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

Report No.: 50-400/95-12

Licensee: Carolina Power and Light Company
P. O. Box 1551
Raleigh, NC 27602

Docket No.: 50-400 License No.: NPF-63

Facility Name: Harris 1

Inspection Conducted: July 9 - August 5, 1995

Lead Inspector: _____ 9-1-95
D. Roberts, Acting Senior Resident Inspector Date Signed

Other Inspector: J. Starefos, Project Engineer, Region II

Approved by: _____ 9-1-95
D. Verrelli, Chief Date Signed
Reactor Projects Branch 1A
Division of Reactor Projects

SUMMARY

Scope:

This routine inspection was conducted in the areas of plant operations, maintenance, surveillance, engineering, plant support, review of licensee event reports, and licensee action on previous inspection items. Numerous facility tours were conducted and facility operations observed.

Results:

Plant Operations

Operations were performed adequately, including activities during the end-of-cycle plant coastdown, paragraph 3.a.(2). Two examples of procedural non-compliance were noted: one resulted in a non-cited violation, paragraph 3.a.(2); the other resulted in an unresolved item, paragraph 3.b.

Maintenance

Indicated maintenance and surveillance activities were performed satisfactorily with proper documentation of test failures, proper compensatory actions taken, and proper use of approved procedures, calibrated tools and instrumentation. Proper scheduling of on-line maintenance was also noted, paragraph 4.a.

Engineering

Reviewed engineering activities were considered adequate. A design change failed for the "B" CSIP miniflow system, paragraph 5.a. System engineer activities for new fuel receipt inspections were good, paragraph 5.b.

Plant Support

Certain activities in the radiological control area indicated a need for increased management attention due to the increasing presence of contractor personnel on site, paragraph 6.b. Fire brigade activities were considered adequate, paragraph 6.d. The annual full volume siren test yielded a 98.7 percent siren pass rate, paragraph 6.e. The TSC's condition improved as its renovation neared completion, paragraph 6.e.

REPORT DETAILS

1. PERSONS CONTACTED

Licensee Employees

*D. Batton, Superintendent, On-Line Scheduling
*D. Braund, Manager, Security
J. Collins, Manager, Training
*J. Dobbs, Manager, Outage and Scheduling
*J. Donahue, General Manager, Harris Plant
*R. Duncan, Manager, Technical Support
*W. Gautier, Manager, Maintenance
M. Hamby, Manager, Regulatory Compliance
*M. Hill, Manager, Nuclear Assessment
D. McCarthy, Superintendent, Outage Management
*R. Prunty, Manager, Licensing and Regulatory Programs
*W. Robinson, Vice President, Harris Plant
*G. Rolfson, Manager, Harris Engineering Support Services
*T. Walt, Manager, Regulatory Affairs
*B. White, Manager, Environmental and Radiation Control
A. Williams, Manager, Operations

Other licensee employees contacted included: office, operations, engineering, maintenance, chemistry/radiation control, and corporate personnel.

NRC Personnel
*S. Elrod, Senior Resident Inspector, Harris Plant
*D. Roberts, Acting Senior Resident Inspector, Harris Plant
J. Starefos, Project Engineer, Region II

*Attended exit interview

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

2. PLANT STATUS AND ACTIVITIES

a. Operating Status of the Plant During the Inspection Period.

The plant continued in power operation (Mode 1) for the duration of this inspection period. The end-of-cycle power coastdown began during the week of July 23. On August 5, the plant was operating at approximately 93 percent reactor power. The unit ended the inspection period in day 269 of power operation since startup on November 8, 1994.

b. Other NRC Inspections or Meetings at the Site.

J. Starefos, Project Engineer from the NRC Region II office, was on site from July 17 - 21, 1995, providing site coverage while the Harris resident inspectors were unavailable. The inspection findings are included in this report.

3. OPERATIONS

a. Plant Operations (71707)

(1) Shift Logs and Facility Records

The inspector reviewed records and discussed various entries with operations personnel to verify compliance with the TS and the licensee's administrative procedures. In addition, the inspector independently verified clearance order tagouts.

The inspectors found the logs to be legible and well organized, and to provide sufficient information on plant status and events. The inspectors found clearance tagouts to be properly implemented. The inspectors identified no violations or deviations in the shift logs and facility records area.

(2) Facility Tours and Observations

Throughout the inspection period, the inspectors toured the facility to observe activities in progress, and attended several licensee meetings to observe planning and management activities. Inspectors made some of these observations during backshifts.

