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

Report No.: 50-400/93-17

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

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

Facility Name: Harris 1

Inspection Conducted: July 17 - August 20, 1993

Inspectors: R E Carroll for 8/27/93
J. Tedrow, Senior Resident Inspector Date Signed

R E Carroll for 8/27/93
D. Roberts, Resident Inspector Date Signed

Approved by: for 8/27/93
H. Christensen, Chief Date Signed
Reactor Projects Section 1A
Division of Reactor Projects

SUMMARY

Scope:

This routine inspection was conducted by two resident inspectors in the areas of plant operations, radiological controls, security, fire protection, surveillance observation, maintenance observation, cycle and transient monitoring program, annual emergency drill, corrective action program, licensee event reports, and licensee action on previous inspection items. Numerous facility tours were conducted and facility operations observed. Some of these tours and observations were conducted on backshifts.

Results:

A non-cited licensee identified violation regarding the handling of a spent fuel cask is discussed in paragraph 2.c.(1).

The performance of operator rounds was deficient and failed to notice increased charging pump discharge pressure, paragraph 2.b.(7).

Activity of spent fuel shipments has increased and involves a substantial radiological hazard, paragraph 2.c.(2).

Implementation of the cycle and transient monitoring program was less than adequate and requires licensee management attention, paragraph 5.

Deficiencies were noted in the implementation of the corrective action program regarding overdue action items, paragraphs 7.a and 9.b.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*D. Batton, Manager, Work Control
*H. Casanova, Manager, Quality Check
*J. Collins, Manager, Training
*C. Gibson, Manager, Programs and Procedures
*M. Hamby, Manager, Regulatory Compliance
T. Lee, Onsite Quality Check Representative
*D. McCarthy, Manager, Regulatory Affairs
*B. McFeaters, Manager, Emergency Preparedness
*T. Morton, Manager, Maintenance
J. Moyer, Manager, Site Assessment
*W. Robinson, General Manager, Harris Plant
W. Seyler, Manager, Project Management
H. Smith, Manager, Radwaste Operation
*D. Tibbitts, Manager, Operations
*B. White, Manager, Environmental and Radiation Control
*W. Wilson, Manager, Spent Nuclear Fuel
*L. Woods, Manager, Technical Support
M. Worth, Manager, Onsite Engineering

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

*Attended exit interview

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

2. Review of Plant Operations (71707)

The plant continued in power operation (Mode 1) for the duration of this inspection period.

a. Shift Logs and Facility Records

The inspector reviewed records and discussed various entries with operations personnel to verify compliance with the Technical Specifications (TS) and the licensee's administrative procedures. The following records were reviewed: shift supervisor's log; control operator's log; night order book; equipment inoperable record; active clearance log; grounding device log; temporary modification log; chemistry daily reports; shift turnover checklist; and selected radwaste logs. In addition, the inspector independently verified clearance order tagouts.

The inspectors found the logs to be readable, well organized, and provided sufficient information on plant status and events. Clearance tagouts were found to be properly implemented. No violations or deviations were identified.

b. Facility Tours and Observations

Throughout the inspection period, facility tours were conducted to observe operations, surveillance, and maintenance activities in progress. Some of these observations were conducted during backshifts. Also, during this inspection period, licensee meetings were attended by the inspectors to observe planning and management activities. The facility tours and observations encompassed the following areas: security perimeter fence; control room; emergency diesel generator building; reactor auxiliary building; waste processing building; turbine building; fuel handling building; emergency service water building; battery rooms; electrical switchgear rooms; technical support center; and the emergency operations facility.

During these tours, the following observations were made:

(1) Monitoring Instrumentation - Equipment operating status, area atmospheric and liquid radiation monitors, electrical system lineup, reactor operating parameters, and auxiliary equipment operating parameters were observed to verify that indicated parameters were in accordance with the TS for the current operational mode.

(2) Shift Staffing - The inspectors verified that operating shift staffing was in accordance with TS requirements and that control room operations were being conducted in an orderly and professional manner. In addition, the inspector observed shift turnovers on various occasions to verify the continuity of plant status, operational problems, and other pertinent plant information during these turnovers.

(3) Plant Housekeeping Conditions - Storage of material and components, and cleanliness conditions of various areas throughout the facility were observed to determine whether safety and/or fire hazards existed.

(4) Radiological Protection Program - Radiation protection control activities were observed routinely to verify that these activities were in conformance with the facility policies and procedures, and in compliance with regulatory requirements. The inspectors also reviewed selected radiation work permits to verify that controls were adequate.

(5) Security Control - The performance of various shifts of the security force was observed in the conduct of daily activities which included: protected and vital area access controls; searching of personnel, packages, and vehicles; badge issuance and retrieval; escorting of visitors; patrols; and compensatory posts. In addition, the inspector observed the operational status of closed circuit television monitors, the intrusion detection system in the central and secondary alarm stations, protected area lighting, protected and vital area barrier integrity, and the security organization interface with operations and maintenance.

