or systems to service, activities were accomplished by qualified personnel, parts and materials used were properly certified, and radiological and fire prevention controls were implemented. Work requests were reviewed to determine the status of outstanding jobs and to ensure that priority was assigned to safety-

related equipment maintenance that may affect system performance. The following maintenance activities were observed:

a. Lifting the electrical leads for the coil in the solenoid operated chill water inlet valve (XVX6524C) for "C" charging/high head safety injection pump (MWR 9403043). In response to inadequate Appendix R separation for circuits associated with the three solenoid valves (one per charging pump) the licensee elected to fail the "C" valve to the open position. The valve position indication wiring was not affected by this work activity. See paragraph 7.a for additional information dealing with the Appendix R separation issue.

b. Emergency diesel generator "B" quarterly maintenance (PMTS P0173507).

c. Crankcase cover gasket replacement on emergency diesel generator "B" (MWR 9304552).

d. Seal replacement on the inboard and outboard ends of the "B" component cooling water pump (MWR 9304507).

e. Leak test and lifting pressure test on component cooling water pump discharge relief valve XVR9502B (MWR 9204435 and PMTS P0168081).

f. Clean and repaint portions of the interior surfaces of component cooling water pump "B" motor (MWR 94E3010). The "B" component cooling water pump motor was undergoing a ten year inspection when rust was observed on the interior surfaces near the bottom of the motor and on the endbells. The licensee generated a Nonconformance Notice (NCN 4887) to clean and repaint these surfaces. The inspector observed the applicable surfaces and concluded that appropriate actions were taken.

g. Preventive maintenance task to flush the sensing line for SW booster pump discharge pressure transmitter IPT4543 (PMTS P0173728). Initially, the sensing line was thought to be clogged due to a pressure lock when the flushing fluid (demineralized water) was introduced into the sensing line. After further review it was determined that the system lineup/tagout for the maintenance associated with the booster pump had isolated that portion of the system and prevented the flushing of the sensing line. The PM was performed after the normal system lineup was re-established.

h. Repair of diaphragm leak on reactor coolant drain tank (RCDT) discharge isolation valve XVD7136 (MWR 93H3048). The diaphragm also serves as the gasket/sealing material in the body to bonnet joint. The valve is the outside containment isolation valve for the RCDT drain line. On November 23, 1993, the MWR was written by a HP technician who determined that the valve was leaking. While the actual leak was not observed, the leak determination was based on radiological contamination of the valve and surrounding area and water that was collected in a bag wrapped around the valve body.

Discharge from the RCDT occurs on an infrequent basis, therefore, the fact that the leak was never observed was not unexpected. Also, after the MWR was written the valve was wrapped and any leakage directed to a floor drain. The assumption that the diaphragm leaked was based on previous history of numerous leaks from similar diaphragm valves and the items noted above, i.e., area of contamination on the valve and area where water leakage was collected.

When the MWR was written it was forwarded to planning, as routine MWRs are initially processed without any review by operations personnel. It was not until January 27, 1994, when the leak repair MWR was planned to be worked the next day, the licensee recognized that leakage from a containment isolation valve required compliance with TS 3.6.4 action statements. After the TS applicability was recognized, the TS action statement was entered, the body to bonnet fasteners were tightened, and the inside containment isolation valve was closed until the repaired valve could be leak tested. A subsequent local leak rate test verified that the leak had been corrected.

In response to this occurrence, the licensee questioned the adequacy of their deficiency identification process to recognize particular problems that may have TS implications. The following actions were initiated to access the scope of this problem and to enhance/improve the deficiency identification process:

- Open MWRs with TS cross reference were reviewed to determine if any other TS related problems had been previously identified. No additional problems were noted.

- In December 1993, a daily listing of MWRs identified each day was generated. The intent of this daily list was for the shift engineer to review the MWRs to determine if correct priorities were established. The licensee is reviewing the use of this daily listing to determine if the shift engineer can also review for TS applicability.