During these tours, the inspectors observed monitoring instrumentation and equipment operation. The inspectors also verified that operating shift staffing met TS requirements and that the licensee was conducting control room operations in an orderly and professional manner. The inspectors additionally observed several shift turnovers to verify continuity of plant status, operational problems, and other pertinent plant information. The following paragraphs discuss two specific operational activities reviewed by the inspectors.

<u>End-of-Cycle Coastdown</u>

Operators commenced the end-of-cycle power coastdown during the week of July 23. Guidance for conducting the coastdown was contained in procedure GP-006, Rev. 7/1, Normal Plant Shutdown from Power Operation to Hot Standby. Attachment 3, Guide for Cycle 6 Coastdown, alerted operators to potential

AFD swings due to xenon transients, boron concentration changes, and rod withdrawal evolutions. Operators successfully maintained Tavg and Tref matched and conservatively performed a power range heat balance for every 1/2 degree F change in Tavg. Operators also maintained Tavg and reactor power within limits prescribed in a curve developed by reactor engineers. There were two cautions in the procedure reminding operators to observe all indications of power. At the end of the inspection period, reactor power was approximately 93 percent of rated. The inspector concluded that this procedure and its implementation were examples of good performance.

Safety Battery Room Temperature Outside Procedure Limit

During a control room tour, the inspector learned of a procedure violation related to logging safety battery room temperatures. On July 16 and 17, 1995, the licensee performed Operations Surveillance Test OST-1021, Rev. 9, Daily Surveillance Requirements. Per this procedure, operators logged safety battery room temperatures every 6 hours beginning at 3:00 a.m. On July 16 at 9:00 a.m., 3:00 p.m., and 9:00 p.m., operators logged the 1B-SB safety battery room temperature as 70 degrees F. On July 17, at 3:00 a.m. and 9:00 a.m., the 1B-SB safety battery room temperature was again recorded as 70 degrees F.

The five 70 degree F temperature readings were outside the procedure's acceptance criteria (greater than 70 degrees F and less than or equal to 85 degrees F). A note associated with this acceptance criteria directed the operator to perform section 7.0, step 5, if the temperature was 70 degrees F or less. Step 5 required operators to raise the room temperature to 71-85 degrees F and to direct maintenance to perform MST-E0011 (check battery cell electrolyte temperatures greater than 70 degrees F). Following the first four discrepant readings, operators failed to comply with the note. After the 9:00 a.m. reading on July 17, operators discovered their errors and complied with the procedure.

At 9:11 a.m., maintenance commenced procedure MST-E0011. Operations was notified at 4:06 p.m. that the test was complete with all battery cell electrolyte temperatures indicating greater than 70 degrees F. Operators raised the battery room temperature by swapping air handler units. At 10:30 a.m., the 1B-SB Safety Battery room temperature was 73 degrees F.

Verifying safety battery room temperatures was a commitment the licensee made in response to the NRC's Station Blackout Rule. A June 16, 1992, NRC letter addressed to CP&L

discussed the supplemental safety evaluation regarding the licensee's response to the rule. Section 2.2 of an enclosure stated, in part, that the battery room temperature would not be lower than 70 degrees F prior to an SBO event. It was further noted in the NRC letter that the licensee's response would be to modify an existing plant procedure verifying that battery room temperatures were not less than 70 degrees F or more than 85 degrees F. The licensee's procedure writers did not include the marginal 70 degree F reading in procedure OST-1021 acceptance criteria. Although the five 70 degree readings were outside the procedure's acceptance criteria, the room temperature satisfied the SE recommendation discussed above.

Because the 70 degree F battery room temperature was not below assumptions contained in the licensee's SBO rule submittal, the inspectors considered the safety significance of the violation to be minor. However, the inspector noted that the condition existed for approximately 24 hours before action was taken.

The failure to follow procedure OST-1021 involved several operators and two operating shifts. These failures were mitigated by the fact that operators identified their own errors and initiated corrective actions. These failures constitute a violation of minor significance and are being treated as a Non-Cited Violation, consistent with section VII of the NRC Enforcement Policy.

Non-Cited Violation 400/95-12-01: Failure to Comply with Daily Surveillance Requirements for Monitoring Battery Room Temperatures.

b. Effectiveness of Licensee Control in Identifying, Resolving, and Preventing Problems (40500)

Condition Reports (CRs) were reviewed to verify that TS were complied with, corrective actions and generic items were identified, and items were reported as required by 10 CFR 50.73.