(6) Fire Protection - Fire protection activities, staffing and equipment were observed to verify that fire brigade staffing was appropriate and that fire alarms, extinguishing equipment, actuating controls, fire fighting equipment, emergency equipment, and fire barriers were operable.

(7) During a tour of the reactor auxiliary building on July 26, 1993, the inspector noted that the local discharge pressure gauge on the secured CSIP-1B was reading approximately 150 psig. The "B" CSIP had been placed under clearance for minor repairs on July 21, 1993. The clearance boundary included the suction and discharge valves for CSIP-1B. For comparison, the inspector noted that the discharge pressure for the running CSIP-1C and the secured CSIP-1A were the normal values of 2700 psig and 0 psig, respectively. Local pump suction pressures indicated normal.

Plant personnel were informed of the CSIP-1B situation and an effort to depressurize the piping between the suction and discharge valves was attempted. Although initially successful, the piping gradually repressurized to approximately 280 psig; thereby indicating that the discharge valve and a discharge check valve were leaking by. Licensee personnel initiated deficiency tags against the defective components for repair. The performance of operator rounds was deficient in identification of this condition.

The inspectors found plant housekeeping and material condition of components to be satisfactory. The licensee's adherence to radiological controls, security controls, fire protection requirements, and TS requirements in these areas was satisfactory.

c. Review of Nonconformance Reports

Adverse Condition Reports were reviewed to verify the following: TS were complied with, corrective actions and generic items were identified and items were reported as required by 10 CFR 50.73.

(1) Adverse Condition Reports 93-278 and 93-286 both reported procedural violations which occurred during spent fuel cask operations associated with a single shipment of spent fuel received from the Brunswick site.

Adverse Condition Report 93-278 reported that on July 21, 1993, without a health physics (HP) technician present, a mechanic removed the radiological shield ring from the head of the cask which was being prepared for spent fuel offload to the spent fuel pool. The mechanic performed the shield ring removal step without carefully reading the controlling procedure, CM-M0300, Spent Fuel Cask Handling (IF-300 Cask). Specifically, the procedure contained a caution requiring a HP technician be present to monitor radiation dose rates at the parting plane while the shield ring was being removed. This caution had just recently been added to the procedure following concerns with previous cask shipments where increased dose rates had been detected following shield ring removal. As another measure of controlling this expected radiological hazard, the RWP to which the worker was assigned (Special RWP H93-0102, Rev. 7) required that there be a maintenance hold point at this step to allow a radiological survey to be taken upon removal of the shield ring. When the mechanic informed his supervision and HP personnel at a subsequent job debriefing that he had already removed the shield ring, he was informed that he had violated both the newly revised procedure and the RWP. The HP technicians then surveyed the area and determined that dose rates at 12 inches from the cask ranged from 75 to 300 millirem per hour, while dose rates on the cask ranged from 300 to 3000 millirem per hour. The decontamination pit where the cask was located was then posted as a High Radiation Area in accordance with HP procedures. The worker who had removed the shield ring recorded a dose of zero millirem as measured by his self-reading pocket dosimeter. Licensee personnel stated that the worker had been in the vicinity of the cask for less than a minute after the shield ring was removed. Although this mishap created a high radiation area which went unmonitored and unposted, the inspector concluded that the radiological consequences of this licensee-identified violation were minor from a personnel exposure standpoint as the area was not posted for less than one hour.

Adverse Condition Report 93-286 reported that procedure CM-M0300, Section 7.9, was not properly implemented. The procedure required that the spent fuel cask head gasket be removed from the head, inspected, cleaned, and lubricated prior to the head being reinstalled. Contrary to the procedural requirement, on July 29, 1993, mechanics partially reinstalled the head with only the outer surface of the gasket having been inspected. Upon discovering this,

the spent fuel Shipment Director (a manager appointed to oversee the performance of spent fuel cask operations) stopped the job prior to the head being torqued. The head was lifted from the cask, the gasket was removed from the head and then properly inspected prior to the job being continued. No radiological or other consequences resulted from this licensee-identified violation.

These two violations indicated that several administrative controls, which had been put in place to prevent these types of events from occurring, were ineffective. Controls such as the STAR (Stop, Think, Act, Review) philosophy and those more specific to the cask job, (i.e., job prebriefs, the placement of a Shipment Director at the fuel handling building operating deck to monitor the job performance, and special provisions in the Radiation Work Permit and work procedure) were negated because of a lack of attention to detail and a reliance on memory rather than strict adherence to the steps of the procedure. As part of the licensee's corrective actions for these violations, specific changes were made as to how spent fuel cask prebriefings and work would be conducted in the future. Job prebriefs would emphasize potential radiological hazards and recently revised procedure steps. A Shipment Director would be required to be present at the operating deck of the fuel handling building during the entire evolution from receipt of the spent fuel cask to preparation of the empty cask for its return trip. Health Physics personnel would be present during the entire evolution for periodic monitoring and surveying of radiological conditions at and around the cask, specifically during critical steps in the procedure.