- The licensee is investigating the process for generating MWRs (via electronic database) to determine if a TS cross reference can be used. This cross reference would identify those components that have TS applicability to the individual who is initiating the MWR and instruct them to notify the shift supervisor of the MWR problem.

The licensee has not completed the actions to finalize the above two processes nor have they been proceduralized. The inspector will review the licensee's future actions related to the deficiency identification process and the assurance that TS problems are promptly identified.

i. Repair of cracks in the SW intake structure (MWR 93M3271). During construction, the SW pump house and the SW intake structure settled more than had been estimated. The licensee performed a special settlement study at that time. As part of the resolution, the licensee committed, in the FSAR, to monitor the SW pump house and intake structure for settlement twice a year during the operating life of the plant unless a lesser frequency could be shown to be adequate. In addition, the licensee established a five year interval program for divers to inspect the intake structure tunnel. During the last outage, in 1993, the diver's inspection identified cracks in the concrete of the intake structure.

The inspector reviewed the engineering evaluation for this condition. The cracks have increased slightly from the last inspection in 1988. The concern with the cracks involve potential corrosion of the rebar. An early study by the licensee stated that unrepaired cracks with widths less than 0.050 inches would not cause significant rebar corrosion over the 40 year life of the plant. The engineering evaluation recommended that all cracks with widths that exceed 0.015 inches be grouted. This included the nine cracks that exceeded 0.050 inches. The conclusion of the evaluation was that the SW intake structure can safely perform its intended function. The inspector also reviewed the plots of the semi-annual settlement monitoring. The licensee's actions appeared to be adequate to address this condition.

The maintenance activities observed were performed in accordance with procedural requirements and demonstrated a good working knowledge of the craftsmen. A weakness in the MWR program was identified when the TS applicability was not recognized for a leaking containment isolation valve. The licensee has initiated action to strengthen this area.

5. Operational Safety Verification (71707)

a. Plant Tour and Observations

The inspectors conducted daily inspections in the following areas: control room staffing, access, and operator behavior; operator adherence to approved procedures, TS, and limiting conditions for operations; and review of control room operator logs, operating orders, plant deviation reports, tagout logs, and tags on components to verify compliance with approved procedures.

The inspectors conducted weekly inspections for the operability verification of selected ESF systems by valve alignment, breaker positions, condition of equipment or component(s), and operability of instrumentation and support items essential to system actuation or performance. The emergency diesel generator fuel oil transfer system and the spent fuel pool cooling system were included in these inspections.

Plant tours included observation of general plant/equipment conditions, fire protection and preventative measures, control of activities in progress, radiation protection controls, physical security controls, plant housekeeping conditions/cleanliness, and missile hazards. Reactor coolant system leak rates were reviewed to ensure that detected or suspected leakage from the system was recorded, investigated, and evaluated; and that appropriate actions were taken if required. Selected tours were conducted on backshifts or weekends.

b. Controls for the Lubrication Program

During the latter part of 1993, the licensee implemented a change of vendor supplied site lubricants. This involved a change from British Petroleum (BP) to Mobil products. The unavailability of BP products from the manufacturer was the basis for this program change.

Lubrication requirements for plant equipment are specified in the plant lubricant manual which is an engineering controlled document. Both the type and quantity of lubricant for each individualized application are specified in the manual. The engineering evaluation and the authorization to allow the transition from BP to Mobil products was performed in accordance with the licensee's "equal to or better than" (ETBT) program. Engineering revised the lubrication manual to reflect the new Mobil products over a period of time, as they were informed by procurement that the BP products were no longer available. As part of the lubricant transition, engineering issued a listing of plant components where the existing lubricant (BP) was incompatible with and should not be mixed with the new lubricant (Mobil). On December 22, 1993, engineering issued a memo which listed plant equipment that had incompatible old and new lubricant. Based on a review of this memo and actions taken by the licensee, there did not appear to be a coordinated effort to ensure lubricants were not mixed for these components.