CR 95-1810 was initiated when operators failed to satisfy TS requirements for an inoperable vent stack flow rate monitor on July 31. TS 3.3.3.11 required that certain gaseous effluent radiation monitors be operable to ensure that gaseous effluents were monitored at all times, and that radiological limits in TS 3.11.2.1 and 3.11.2.5 were not exceeded. TS Table 3.3-13 listed the affected effluent monitoring instrumentation and specific actions to take if the minimum number of operable channels was not satisfied. Certain compensatory actions included acquiring and analyzing grab samples, or using auxiliary sampling equipment for inoperable particulate, iodine, and noble gas samplers and monitors. For inoperable vent stack flow rate

monitors, the TS required the vent stack flow rates to be estimated every four hours.

At 9:20 a.m., on July 31, I&C technicians commenced procedure MST-I0413, WPB Stack 5A Flow Rate Monitor and Isokinetic Sampling System Calibration, which effectively removed the stack 5A particulate, iodine, and gas (PIG) monitor and the wide range gas monitor (WRGM) from service. Certain sections of the MST required that the associated WPB stack 5A flow rate monitor, PNL-*1WV-3547-1, be taken out of service to complete the procedure. Accordingly, Operations Work Procedure, OWP-RM, Rev. 4, Radiation and Effluent Monitoring, Attachment 18, required that the flow rate monitor be declared inoperable when both the PIG and WRGM were out of service. This action would require commencing the four hour flow estimates in accordance with the TS.

Operators declared the PIG and WRGM inoperable but failed to declare the associated flow rate monitor inoperable and hence did not perform the four hour flow estimates for WPB vent stack 5A until after shift turnover at 6:45 p.m. After the identifying shift declared the flow rate monitor inoperable and commenced the compensatory four hour flow estimates, operators generated CR 95-1810 which identified the above incident as a TS violation.

Upon learning of this event, the inspector immediately recalled a similar situation in July 1994 which resulted in LER 400/94-02. In the 1994 incident, the turbine building ventilation stack flow rate monitor was declared inoperable but the TS compensatory actions were not performed due to an operator not fully understanding or questioning the component's status. The corrective actions in the LER were developed to address common root causes between the 1994 event and earlier incidents.

To the inspector, the July 1995 incident appeared to be a repeat violation. However, at the end of this inspection period, neither the licensee nor the inspector had concluded reviews of this matter. The inspector informed licensee personnel that an independent review of the licensee's findings and of the technical requirements for the WPB stack 5A flow rate monitor would be conducted and tracked as an unresolved item.

Unresolved Item 400/95-12-02: Determine Adequacy of Corrective Actions for Violations Involving Vent Stack Flow Rate Monitors.

c. Followup - Operations (92901)

(Closed) VIO 400/94-23-01: Failure to Maintain Required Control Room Shift Staffing Levels.

The inspector verified that actions committed to in licensee response letter HNP-95-025, dated February 27, 1995, were completed. These actions included completing a root cause

investigation; issuance of an Operations Night Order; counseling for the involved individuals; and a revision to procedure OMM-002, Rev. 5, Shift Turnover Package. The shift turnover procedure now includes formal guidelines for temporarily relieving control room operators.

The inspector has closed this violation.

Two examples of procedural non-compliance were noted in the operations area. Otherwise, performance in this area was satisfactory. One non-cited violation and one unresolved item were identified in the operational safety area.

4. MAINTENANCE

a. Maintenance Observation (62703)

The inspector observed the maintenance and reviewed the work packages for the following maintenance activities to verify that correct equipment clearances were in effect, work requests were issued, and TS requirements were being followed.

(1) WR/JO 95-AHBX1, Rework "B" CSIP Miniflow Check Valve, 1CS-193. The inspector observed licensee personnel disassemble this check valve, replace the valve disk, replace the closing spring, and reassemble the valve in accordance with instructions contained in design package ESR 9500641, CSIP Miniflow Check Valves 1CS-179 and 193 Seat Rework. A further discussion on the history of problems with valve 1CS-193 is contained in paragraph 5.a of this report.

Since this job involved opening a highly contaminated system, thereby creating a possible airborne contamination problem, the inspector verified that workers used good radiological protection practices and verified that they observed radiological signs and postings. An HP technician was also at the job site monitoring radiological conditions.

WR/JO 95-AHBX1 was scheduled during a "B" train work week. The inspector reviewed the maintenance schedule and verified that the job was scheduled within risk assessment guidelines contained in the licensee's on-line maintenance scheduling program, PLP-710, Rev. 3, Work Management Process. Since the "A" and "C" CSIPs have been operable for the past few months, and remained so during this maintenance activity, the licensee did not need the "B" CSIP to meet TS operability requirements. Notwithstanding that, the inspector concluded that the licensee appropriately and conservatively scheduled this job within risk assessment guidelines for the "B" train CVCS and HHSI system.