As a followup to these events, the inspector observed critical evolutions associated with the next spent fuel cask shipment from the Brunswick site in August. The inspector noted that pre-job briefings were conducted with emphasis on potential radiological hazards, changes to procedures, and references to the previous violations. The licensee's other corrective actions for the above violations were being implemented and critical steps were being performed in accordance with the procedure. Based on work performance associated with the more recent cask shipment, the inspector concluded that the licensee's corrective actions were adequate to address concerns with the July violations.

The two procedural violations referenced above will not be subject to enforcement action because the licensee's efforts in identifying and correcting the violations meet the criteria specified in Section VII.B of the Enforcement Policy.

NCV (400/93-17-01): Failure to follow procedures associated with the handling of a spent fuel cask.

(2) Adverse Condition Report 93-281 reported that on July 23, 1993, during a spent fuel cask flushing and venting process, personnel exited the fuel handling building (FHB) operating floor with low levels of contamination on their feet. Followup surveys by HP personnel indicated that a possible airborne and floor contamination problem existed throughout the refueling floor. The flushing and venting process, which used demineralized water to reduce boron concentration, was secured and access was immediately restricted to the FHB operating floor. The area was then accurately posted as a contaminated area and subsequently decontaminated.

Prior to this event, during a recent NAD audit of the spent nuclear fuel functional area, an issue was identified in the area of radiological protection. Specifically, the issue stated that high standards of radiological protection were not maintained during spent fuel shipping activities for shipments observed between April and June, 1993. The NAD report cited two examples of contamination events, one of which involved a spraydown of the cask with demineralized water as it was being removed from the pool. As the cask broke the water surface, a worker sprayed demineralized water on some highly contaminated crud located on the cask surface.

Problems with handling crud associated with spent fuel received from the Brunswick plant have previously been identified as contamination control challenges for the licensee. These challenges, and the progress that the licensee has made in cleaning up the fuel pools and managing the crud, have been discussed in NRC Inspection Reports 50-400/92-12, 50-400/92-04, 50-400/92-01, 50-400/91-22, and 50-400/90-14. While the amount of crud introduced into the Harris pools with Brunswick fuel shipments has decreased with the more recent shipments, the licensee identified that the specific activity of the crud that is received is significantly higher than that of the older shipments. Part of the reason for this higher activity is that the spent fuel recently shipped from the Brunswick facility was irradiated as recently as 1989. Therefore, the licensee is faced with an additional challenge of controlling higher levels of contamination especially during cask flushing, venting and spraying processes. As a result of the NAD identified issue, and the July 23 contamination event, the inspectors concluded that the licensee needed to continue to implement stricter controls on these processes and to be more sensitive to the radiological hazards associated with

Brunswick spent fuel shipments. Licensee management was encouraged to stress the importance of strict controls when handling spent fuel shipments.

3. Surveillance Observation (61726)

Surveillance tests were observed to verify that approved procedures were being used; qualified personnel were conducting the tests; tests were adequate to verify equipment operability; calibrated equipment was utilized; and TS requirements were followed. The following tests were observed and/or data reviewed:

- MST-I0027 Steam Generator B Narrow Range Level (L-0485) Calibration
- MST-I0124 Pressurizer Pressure P-0457 Operational Test
- MST-I0146 Steam Generator B Narrow Range Level Loop (L-0484) Operational Test
- MST-I0175 Steam Generator A Narrow Range Level Loop (L-0473) Operational Test
- OST-1013 1A-SA Emergency Diesel Generator Operability Test Monthly Interval
- OST-1076 Auxiliary Feedwater Pump 1B-SB Operability Test Quarterly Interval
- OST-1131 Control Room Area HVAC ISI Test Quarterly Interval

The performance of these procedures was found to be satisfactory with proper use of calibrated test equipment, necessary communications established, notification/authorization of control room personnel, and knowledgeable personnel having performed the tasks.

a. Due to the demand for electrical power during the last two inspection periods, the licensee has delayed surveillance testing or other work which could jeopardize plant operation. Several surveillance tests had to be rescheduled to "off-peak" hours for accomplishment on weekends. The inspector reviewed the computerized surveillance scheduling and tracking system to determine if the intervals between the accomplishment of surveillance tasks exceeded the limits of TS 4.0.2. A printout of the previous month's surveillance tasks was reviewed by the inspector. This printout specified scheduled dates for test accomplishment, an overdue date, and the actual completion date. Approximately 176 surveillance tasks were reviewed. The inspectors found that all the scheduled surveillance activities had been accomplished within the required periodicity.