In early January 1994, the issue of mixing lubricants was highlighted when operation's personnel questioned if existing lubricants (BP) in storage lockers could be used if the lubrication manual specified a Mobil product. While reviewing this question, the licensee noted that controls were not implemented to prevent mixing lubricants when making additions. This could occur when new style lubricant (which was allowed by the lubrication manual specifying a Mobil product) was added to a component that still contained the BP lubricant. Quality Assurance (QA) reviewed the lubrication history for components where the old and new lubricants were incompatible, to determine if lubricants had been mixed. The crankcase for the "A" reactor building instrument air compressors was the only identified component where lubricant had been mixed. This condition was accepted by the licensee based on a recent oil sample analysis which verified acceptable lubricant properties.

Of the 87 separate components on the list for incompatible lubricants, four components were safety-related (A, B and C service water traveling screens and the emergency feedwater pump turbine). The inspector reviewed the lubrication history for these components and the process used by QA in their review. An error was noted in the information QA used on the type of Mobil oil specified for the SW traveling screens. Based on the correct information, QA reviewed the history again and verified that lubricants still had not been mixed for the SW traveling screens.

The inspector concluded the transition effort for lubricants lacked overall coordination for some key attributes. This included a lack of adequate precautions to prevent mixing of incompatible lubricants and a lack of guidance in the usage of existing lubricant supplies when a change to the lubrication manual was made. Also, the information used by QA in their review for lubricant mixing was not verified to be accurate.

c. Operation of the Chill Water (VU) System

Instructions for operation of the VU system are contained in System Operating Procedure, SOP-501, HVAC Chilled Water System. Related instructions are contained in SOP-117, Service Water System, for balancing/adjusting SW flow for the VU chillers. Allowable SW return temperatures (minimum and maximum) are obtained from graphs in SOP-117 which requires the plotting of chiller loading (BTU/hr) verses SW temperature. If SW return temperature is not within the band, then SW flow is required to be adjusted. The requirement to obtain proper SW flow for a chiller is provided to ensure the chiller will properly operate during accident conditions.

A note on the graph states, "XAH-9A and XAH-9B SW booster pump area air handling units must be isolated for SW inlet temperatures less than 48°F". The basis for isolating the units at low SW temperatures (and resulting low SW flows to the chillers) is to also ensure that the chillers operate properly during accident conditions. A tolerance of 0.5°F is provided in SOP-117 for temperature requirements.

During the evening shift log readings, on January 17, 1994, SW inlet temperature was recorded below 48°F at 47.9°F. For both the morning and evening shift log readings, on January 18, 1994, SW inlet temperatures were below 48°F, but within the 0.5°F tolerance. On the morning shift for January 19, 1994, SW inlet temperature had dropped below 47°F. It was at that point the licensee decided to isolate the SW booster pump area air handling units. However, questions were raised by operations personnel if a VU system flow balance was required when isolating a unit and if both the "A" and "B" train units needed to be isolated at the same time. The last question dealt with the operation of the VU system having one train running and the other train in standby. Therefore, should isolation of the unit in the standby train be delayed until that train is

rotated to the operating mode. After resolution to these questions, the "A" train unit was isolated at 9:00 PM on January 19, 1994. On the following day the "B" train unit was isolated.

The decision not to isolate both units at the same time was based on instructions in SOP-501 for removal of a component from service. This states that if the affected train of VU is not in service (i.e., running) then the removal of the component should be performed when the train is placed in service. The inspector noted that this appeared to conflict with the requirement in SOP-117 to isolate both SW booster pump area air handling units when SW inlet temperatures are less than 48°F. The failure to isolate the SW booster pump area air handling units when required by SOP-117 is identified as Violation 395/94-03-01, Failure to comply with a system operating procedure.

The licensee failed to adequately preplan for isolation of the air handling units which resulted in delays once the decision was made to isolate the units. Also, the sensitivity to SW temperature decreases and the monitoring of these temperatures were inadequate to ensure procedural requirements were satisfied.

d. Balancing SW Flow for the VU Chiller

As discussed above, SW flows for the chillers are adjusted based on chiller loads and SW temperatures per the graphs in SOP-117. In Inspection Report 50-395/93-26, the inspector noted that the small scale increments on the graphs made accurate plotting of points difficult. Since less than a forth of the graph would normally be used, the inspector had questioned why the applicable portion of the graph is not enlarged with larger scale increments. Subsequently, the licensee informed the inspector that changes to improve the usability of the graph are being pursued.