Post-maintenance testing included performing a forward flow test by running the "B" CSIP and measuring miniflow line pressure through a test connection in accordance with surveillance procedure OST-1093, Rev. 1. The new check valve failed this test when line pressure indicated approximately 700 psig (versus the 2000 psig specified in the procedure acceptance criteria). Licensee personnel later confirmed that the check valve was not passing enough flow by measuring 26-30 gpm with an ultrasonic flow meter. Licensee personnel expected a 60 gpm flow rate. Following the test failure, plant personnel investigated other options available to return valve 1CS-193 and the associated "B" CSIP to service. At the end of the inspection period, licensee personnel had not concluded which actions would be taken.

Neither the inspector nor the licensee attributed the above failure to maintenance errors. The inspector concluded that workmanship during this job was satisfactory.

(2) WR/JO 95-AGGU2, Install Freeze Seal on ESW Piping In Accordance With Procedure CM-M0169, Rev. 4, Freeze Seal Procedure.

Licensee personnel performed this procedure on a vertical section of 12-inch diameter "A" train ESW piping located inside the RAB. The licensee needed the freeze seal to isolate a plugged flow orifice. Using a liquid nitrogen source, and an appropriately sized freeze jacket, maintenance personnel accomplished the freeze in about seven hours. Plant personnel maintained the freeze seal for five additional hours to allow the orifice tap to be opened and cleaned.

The inspector observed that maintenance personnel followed requirements contained in procedure CM-M0169. Calibrated thermocouples were installed at each end of the freeze jacket allowing personnel to monitor temperatures and ensure that procedure guidelines for establishing the seal were met. Licensee personnel followed precautions to sufficiently distance the freeze seal from pipe bends, elbows, and valves in the line. Prior to and after installing the seal, QC personnel performed an NDE on the affected piping and ascertained that no relevant pipe damage had occurred. The results of the examinations were appropriately documented in the final work package.

Licensee personnel gave proper consideration to personnel working in the adjacent "A" RHR heat exchanger room. Because of the HX room's confined nature, an open ventilation damper on the wall adjacent to the area where liquid nitrogen vapor was being exhausted necessitated

monitoring in the HX room. Licensee personnel monitored the room for oxygen levels, hung a caution sign on the HX room door, and conservatively restricted room access while freeze seal activities were ongoing.

Overall, licensee performance during this evolution was good.

In general, the performance of work was satisfactory with proper documentation of removed components and independent verification of the reinstallation. The inspectors identified no violations or deviations in this area.

b. Surveillance Observation (61726)

The inspector observed surveillance tests to verify that approved procedures were being used, qualified personnel were conducting the tests, tests were adequate to verify equipment operability, calibrated equipment was used, and TS requirements were followed. Test observation and data review included:

(1) OST-1104, Rev. 5/2, Containment Isolation Inservice Inspection Valve Test, Quarterly Interval.

This test's purpose was to check the operability of containment isolation valves by cycling the valves and verifying isolation times. This test partially satisfied requirements contained in TS 4.0.5 and 4.6.3.1.

The inspector verified that appropriate approvals were granted, a calibrated stopwatch was used, and procedure steps were either initialed or N/A'd as required. All but two of the 25 valves that were tested passed. The failed valves were 1BD-11 and 1BD-45, both in the steam generator blowdown system. Following the failures, the inspector verified that licensee personnel took appropriate compensatory actions as required by TS LCO action statements. Valve 1BD-11 was subsequently returned to service after a maintenance repair. At the end of the inspection, valve 1BD-45, a flow control valve for "C" steam generator blowdown, remained shut and deactivated.

The licensee's performance during this surveillance activity, including the followup actions after the valve failures, was satisfactory.

(2) OP-119, Rev. 4, Radwaste Radiation Monitoring System.

Operators performed this procedure to satisfy compensatory requirements in TS 3.3.3.11 for an inoperable vent stack flow rate monitor. Section 8.6 of this procedure required operators to estimate WPB vent stack 5A flow rates in

accordance with Attachment 7. This attachment listed 8 fans which exhausted through WPB vent stack 5A. Design flow rates (in cubic feet per minute) were listed next to each fan. The operator placed his initials in appropriate blocks for each fan determined to be discharging and calculated the total flow.

The TS required the flow rate estimates every four hours; however, procedure OP-119 conservatively required this estimate every three hours. As discussed in paragraph 3.b, the licensee's failure to perform this activity when the vent stack flow rate monitor was initially made inoperable is the subject of URI 400/95-12-02. The inspector concluded that once the flow rate estimates were commenced, the job was performed satisfactorily.