b. During the performance of the "B" motor driven AFW pump test, the auxiliary operator noticed that the local indication for recirculation flow rate was fluctuating widely. Since this parameter was a reference value for the pump test, I&C technicians were requested to vent the associated instrument lines. Fluctuations continued so the technicians throttled the instrument isolation valves to dampen the system pressure surges. This effort was successful in achieving a stable flow indication. The inspector discussed this action with operating personnel and found that they were unfamiliar with the requirements contained in ASME Section XI Article IWP-4000 regarding methods of measurements for obtaining test data. The operators were unaware of allowed symmetrical averaging techniques and the throttling of instrument isolation valves to reduce pressure fluctuations. The inspector reviewed the test procedures and noted that this information was excluded. Licensee personnel informed the inspector that these requirements would be considered for procedure incorporation.

No violations or deviations were observed.

4. Maintenance Observation (62703)

The inspector observed/reviewed maintenance activities to verify that correct equipment clearances were in effect; work requests and fire prevention work permits were issued and TS requirements were being followed. Maintenance was observed and work packages were reviewed for the following maintenance activities:

- Troubleshoot high temperature alarm on fan AH-19B in accordance with procedures MMM-027, Troubleshooting Guide, and LP-T-6542B, Auxiliary Feedwater Pump & HVAC Chiller AH-19 (1B-SB) Area Temperature.

- Disassemble and inspect oil breather for CSIP-1B in accordance with PCR-6140, CSIP Oil Misting Problem.

- Replacement of power supply card for the "B" main steam line pressure transmitter (PT-486) in accordance with procedure MST-I0012, Main Steam Line Pressure, Loop 2 (P-0486) Channel Calibration.

- Replacement of signal-converter NSC card for AMSAC steam generator level in accordance with procedure MST-I0027.

- Clean and repair rust damage to packing gland studs and nuts for valve 1CH-258.

- Repair leaking suction flange for the "A" charging and safety injection pump in accordance with procedure MMM-10, Threaded Fastener Tightening Procedure.

- Repair stripped bolt hole on Limitorque actuator for control room emergency filtration valve 1CZ-B22.

- Clean, inspect, lubricate and test 480V circuit breaker for the ESCWS P-4 pump in accordance with procedure PM-E0012, 480 Vac Load Center Breaker and Cubicle Preventive Maintenance.

- Clean, prepare, and offload spent fuel from the spent fuel shipping cask in accordance with procedure CM-M0300, Spent Fuel Cask Handling (IF-300 Cask).

- Perform inspection of arcing contact compression spring retainer pins on 480V LK-16 breaker for the "B" RHR pump and test in accordance with procedure PM-E0012, 480 Vac Load Center Breaker and Cubicle Preventive Maintenance.

The performance of work was satisfactory with proper documentation of removed components and independent verification of the reinstallation. The inspector observed the inspection of the arcing contact assembly on August 18, 1993. On August 6, 1993, licensee personnel had identified a discrepancy with an arcing contact spring retainer pin which was to be installed in an LK-16 circuit breaker during routine preventative maintenance. This condition was documented in ACR 93-296. According to the applicable vendor manual, these compression spring retainer pins, one of which is installed in each of the three phases of arcing contact assemblies in each LK-16 breaker, are supposed to measure 2.390 inches in length. The discrepant pin measured only 2.150 inches long. Although this condition had not been identified before, additional inspection of the remaining pins in stock revealed that two of 173 pins were smaller than design specifications.

Due to the long-standing problems with LK-16 breakers failing to open on demand, the inspectors were concerned over the operability of breakers in the field where these pins may be installed. Problems with these breakers have been linked to excessive forces that exist between the arcing contact fingers and the mating part they contact, and the inability of opening springs to overcome those forces when the breaker is closed. The inspectors concern was that a shorter arcing contact pin, which holds arcing contact springs under compression, would increase the preload of the springs on the arcing contact fingers and create even greater frictional forces between the fingers and their mating contacts.

As a result of this concern, licensee personnel set up a special test by installing the shorter pin in a test breaker and cycling the breaker to determine what affects the pin length had on its operation. The testing done by the licensee demonstrated that the pin dimension did not produce additional frictional forces. The pivot point in the arcing contact assembly actually caused the preload on the arcing fingers to decrease when the spring compression was increased. This phenomenon was demonstrated to the inspector during the breaker inspection for the "B" RHR pump.