While reviewing the heat transfer rate calculation sheets where the SW temperature limits are recorded from the plotted points on the graphs, the inspector noted that the accuracy of temperature limits are normally given in tenths of a degree. On January 21 and 31, 1994, while reviewing the calculation sheets, the inspector noted that the actual SW temperatures were very close to one of the limits. In particular, the January 30, 1994, calculation sheet for "C" chiller specified SW temperature limits of 67.1°F to 69.0°F while the actual measured SW temperature was 67.11°F. The inspector questioned the rational of not adjusting flow when the measured temperature is very close to the limit, since it is recognized that accurate limits are difficult to obtain. If SW flows are adjusted, then actual temperatures can be brought closer to the middle of the limits.

Twice a day during shift round, SW temperatures are recorded at the chiller in the operating VU train. For the standby VU train, SW temperature measurements would not be accurate because the chiller

is not running and SW is stagnate. When SW temperatures are recorded, the operator verifies that the temperature is still within the limits established by the heat transfer rate calculation. If the temperature is outside of the limits they are required to adjust SW flow. For both the morning and evening shift log readings on January 19, 1994, the inspector noted that SW temperatures were outside of the limits and SW flows are adjusted. The adjustments were only made on the operating VU train. Later the inspector questioned why similar adjustments were not also needed for the standby VU train. This was based on the fact that SW flows may require adjustments if a change in SW temperature occurs. Such a change could effect both trains of VU. The licensee revised their instructions to require the standby VU train be started and have SW temperatures checked if an adjustment was required for operating VU train.

The inspector noted several areas for improvement involving the verification of correct SW flows to the VU chillers.

6. ESF System Walkdown (71710)

The inspectors verified the operability of an ESF system by performing a walkdown of the accessible portions of the reactor makeup water system. The inspectors confirmed that the licensee's system line-up procedures matched plant drawings and the as-built configuration. The inspectors looked for equipment conditions and items that might degrade performance (hangers and supports were operable, housekeeping, etc.). The inspectors verified that valves, including instrumentation isolation valves, were in proper position, power was available, and valves were locked as appropriate. The inspectors compared both local and remote position indications.

A noted discrepancy dealt with the incorrect position designation for three valves on piping and instrumentation drawing D-302-791. The system operating procedure (SOP) position designation and the actual valves' position were in agreement. The licensee uses the SOP for system configuration control. The licensee initiated a change to the drawing to reflect the correct valve positions. The inspection also identified a packing leak on the refueling water storage tank discharge valve. The licensee initiated a MWR to correct the packing leak.

No violations or deviations were identified.

7. Fire Protection (64704)

a. Appendix R Separation Issues

On January 12, 1994, the licensee identified that circuits for VU control valves XVX6524 A, B, and C have been routed in fire zones which are prohibited based on 10 CFR 50 Appendix R. These solenoid operated valves isolate VU flow to the charging/ high head safety injection pump lubricating oil coolers. The valves receive a closed

signal whenever the charging pumps are shutdown to prevent moisture condensation in the lube oil system. Since the valve fails open when de-energized, the concern existed for an Appendix R fire that would cause a "hot short", energize the circuits to close a valve, and isolate cooling water to a pump.

These valves were installed by a plant modification which occurred during the same time frame as the Appendix R evaluations were being performed for the plant. The licensee believes the timing of the modification contributed to the Appendix R deficiencies for these valves.