The inspectors found satisfactory surveillance procedure performance with proper use of calibrated test equipment, necessary communications established, notification/authorization of control room personnel, and knowledgeable personnel having performed the tasks. The inspectors observed no violations or deviations in this area.

5. ENGINEERING

a. Design and Installation of Plant Modifications (37551)

ESRs involving the installation of new or modified systems were reviewed to verify that the changes were reviewed and approved in accordance with 10 CFR 50.59, that the changes were performed in accordance with technically adequate and approved procedures, that subsequent testing and test results met approved acceptance criteria or deviations were resolved in an acceptable manner, and that appropriate drawings and facility procedures were revised as necessary. The following modification and associated testing was inspected:

ESR 9500641, CSIP Miniflow Check Valves 1CS-179 and 1CS-193 Seat Rework.

This modification replaced the valve internals in check valves 1CS-179 and 1CS-193, both of which had been experiencing leakage problems over the current operating cycle. Valve 1CS-193, which is on the "B" CSIP miniflow line, failed to backseat during previous testing. Its backseat function was required to prevent possible "A" CSIP pump runout or diversion of safety injection/charging flow from the reactor core through the "B" miniflow line. The soft resilient seat on these valve disks were also found to be damaged and partially missing. Licensee personnel believed that the existing disks had insufficient contact along the length of the valve bore, causing the disks to become cocked when subjected to the sudden pressure surge caused

by starting a CSIP. The valve's soft seat would then be eroded away by process flow. Both valves' disks were to be replaced with new cylindrical geometries which allowed smaller internal clearances along its axis and better guidance of the disk during its travel to full open or closed. The modification also removed the resilient soft seat which had been intended for lower pressure applications.

The inspector reviewed the engineering package which referenced appropriate drawings for update. The package contained a safety review and an unreviewed safety question determination in accordance with requirements contained in 10 CFR 50.59. It was determined that the valve modification would not increase the probability or consequences of accidents, or malfunction of equipment needed to mitigate those accidents.

The inspector observed the installation and testing for this modification, which was only performed for 1CS-193. Although the modification was installed in accordance with the design package, the valve failed its post-modification test. Instead of failing the backseat leakage test, the valve failed the forward flow test as discussed in paragraph 4.a.(1) of this report. Following the failure, the valve and "B" CSIP remained inoperable, with the "A" and "C" CSIPs both satisfying TS operability requirements. The "B" miniflow line remained isolated from the "A" CSIP to prevent possible pump runout and/or diversion of SI flow.

Although the newly modified valve did not perform as expected, the inspector concluded that engineering efforts were reasonable. At the end of the inspection, the utility had not finalized new plans to return the valve to service.

The inspectors identified no violations or deviations in the design and installation of plant modifications area.

b. Onsite System Engineering (37551)

The inspectors observed system engineering activities associated with new fuel receipt inspections. In preparation for the upcoming refueling outage, licensee personnel inspected new fuel assemblies in accordance with procedure FMP-106, Rev. 7, New Fuel Receipt Inspection. The new assemblies were handled in accordance with procedure SPP-0015, Rev. 0, Unpacking and Handling of New Fuel Assemblies and New Fuel Shipping Containers.

The inspector observed that support functions, including maintenance and health physics personnel, were on-hand supporting this activity. The fuel vendor representative was also at the job site assisting in the inspections. The system engineer was thorough in documenting inspection attributes in accordance with the procedure. These attributes included material condition, fuel rod perpendicularity, rod integrity and separation, and potential

bowing of rods. The engineer documented inspection findings in condition reports. Two such findings included a small zircaloy shaving (attributed to the fuel manufacturing process) found in one assembly, and two sets of nuts and washers found lying in a fuel shipping container. The licensee was investigating the cause of these findings at the end of the inspection period. The licensee preliminarily determined that the findings did not pose a threat to the integrity of the new fuel. Overall, the fuel assemblies were considered to be in good condition. This was an improvement over the previous year's shipments, when several material condition findings resulted in three assemblies being returned to the vendor (see NRC IR 400/94-05, paragraph 6).

Licensee performance during this activity was good. The inspectors identified no violations or deviations in the systems engineering area.

c. (Closed) TI-2515/129, Pressure Locking of PWR Containment Sump Recirculation Gate Valves.