On August 16, 1993, the licensee made a determination that the operability of the breakers was not affected by this pin length discrepancy. However, the licensee will conduct pin inspections of remaining safety-related breakers to determine if installed pins are within design specifications. The inspections of the RHR pump breaker yielded two good pins for the "B" and "C" phase arcing contacts, while the "A" phase pin was out of tolerance by 0.001 inches. While this did not affect operability, the pin was replaced with one of correct length. The inspector concluded that the operability of LK-16 breakers was not affected by the pin length discrepancy.

No violations or deviations were identified.

5. Cycle and Transient Monitoring Program Review

The inspectors reviewed the implementation of procedure OMM-013, Cycle and Transient Monitoring Program. This program was created by the licensee to track component transients to prevent exceeding design cyclic limits and to ensure compliance with TS 5.7. Licensee personnel are required to review log sheets and compile/count the number of cycles experienced. When 75 percent of the cyclic limit is reached, technical support personnel are contacted to perform appropriate engineering analysis to evaluate the impact on the system's future operability.

The inspector reviewed Attachment A to procedure OMM-013, which had been updated to reflect the latest log review of July 15, 1993. One non-Technical Specification 75 percent limit had been reached for the AFW nozzle temperature and flow cycle. An engineering evaluation, PCR-4135, Auxiliary Feedwater Nozzle Temperature and Flow Reduction, had been initiated to evaluate this condition. The inspector found that this PCR had been voided because an evaluation had been performed by the vendor on December 18, 1991, to establish a new higher cyclic limit. Although the evaluation was completed in 1991, this information was not transferred to the applicable transient monitoring program personnel until recently and then only informally communicated to the transient monitoring personnel. The inspector considered this engineering response to be slow. No other cyclic limits approached the 75 percent limits previously established.

The inspector reviewed previous Attachment A tabulations of cyclic transients and found that the preceding tabulation had been accomplished on November 15, 1992. Procedure OMM-013 required that the operator's log be reviewed on a monthly basis. Although not explicitly specified, a new compilation of cyclic transients was intended to also be completed on a monthly basis. Licensee personnel had not been performing the new compilations on a monthly basis. The inspector informed licensee management of this situation. The inspector considered this inconsequential deficiency to be non-safety significant and encouraged the licensee to clarify the procedure's intent.

6. Annual Emergency Drill (71707)

On July 27, 1993, the annual emergency drill was conducted by the licensee to verify the effectiveness of the Radiological Emergency Response Plan and implementing procedures. Details of the drill, including the results of critiques held, are discussed in NRC Inspection Report 50-400/93-18.

The addition of an SRO licensed person to assist the SEC in the classification and understanding of the event was considered to be very beneficial. Several newly appointed personnel were noticed to be assigned to TSC positions. Although the emergency exercise was successful, licensee management was encouraged to integrate the new personnel into a cohesive team. In contrast to the comments contained in NRC Inspection Report 50-400/92-27, the participation of the accident assessment team tended to be slow. The inspector attributed this to the poor communications available for this team to obtain current plant status and events.

7. Corrective Action Program Review (92720)

a. Corrective Action Program

Due to violations identified in NRC Inspection Report 50-400/93-12 concerning conditions which the licensee could have identified during previous corrective actions taken for identified deficiencies, the inspectors reviewed the licensee's corrective action program and implementing procedures. Although the violations involved corrective action which had taken place several years previously, the inspectors concentrated on the current program which had recently been revised.

When adverse conditions are identified by licensee personnel, they are evaluated in accordance with the guidance provided in procedure PLP-002, Corrective Action Program, to determine an appropriate course of action to be taken. If the adverse condition meets the importance criteria contained in Attachment 2 to this procedure, then an ACR is generated. If the adverse condition is not important or could be corrected by one of the seven subprograms, then an ACR is not generated. If an ACR is generated, it is processed in accordance with procedure AP-615, Adverse Condition Reporting. Attachment 3 to this procedure provides the criteria to determine if the condition is significant. The significant conditions and criteria were developed by the licensee from an industry guidance on good practices to reflect event thresholds which require root cause evaluations/determinations.

In NRC Inspection Report 50-400/92-15, the licensee's low threshold for self-identification and reporting problems was considered to be a strength. Since the program procedures were recently revised, the inspector compared the previous ACR

initiation criteria and significant condition criteria with current criteria. Approximately 18 specific criteria for generation of an ACR had been deleted out of the 34 original total. The inspector considered the most notable deletion was the removal of any through-wall leakage in high-energy piping systems, which was considered to be important and significant in the previous program revision. Also, reportable conditions were not specifically identified as they had been previously. This matter was discussed with licensee personnel, as was the potential rise in the threshold of identified deficiencies requiring ACR's. The licensee's intent was to implement a company-wide program to establish a threshold for appropriate management review and allocation of resources. Minor issues would be subjugated to subprograms. Licensee personnel stated that through-wall leakage in high energy piping systems would still be captured as a significant condition based upon the new general deficient design criteria established.