Roving fire watches were established in the fire zones that had improperly routed circuits as compensatory measures. Also, the solenoid coil wires were disconnected for the valve associated with the operating "C" charging pump such that the valve was failed in the open position. After reviewing several options, the licensee decided to revise the Fire Emergency Procedures (FEPs) as corrective action for these conditions. A planned modification for the upcoming refueling outage (Fall, 1994) to change the source of cooling for the charging pump from VU to component cooling water will also correct this deficiency. The FEP revisions provided instructions for dealing with an Appendix R fire in the applicable fire zone. These instructions were to secure the charging pump that will be used, disconnect the leads to the solenoid valve, and restarting the charging pump. The inspector reviewed the FEP revisions and verified that instructions were provided to accomplish the desired actions. Also, the inspector noted that applicable individuals who would be involved in carrying out these FEP actions receive training on the FEP revisions.

b. Degrade Flows in the Fire Service (FS) System

Surveillance Test Procedure STP 128.021, Fire Service Annual Flow Test, was revised in April 1990, to obtain additional flow measurements and to require trending of the flow data. Also, the STP acceptance criteria was changed for the initial "baseline" test such that all data and flow calculations must be evaluated by engineering to determine that the data obtained is consistent with the flows expected during the original design. Subsequent test results would then be compared with the "baseline" test data and verified that flows had not degraded by more than five percent. The STP was started in December 1990, and completed in February 1991.

After reviewing the test results, a response from engineering, in October, 1991, stated that it appeared that unacceptable losses occurred in two segments of six inch piping. The note, "This information is preliminary", was included in the response. At that time, the licensee initiated a roving fire watch in the areas covered by the portion of the fire suppression system with potentially low water flows. The licensee termed this as a "prudency action".

To determine if flows were truly degraded to an unacceptable level, engineering requested that the test be reperformed with additional test data collected. Due to miscommunications, when the STP was reperformed in January 1992, the same parameters were recorded. The STP was performed again in February 1992, when the annual scheduling frequency became due, but again, only the same test data was collected. A year later in February 1993, the annual STP was performed again. During the same time period engineering issued a letter requesting additional data points be monitored in a flow test of the fire suppression system. A new performance test procedure (PTP) was developed to collect the information. In May 1993, the PTP was performed and the test data was sent to engineering.

This additional test data was reviewed by engineering and a notice of nonconformance (NCN) was written in October 1993, when it was determined that flows to sprinklers in the auxiliary building, elevation 463, were below design basis requirements. However, based on a management decision, the NCN was voided and it was determined that additional test data was needed to access the flow conditions. Management subsequently stated that it was their belief that the system was capable of performing it's function even though the design basis requirements were not met.

Station Administrative Procedure, SAP-131A, Fire Service Equipment/Systems Operability Requirements, specifies the portion of the FS system that must be operable and the compensatory actions required if operability requirements are not met. Attachment III, Spray, Sprinkler and Deluge Systems, states that the auxiliary building preaction sprinkler system shall be operable. The inability of the FS system to satisfy design basis flow requirements should result in that portion of the FS system being declared inoperable. The compensatory actions in SAP-131A for the affected portion of the auxiliary building preaction sprinkler system being inoperable are a continuous fire watch with backup fire suppression equipment. The failure to declare portions of the FS system inoperable and implement compensatory actions once a determination was made that design basis flow requirements could not be met is identified as Violation 395/94-03-02.

On January 19, 1994, the licensee recognized that the three previous surveillance tests of the FS system completed per STP 128.021 had not been closed. This was a program violation of their surveillance testing process. At that time the applicable portion of the FS system was declared inoperable and compensatory actions were taken. With increased management attention, the PTP was revised to obtain additional test data. The inspector observed performance of the PTP on January 26, 1994. Results of the PTP confirmed that inadequate flows existed and further identified the portions of the FS piping that caused the low flow conditions. The licensee is evaluating various methods for re-establishing required flows.

Approximately three years elapsed from collecting the surveillance test data that indicated unacceptable flow losses until the licensee recognized that the problem did exist and compensatory actions were required. Section 5.C.8, Corrective Action, of the Fire Protection Evaluation Report (FPER) states that the identification of conditions adverse to quality, the cause of the condition and correction action shall be accomplished in accordance with the Operational QA Plan. Section 12, of the Operational QA Plan, defines test failures as a nonconformance. Additionally, it states that control and correction measures are prescribed to assure that conditions adverse to safe operation are reported, and appropriate corrective action is taken in a timely manner. The failure to confirm that unacceptable FS system flow conditions existed and take appropriate corrective action in a timely manner is identified as Violation 395/94-03-03.