This TI was initially closed in NRC IR 400/95-05. In that report, paragraph 5.c stated that licensee personnel would continue to maintain a thermal insulating water level in the containment recirculation sumps until the fall 1995 refueling outage. At that time, the utility planned to inspect the sump valves and drill the disks if necessary per ESR 9500424. Due to schedule constraints in RFO 6, the licensee has since deferred this activity to RFO 7, scheduled for the spring of 1997. In an internal memo from HESS management to Operations dated June 21, 1995, Operations was requested to continue monitoring and maintaining containment sump levels and report trends to the system engineer. The inspectors considered this plan acceptable.

The inspectors concluded that the engineering activities were performed adequately. The inspectors identified no violations or deviations in the engineering area.

6. PLANT SUPPORT

a. Plant Housekeeping Conditions (71707) - The inspectors reviewed storage of material and components, and observed cleanliness conditions of various areas throughout the facility to determine whether safety hazards existed. The inspector determined that plant housekeeping was satisfactory and no safety hazards were apparent.

b. Radiological Protection Program (71750) - The inspectors reviewed radiation protection control activities to verify that these activities were in conformance with facility policies and

procedures, and in compliance with regulatory requirements. The inspectors also verified that selected doors which controlled access to very high radiation areas were appropriately locked. Radiological postings were likewise spot checked for adequacy.

The inspector made three observations during the week of July 31 that indicated a need for increased management attention in the area of radiological protection and control. Each example is discussed separately in the following paragraphs.

Cigarette Butts in the RCA

On August 1, the inspector found four cigarette butts and one cigar butt on the floor of the mechanical penetration area (236' level of the RAB). The licensee's policy prohibits smoking inside the RCA. After his discovery, the inspector notified HP technicians who later came and retrieved the butts. Discussions with the HP technicians implied that these might have been butts from years ago, possibly left there during construction. The technicians noted that contractor personnel had been painting in the overhead mezzanine level. The technician speculated that the butts were probably hidden behind some structure, disturbed by contractors, and fell to the floor where the inspector found them.

The inspector discussed his observation with licensee management who indicated that they were sensitive to potential problems in this area. Licensee management was convinced that the butts did not represent a current problem. Plant management had previously instructed workers to bring to management's attention any cigarette butts found in the RCA, rather than abandon them. This would prevent management from invoking any unwarranted disciplinary actions or receiving unnecessary violations. The inspector concluded that though the cigarette butts did not conclusively indicate a current problem, plant personnel and management should remain sensitive to the smoking prohibition and increased potential for noncompliance. Although licensee personnel were generally aware of the smoking prohibition, the increasing number of contractor personnel on site supporting the upcoming refueling outage warranted additional management attention in this and other areas of radiation protection.

Confusing Contaminated Area Posting

On July 31, the inspector observed contractors painting in the "A" RHR Heat Exchanger room inside the RAB. The inspector noticed a "Contaminated Area" warning sign hanging near a valve with the words "Gloves required as a minimum for access." The sign was confusing because it did not specify where the contaminated area was. The sign's configuration implied that the contamination could have been either on the valve itself or areas directly behind it. The inspector asked the painters if they had any idea what was contaminated. When they indicated they did not, the

inspector requested that an HP technician clarify the posting. The technician conducted a survey and verified that contamination was limited to the valve stem. He later replaced the sign with a placard clearly describing where the contamination was located.

The inspector considered this observation important because personnel working in the area did not fully understand the CA warning sign. Even the HP technician had to conduct a survey to verify where the contamination was located. The inspector considered that contaminated areas should either be barricaded, or if small enough, provided with a sign clearly describing the affected location. The inspector was informed that a personnel contamination event had occurred the previous day in that same room. The inspector concluded that although the previous day's event may not have been directly linked to the questionable CA posting, the increased likelihood of contaminations during the upcoming refueling outage warranted more licensee attention to detail in developing radiological postings.

Near-Miss Procedure Violation

On August 2, the inspector observed a contract employee perform frisk activities prior to exiting the RCA. The licensee's program required that individuals perform an automatic frisk for contamination using one of the exit portal monitors located at the various RCA exit points. If the automatic frisker alarmed, personnel were required to perform a manual frisk first and then re-enter any one of the automatic friskers prior to exiting the RCA. Placards showing this requirement were posted in each one of the portal monitors. On August 2, after alarming one automatic frisker, the individual stepped out of it and entered another, without performing the required manual frisk. The inspector informed the individual that a manual frisk was required by plant procedures. After receiving a "clear" bell on the second frisker, the individual stepped back into the RCA and performed the manual frisk, then repeated the automatic procedure.