Although the inspector agreed with the majority of the significant condition criteria, the omission of reportable conditions and violations was considered to be peculiar since these events generally would require root cause determinations. The inspector was informed by licensee personnel that root cause determinations would still be prepared for all reportable conditions and violations.

During this inspection period, the inspector reviewed a corrective action overdue report dated August 2, 1993. Approximately 50 items were listed as having overdue corrective action. Most of the items were overdue by one or two months. As discussed in NRC Inspection Report 50-400/91-06, the inspector had previously noted that several corrective actions had become overdue, some for substantial periods of time. In response to this previous comment, licensee personnel had devoted considerable effort to reduce and maintain the overdue items to one or two. However, as evident from the August 1993 overdue report, the inspector concluded that corrective action due dates were now being largely ignored, as was the process for obtaining an extension to the due date.

This matter was discussed with licensee management, and the inspector was informed that steps had already taken to address this issue. A memorandum from the plant general manager dated August 2, 1993, was issued to regulatory compliance which established guidelines for due dates and extensions of corrective action. This memorandum also delineated the authorities required to grant extension requests. By the end of this inspection period, the licensee's efforts had reduced the overdue action items to approximately ten. The inspector noted substantial improvements in this area by the end of the inspection period.

Due to the deficiencies noted above, and to a deficiency discussed in paragraph 9.b of this report regarding the failure to complete a corrective action by the date committed to, the inspector encouraged licensee management to provide attention to this program.

To further enhance the establishment of comprehensive corrective actions for plant events, the licensee has recently employed event review teams. These teams were composed of multi-disciplined individuals. Formation of event review teams is dictated by the plant general manager. Since April of this year, seven event review teams have been formed by the licensee to investigate events involving the following circumstances: return to service of the "B" CSIP; spill of NSW from top of strainer; loss of the "B" safety bus; overflow of the "A" waste neutralization basin; AFD logging error; spent fuel cask handling; and clearance hung on wrong valve. The inspector attended a debrief presentation from team members on two of these events. Investigative techniques utilized by licensee personnel included events and causal factors charting, barrier analysis, and root cause analysis. The inspector considered the findings and proposed corrective actions from these two teams to be very beneficial, comprehensive, and addressed many deficiencies which might otherwise have been overlooked by a regular event review by one investigator. Licensee management was encouraged by the inspector to formalize this practice through procedures.

b. (Closed) TI 2500/028: Employee Concerns Program

The inspector reviewed the licensee's employee concern Quality Check program which was created to provide employees an alternate path from their supervisor and normal line management to express safety concerns or allegations. As part of this inspection, the inspector reviewed the program implementing procedure and discussed the program/process with the onsite Quality Check Representative and Manager - Quality Check. Survey reports of Quality Check activities were also reviewed. See attachment 1 for questions addressed during this inspection.

This program had been in existence since initial plant construction. The licensee had established several methods for submission of employee concerns which included employee interviews, telephone, or by submission of Quality Check Report (QCR) forms in one of the six Quality Check Station lockboxes located inside of the protected area. The inspector was informed that confidentiality of the submitter was maintained. The Manager - Quality Check was responsible for reviewing the QCRs and identifying nuclear safety issues or other matters requiring management attention. Employee concerns were classified in one of three categories. Nuclear safety issues or technical/quality issues received the classification of a Case which required an investigation and some form of action. Other concerns, such as

personnel issues, resulted in classifications of Management Information Items (MIIs) or Notices of Information. Only Cases and MIIs required a formal response from line management. After reviews by the Manager - Quality Check, the concern is then transferred to Quality Check forms and routed to assigned evaluators/investigators. The inspector found that appropriate consideration was provided for reportability determination by reference in the Quality Check forms to the licensee's Corrective Action Program. The surveys of Quality Check activities for 1991, 1992, and through July 1993, indicated that 107 employee concerns had been expressed. Of these, only three were classified as Cases. The inspector reviewed the disposition records for these three cases and found that none of the concerns had been substantiated.

No violations or deviations were identified.

8. Review of Licensee Event Reports (92700)

The following LERs were reviewed for potential generic impact, to detect trends, and to determine whether corrective actions appeared appropriate. Events that were reported immediately were reviewed as they occurred to determine if the TS were satisfied. LERs were reviewed in accordance with the current NRC Enforcement Policy.

(Closed) 93-09: This LER reported a violation due to the failure to properly log the axial flux difference when the plant computer was inoperable. The licensee attributed the cause of this event to be personnel error and has counseled appropriate people accordingly. Also, the associated procedure for manually logging the axial flux difference was revised to require a 30 minute interval between logs. The inspector verified the completion of the licensee's action.