8. Review of Licensee Self-Assessment Capability (40500)

The inspector attended a meeting of the Nuclear Safety Review Committee (NSRC) on January 20, 1994. The meeting was held to discuss a number of items including Independent Safety Engineering Group issues, the licensee's status on Generic Letter 89-10 (Safety-Related Motor-Operated Valve Testing and Surveillance), Thermo-Lag issues, and to review several QA audit reports. The inspector considered the discussions and reviews to be thorough and complete and met the requirements of the administrative controls section of TS.

On January 27, 1994, the inspector attended a meeting of the management review board (MRB) which discussed the fire protection system surveillance testing conducted over the last several years. The discussions were open and focused on the need to better understand the events and contributing factors to the events.

9. Action on Previous Inspection Findings (92701)

(Closed) Inspector Followup Item (IFI) 92-23-01, Safety-Related Agastat Relay Replacement Intervals.

This IFI indicated that Agastat "E" series relays have a vendor recommended replacement interval of 10 years. Additional vendor recommendations have been obtained by the licensee which indicate that the replacement interval for normally energized relays is 4.7 years and for normally de-energized relays is 10 years. Also, in an "EQ mild" environment, these relays have a 25 percent grace period on the recommended replacement intervals. All Agastat relays in question are in an EQ mild environment and would therefore be eligible to have the grace period applied to them. The licensee has elected not to use the grace period for normally energized relays and to replace them within the recommended time frame of 4.7 years. Normally de-energized relays are replaced within the vendor recommended 12.5 year maximum time period. The inspector has reviewed the licensee's response to this IFI and concluded that it is acceptable.

(Closed) Inspector Followup Item 92-16-02, Main Control Board (MCB) Annunciator Surge Protection.

On July 22, 1992, approximately 20 percent of the MCB annunciators were disabled due to an electrical surge associated with a lightning strike. The electrical surge originated from one of five beta cabinets which have at least one outside field input which could be susceptible to lightning strikes. The licensee has evaluated the possibility of adding surge protection for the field inputs to the beta cabinets and determined that the modification cost would be prohibitive based on an insignificant benefit to safety. The inspector reviewed this assessment and agreed based on the low number of lightning strikes that have occurred since commercial operation and the low probability of a direct lightning strike to the plant input devices.

10. Exit Interview (30703)

The inspection scope and findings were summarized on February 1, 1994, with those persons indicated in paragraph 1. The inspectors described the areas inspected and discussed the inspection findings.

No dissenting comments were received from the licensee. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspectors during the inspection.

Item Number	Description and Reference
395/94-03-01	Failure to comply with a system operating procedure.
395/94-03-02	Failure to declare portions of FS system inoperable and implement compensatory actions for the design basis flow requirements.
395/94-03-03	Failure to confirm unacceptable FS system flow condition existed and to take corrective action in a timely manner.

11. Acronyms and Initialisms

BP	British Petroleum
ESF	Engineered Safety Feature
EQ	Environmental Qualification
ETBT	Equal To Or Better Than
FEP	Fire Emergency Procedure
FPER	Fire Protection Evaluation Report
FS	Fire Service
FSAR	Final Safety Analysis Report
IFI	Inspector Followup Item
LER	Licensee Event Report

MCB	Main Control Board
MRB	Management Review Board
MWR	Maintenance Work Request
NRC	Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulation
NSRC	Nuclear Safety Review Committee
PMTS	Preventive Maintenance Task Sheet
PTP	Performance Test Procedure
QA	Quality Assurance
RCDT	Reactor Coolant Drain Tank
RCS	Reactor Coolant System
RWP	Radiation Work Permit
SER	Safety Evaluation Report
SAP	Station Administrative Procedure
SOP	System Operating Procedure
SPR	Special Report
STP	Surveillance Test Procedure
SW	Service Water
TS	Technical Specification
VU	Chill Water