Based on his discussion with the individual, the inspector concluded that without his intervention, this contract employee would likely have violated plant procedures. This observation represented more an issue with procedural compliance than with contamination control, as the second monitor would have probably alarmed under truly contaminated circumstances. The inspector discussed this issue with plant management who indicated that measures to preclude such occurrences would be stepped up for the upcoming outage.

c. Security Control (71750) - During this period, the inspectors toured the protected area and noted that the perimeter fence was intact and not compromised by erosion or disrepair. The fence fabric was secured and barbed wire was angled. Isolation zones were maintained on both sides of the barrier and were free of

objects which could shield or conceal an individual. The inspectors observed various security force shifts perform daily activities, including searching personnel and packages entering the protected area by special purpose detectors or by a physical patdown for firearms, explosives, and contraband. Other activities included vehicles being searched, escorted and secured; escorting of visitors; patrols; and compensatory posts. In conclusion, the inspectors found that selected functions and equipment of the security program complied with requirements.

d. Fire Protection (71750) - The inspectors observed fire protection activities, staffing, and equipment to verify that fire alarms, extinguishing equipment, actuating controls, fire fighting equipment, emergency equipment, and fire barriers were operable. During plant tours, the inspector looked for fire hazards. The inspector concluded that the fire equipment and barriers inspected were in proper physical condition.

The inspector completed a special fire brigade survey to determine if concerns similar to those identified at another nuclear facility existed at Harris. The survey included ten questions related to fire brigade composition, activation criteria, and fire fighting activities. The inspector interviewed personnel normally on the fire brigade and consulted the following licensee procedures:

- FPP-001, Rev. 12/6, Fire Protection - Conduct of Operations.
- FPP-002, Rev. 8/2, Fire Emergency.
- FPP-009, Rev. 3, Physical Requirements for Fire Brigade.
- FPP-016, Rev. 0, Fire Protection Training

The key results of this effort are discussed in the following paragraphs.

The fire brigade composition at Harris consisted of 5 non-licensed operators, including personnel from the radwaste organization (a sub-unit of Operations). The same fire brigade manning requirement existed 24 hours a day. The brigade was lead by the onshift radwaste shift supervisor (the scene leader or team leader) who owned the responsibility for recommending offsite assistance. Section 8.6.2 of procedure FPP-002 contained a note stating that offsite assistance should be called if the fire appeared to be beyond the capability of two fire extinguishers, or if heavy smoke was present and the fire could not be located in a timely manner.

Although its members conducted other plant duties, including routine radwaste operations, system lineups, and surveillance testing; the fire brigade's first priority was to respond to fires. For reporting a fire to the main control room, plant personnel were instructed that "smoke only" was enough. However,

the fire brigade would normally be dispatched by the control room shift supervisor after flames were confirmed.

The fire alarm annunciator was located on the main control board in the MCR and alarmed like all other annunciators on the panel. The annunciator was visible and audible and operators were required to respond to it as they would any other annunciator. By design, this alarm was triggered for fires anywhere in the plant, including outlying areas. Upon confirming a fire, control room operators would sound the plant-wide fire alarm, as directed by operating procedures.

Concerning electrical fires, responders were authorized to use a full fog pattern to combat switchgear fires. Every effort must have been made to first deenergize the electrical bus. However, brigade members were trained to use the full fog pattern if deenergizing the bus was impossible. Carbon dioxide gas could be used to suppress electrical fires that were small enough. The fire brigade was tested quarterly and often during backshift hours.

Concerning emergency classifications, any fire lasting more than 10 minutes within the protected area constituted a NOUE. Additionally, any unplanned explosion within the power block constituted an Alert. If the explosion affected safety-related equipment with the plant in Modes 1 - 4, then a site area emergency would be declared. Finally, any situation determined by the control room shift supervisor or the Site Emergency Coordinator to warrant elevated emergency declarations would be handled as such.

The inspector concluded that fire brigade activities were adequate.

e. Emergency Preparedness (71750) - The licensee conducted its annual full volume siren test on July 27. Plant personnel were stationed at each of the 79 sirens within the local evacuation zone to verify that they sounded when actuated. Of the 79 sirens, only one did not sound. This was attributed to a hardware problem which was corrected within two hours. The siren was successfully retested that afternoon. The initial test success rate of 98.7 percent easily met the FEMA "success" criteria of 90 percent or better. The siren test results were documented in an internal licensee memo dated August 1, 1995, from the emergency preparedness manager.