9. Licensee Action on Previously Identified Inspection Findings (92702 & 92701)

a. (Closed) Inspector Followup Item 400/92-02-02: Follow the licensee's activities to correct safety classifications in the equipment data base.

The licensee has completed PCR-5666, Q-Class Discrepancies in Various PIC Cards, to correct the inaccurate safety classifications listed in EDBS. The inspector researched the data base for several different instruments and verified identical safety listings for the PIC card and system component number.

b. (Closed) Violation 400/92-27-02: Failure to properly establish/implement plant procedures.

The inspector reviewed and verified completion of the corrective actions listed in the licensee's response letter dated March 12, 1993. The clearance procedure has been clarified to identify

responsibilities and a separate signature blank provided for removal of grounds. Management's expectations regarding adherence to the clearance procedures was expressed through safety meetings. Also an emergency diesel generator barring procedure was developed for maintenance personnel.

During the closeout of this item, the inspector noted that the licensee had committed to complete the corrective actions by June 1, 1993. A corrective action item had been generated by the licensee to accomplish this. On June 7, 1993, an extension of the due date was requested by licensee personnel as more time was needed to accomplish all the correction action assigned. This extension was approved on June 9, 1993, by the acting plant general manager. The corrective action was actually completed on August 5, 1993.

Although the inspector considered the time extension allocated to accomplish the corrective action to be appropriate so that clearance expectations could be addressed in plant safety meetings, the failure of plant personnel to note that the committed due date had been exceeded and the granting of the extension to the due date for corrective action accomplishment past the date committed to in the response letter to the NRC without notification and concurrence from the NRC was considered to be improper. The inspector was informed that this oversight occurred due to personnel absences/changes which had occurred during the time period involved. Based upon the licensee's previous good performance in timely completion of corrective actions committed to in violation response letters, the inspector considered this instance to be an isolated case. However, due to the other deficiencies noted in paragraph 7.a. of this report regarding the corrective action program, the inspector considered management attention in this area to be warranted.

c. (Closed) Violation 400/92-30-01: Failure to properly tag out fan AH-26A prior to working on electrical circuits.

The inspector reviewed and verified completion of the corrective actions listed in the licensee's response letter dated February 26, 1993. The violation and clearance procedure requirements were included in second quarter continuing training for craft personnel. Disciplinary action was taken and counseling provided to the involved personnel.

d. (Closed) Inspector Followup Item 400/92-30-02: Follow the licensee's actions to determine the root cause of recent transformer failures in the uninterruptible AC power system.

While many transformer replacements have been made over the last few years, only four were for actual transformer failures. The others were due to what was considered as "higher than normal" noise levels. The licensee has addressed several potential causes

for the increased noise levels associated with inverter ferro resonant transformers. Engineering personnel have recommended several short and long term actions designed to better maintain the inverters and their subparts. These recommendations will be incorporated into procedures at a later date. The inspectors concluded that the licensee is properly addressing issues associated with the safety-related inverters.

e. (Open) IFI 400/93-07-02: Follow the licensee's actions to develop a leak test for check valve 1CS-167.

The licensee has recently developed testing requirements and acceptance criteria for leak testing 1CS-167 to address an earlier concern with the potential containment bypass issue. However, this item will remain open until the newly established criteria is incorporated into surveillance test procedures.

10. Exit Interview (30703)

The inspectors met with licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on August 20, 1993. 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 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	Description and Reference
400/93-17-01	NCV - Failure to follow procedures associated with the handling of a spent fuel cask, paragraph 2.c.(1).

11. Acronyms and Initialisms

AC - Alternating Current
ACR - Adverse Condition Report
AFD - Axial Flux Difference
AFW - Auxiliary Feedwater
AMSAC - ATWS Mitigation System Actuation Circuitry
ASME - American Society of Mechanical Engineers
ATWS - Anticipated Transient Without Scram
CFR - Code of Federal Regulations
CSIP - Charging Safety Injection Pump
ECP - Employee Concern Program
EDBS - Engineering Data Base System
ESCWS - Essential Services Chilled Water System
FHB - Fuel Handling Building
HP - Health Physics
HVAC - Heating, Ventilation and Air Conditioning

I & C	-	Instrumentation and Control
ISI	-	Inservice Inspection
LER	-	Licensee Event Report
MII	-	Management Information Item
MST	-	Maintenance Surveillance Test
NAD	-	Nuclear Assessment Department
NCV	-	Non-Cited Violation
NRC	-	Nuclear Regulatory Commission
NSW	-	Normal Service Water
OST	-	Operations Surveillance Test
PCR	-	Plant Change Request
PIC	-	Process Instrument Cabinet
PSIG	-	Pounds per Square Inch Gage
QA/QC	-	Quality Assurance/Quality Control
QCR	-	Quality Check Report
RHR	-	Residual Heat Removal
RWP	-	Radiation Work Permit
SEC	-	Site Emergency Coordinator
SRO	-	Senior Reactor Operator
STAR	-	Stop, Think, Act, Review
TS	-	Technical Specification
TSC	-	Technical Support Center
V	-	Volts
VAC	-	Volts Alternating Current

Attachment

EMPLOYEE CONCERNS PROGRAMS

PLANT NAME: SHEARON HARRIS LICENSEE: CP&L DOCKET #: 50-400

NOTE: Please indicate yes or no as applicable and add comments in the space provided.

A. PROGRAM:

1. Does the licensee have an employee concerns program? Yes.

2. Has NRC inspected the program? Yes. Report # 50-400/93-17.

B. SCOPE: (Indicate all that apply)

1. Is it for:

a. Technical? Yes.

b. Administrative? Yes.

c. Personnel issues? Yes.

2. Does it cover safety as well as non-safety issues? Yes.

3. Is it designed for:

a. Nuclear safety? Yes.

b. Personal safety? Yes.

c. Personnel issues - including union grievances? Yes.

4. Does the program apply to all licensee employees? Yes.

5. Contractors? Yes.

6. Does the licensee require its contractors and their subs to have a similar program? No.

7. Does the licensee conduct an exit interview upon terminating employees asking if they have any safety concerns? Yes.

C. INDEPENDENCE:

1. What is the title of the person in charge? Manager - Quality Check.

2. Who do they report to? Manager - Nuclear Assessment Department.

3. Are they independent of line management? Yes.

4. Does the ECP use third party consultants? No.

5. How is a concern about a manager or vice president followed up?
   Reviewed by next level of management. Concerns regarding the Manager - Nuclear Assessment Department sent to Senior [Executive] Vice President - Nuclear Generation.

D. RESOURCES:

1. What is the size of the staff devoted to this program? Five (5).
   One Manager - Quality Check One Secretarial support
   Three Quality Check - Site Representatives

2. What are ECP staff qualifications (technical training, interviewing training, investigator training, other)?
   Interviewing training.
   Very experienced QA-QC personnel used for ECP staff (several with 20 years experience).

E. REFERRALS:

1. Who has followup on concerns (ECP staff, line management, other)?
   Concern reviewed/classified by ECP staff and assigned to line management for investigation/resolution.

F. CONFIDENTIALITY:

1. Are the reports confidential? Yes.

2. Who is the identity of the alleger made known to (senior management, ECP staff, line management, other)? (If other, explain). ECP staff
   Senior Management

3. Can employees be:

   a. Anonymous? Yes.

   b. Report by phone? Yes.

G. FEEDBACK:

1. Is feedback given to the alleger upon completion of the followup? (Yes <u>or</u> No - If so, how?) Yes. Verbal.

2. Does program reward good ideas? Yes, letter of appreciation from President and Chief Operating Officer.

3. Who, or at what level, makes the final decision of resolution?
   Manager - Quality Check.

4. Are the resolutions of anonymous concerns disseminated? No.

H. EFFECTIVENESS:

1. How does the licensee measure the effectiveness of the program?
No formal measure established.
Low number of concerns exist.

2. Are concerns:

a. Trended? Yes, semi-annual reports.

b. Used? Yes.

3. In the last three years how many concerns were raised? 107
Of the concerns raised, how many were closed? 106
What percentage were substantiated? The licensee did not track substantiation of concerns. For the three nuclear safety concerns raised in the last three years, the inspector reviewed the disposition and found that none were substantiated.

4. How are followup techniques used to measure effectiveness (random survey, interviews, other)?
Random survey with senior management (annually).

5. How frequently are internal audits of the ECP conducted and by whom? Infrequent - last audit two (2) weeks prior by Nuclear Assessment Department. However, previous one over five (5) years ago.

I. ADMINISTRATION/TRAINING:

1. Is ECP prescribed by a procedure? Yes.

2. How are employees, as well as contractors, made aware of this program (training, newsletter, bulletin board, other)?
Training/Bulletin Boards.

ADDITIONAL COMMENTS: (Including characteristics which make the program especially effective, if any.)

Three tiers established for concerns:

CASE - Technical, quality, or nuclear safety-related concern. Warrants resolution through investigation and some form of action. Formal response to Manager - Quality Check required from line management.

MANAGEMENT INFORMATION ITEM - A concern which if not corrected could lead to a case. Warrants an investigation. Response required.

NOTICE OF INFORMATION - A concern which warrants management attention but does not require an investigation or response.

Due to the three tiers, all employee concerns are addressed.

NAME: TITLE: PHONE #:
J. E. Tedrow / SRI / 919-362-0601 DATE COMPLETED: August 13, 1993