On several occasions, the inspector toured the TSC and noted progress in the licensee's renovation effort. At the end of the inspection period, the TSC renovation was nearing completion as new walls, carpets, video projectors and screens had been installed. Plant management also kept the inspector well informed of the TSC's status during transitional periods. The inspector

considered this type of communication and the overall renovation effort to be beneficial to the licensee's program.

f. Licensee's Self Assessment (40500)

The licensee's Nuclear Assessment Section completed one assessment this month in the area of biennial procedure reviews. This assessment satisfied part of a licensee commitment which supported removing biennial procedure review requirements from the TS. The inspectors reviewed the associated report and concluded that the assessment was thorough and resulted in substantive findings.

The inspectors identified no violations or deviations in the Nuclear Assessment area.

g. Followup - Plant Support (92904)

(Closed) VIO 400/94-22-05: Failure to Establish Adequate Corrective Actions to Prevent Recurrent Designated Vehicle Control Violations.

The inspector verified that actions committed to in licensee response letter HNP-94-098, dated December 30, 1994, were completed. These actions included: a Plant Access Training program enhancement to address the requirement for control of designated vehicles; a reduction in the number of plant designated vehicles; tags placed on keys reminding individuals to remove them before leaving vehicles unattended; and disciplinary actions for the involved individuals.

The inspector has closed this violation.

The inspectors found plant housekeeping and material condition of components to be satisfactory. Except for the instances noted in paragraph 6.b, the licensee's adherence to radiological controls, security controls, fire protection requirements, and emergency preparedness requirements was satisfactory. The inspectors identified no violations or deviations in the plant support area.

7. EXIT INTERVIEW

The inspector met with licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on August 7, 1995. During this meeting, the inspectors summarized the scope and findings of the inspection as they are detailed in this report, with particular emphasis on the Non-Cited Violation and Unresolved Item addressed below. The licensee representatives acknowledged the inspector's comments and did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection. No dissenting comments from the licensee were received.

Item Number	Status	Description and Reference
95-12-01	Closed	NCV Failure to Comply with Daily Surveillance Requirements for Monitoring Battery Room Temperatures, paragraph 3.a.
95-12-02	Open	URI Determine Adequacy of Corrective Actions for Violations Involving Vent Stack Flow Rate Monitors, paragraph 3.b.
94-23-01	Closed	VIO Failure to Maintain Required Control Room Shift Staffing Levels, paragraph 3.c.
94-22-05	Closed	VIO Failure to Establish Adequate Corrective Actions to Prevent Recurrent Designated Vehicle Control Violations, paragraph 6.g.

8. ACRONYMS AND INITIALISMS

AFD - Axial Flux Deviation
CFR - Code of Federal Regulations
CM - Corrective Maintenance [procedure]
CP&L - Carolina Power & Light
CR - Condition Report
CSIP - Charging/Safety Injection Pump
CVCS - Chemical and Volume Control System
encl - Enclosure
ESR - Engineering Service Request
ESW - Emergency Service Water
FEMA - Federal Emergency Management Agency
FMP - Fuel Management Procedure
FPP - Fire Protection Procedure
GP - General Procedure
gpm - Gallons per Minute
HESS - Harris Engineering Support Services
HHSI - High Head Safety Injection
HNP - Harris Nuclear Plant
HX - Heat Exchanger
IR - [NRC] Inspection Report
LCO - Limiting Condition for Operation
LER - Licensee Event Report
MCR - Main Control Room
MST - Maintenance Surveillance Test [procedure]
NCV - Non-Cited Violation
NDE - Non-Destructive Examination

NOUE	-	Notice of Unusual Event
NPF	-	Nuclear Production Facility [a type of license]
NRC	-	Nuclear Regulatory Commission
OMM	-	Operations Management Manual
OP	-	Operating Procedure
OST	-	Operations Surveillance Test [procedure]
OWP	-	Operations Work Procedure
PIG	-	Particulate, Iodine, and Gas [monitor]
PLP	-	Plant Program [procedure]
psig	-	Pounds per Square Inch, Gauge
PWR	-	Pressurized Water Reactor
QC	-	Quality Control
RAB	-	Reactor Auxiliary Building
RFO	-	Refueling Outage
RHR	-	Residual Heat Removal
SBO	-	Station Blackout
SI	-	Safety Injection
SPP	-	Special Plant Procedure
Tavg	-	Average Reactor Coolant Temperature
TI	-	Temporary Instruction [NRC inspection procedure]
Tref	-	Reference Temperature
TS	-	Technical Specification [part of the facility license]
TSC	-	Technical Support Center
URI	-	Unresolved Item
VIO	-	Violation [of NRC requirements]
WPB	-	Waste Processing Building
WR/JO	-	Work Request/Job Order
WRGM	-	Wide Range Gas Monitor