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

Report No.: 50-400/94-18

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: August 22-26, 1994

Lead Inspector: FOR R.W. Wright 9/1/94
J. E. Tedrow, Senior Resident Inspector Date Signed

Other Inspectors: C. Ogle, Resident Inspector
P. Ray, Inspector, NRR RSIB

Approved by: 9/2/94
H. O. Christensen, Acting Chief Date Signed
Reactor Projects Branch 1
Division of Reactor Projects

SUMMARY

Scope:

This special, announced inspection was conducted to review the deficiency identification and corrective action process to determine the effectiveness of the corrective action program in preventing the recurrence of similar problems.

Results:

No violations or deviations were identified.

The licensee's corrective action and operating experience feedback programs were considered to be effective.

An appropriate threshold has been established for deficiency identification, paragraph 2. Deficiency/event evaluations were considered to be good and event review team reports were found to be generally detailed and thorough, paragraph 3. Corrective action assignment for completed evaluations was found

to be appropriate and timely implemented, paragraph 4. The licensee was effectively utilizing operating experience items to prevent recurrence of similar problems, paragraph 5.

Many overdue investigations and corrective actions existed in corrective action subprograms, paragraph 2.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*D. Batton, Manager, Work Control
*B. Christiansen, Manager, Maintenance
*J. Donahue, General Manager, Harris Plant
*M. Hamby, Manager, Regulatory Compliance
*M. Hill, Manager, Nuclear Assessment
*R. Prunty, Manager, Licensing & Regulatory Programs
*A. Williams, Manager, Shift Operations

NRC Personnel

*H. Christensen, Acting Chief, Reactor Projects Branch 1

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. Deficiency Identification (92720)

The inspectors reviewed the licensee's deficiency identification procedure AP-615, Adverse Condition and Feedback Reporting, and generated ACFRs were reviewed to determine appropriate priority assignment. As part of this review, several ACFR subprogram data bases were reviewed to ensure that significant and important ACFRs were appropriately identified. The inspectors assessed the licensee employee's threshold for identification of deficiencies through routine plant tours and discussions with licensee personnel..

The licensee utilizes the same four ACFR priorities at all three nuclear sites. For Level I (significant) and Level II (important) ACFRs, investigations are conducted. Level III (minor) and Level IV (improvement item) ACFRs are delegated to subprograms. The licensee established subprograms for security, outage, project management, operations, maintenance, technical support, environmental and radiation control, work control, spent fuel, regulatory affairs, plant support, training, and engineering. Subprogram data bases are reviewed for adverse trends on a quarterly basis. For any adverse trends identified, an important ACFR is generated.

a. The inspector reviewed 39 ACFRs delegated to the work control group subprogram since January 1994. The licensee appropriately classified the ACFRs and properly evaluated them for reportability and operability. The inspectors also reviewed trend reports for the first and second quarters of 1994. These consisted of a

quantitative grouping of the Level 3 ACFRs by broad categories such as procedure compliance and schedule review. No adverse trends were identified in these trend reports. Despite this, the inspectors noted from their review of the ACFRs that the licensee has identified and taken corrective action for three repetitive events since the beginning of the year. These repetitive events involved incomplete work packages being sent to the field, work packages not being sent to permanent storage in a timely fashion, and problems associated with the accuracy of the schedule and clearance fields in AMMS. While these specific events could certainly be grouped into the broad categories used in the trend reports, it was apparent that a more refined grouping of the ACFRs has occurred. The inspectors concluded the trend reports are not capturing all potential trends that exist in the work control group.

b. The inspector reviewed a list of ACFRs delegated to the operations subprogram since January 1994. This data base contained about 350 ACFRs. The inspector found that licensee personnel had appropriately classified the ACFRs, component operability was properly addressed, and reportable issues were properly identified.

Operations subprogram trending reports indicated that 180 overdue evaluations existed. The trend of this number was fairly constant over the last several months. Approximately 60 overdue corrective actions were also indicated. The trend of this number was increasing at an exponential rate over the last several months. Licensee personnel had already identified the increasing trend in corrective actions with an ACFR in July 1994. Previously the Nuclear Assessment Department (NAD) had identified a large backlog of past due action items in March 1994. The inspector concluded that licensee management attention was warranted in this area to reverse this trend. Since the licensee's program contained an extension process for action item due dates, the inspector concluded that this process was not being enforced.

c. The inspector reviewed a list of ACFRs from January 1, 1994, through July 31, 1994, within the maintenance subprogram area. Approximately 100 ACFRs were reviewed for prioritization. From these 100, 15 ACFRs were reviewed by the inspector in more detail. The review included the licensee's evaluation of required corrective action and completion of the corrective actions. The maintenance subprogram backlog was reviewed for a reduction plan and prioritization of backlog items. Trending of the maintenance subprogram information was also reviewed.

The inspector found that the prioritization of the ACFRs was appropriate for the level of importance of the deficiency. From those reviewed in more detail, the corrective actions were evaluated for completeness. Administrative errors were noted by a recent NAD assessment and also by this inspector in the area of

due dates for evaluations. Though minor, the licensee acknowledged the need for correction.

The backlog of maintenance subprogram ACFRs is large. The licensee had made major progress from the 1200 items in October 1993 down to 400 items at the time of this inspection. Most of the backlog ACFRs are procedure changes which are of an improvement nature. The periodic procedure review is being used to reduce these type of ACFRs. The current rate of backlog reduction, the stable number of added new ACFRs compared to the closures of new ACFRs, indicates the licensee has control of the backlog.

The inspector considered trend analysis in the subprogram to be simplistic but adequate. The number of current quarterly ACFRs in the maintenance subprogram are compared to the last quarterly ACFRs to provide a trend of increasing or decreasing ACFRs. The ACFRs are divided into cause codes for quantitative results. A summary of the changes from last report to the current report provides a qualitative analysis.

d. Based upon previous observations of plant activities over the last two years, the inspector concluded that the licensee has a satisfactory threshold for identifying adverse conditions. The inspector reviewed the licensee's Operator Work Around List to verify that adverse conditions identified were appropriately captured in a corrective action program. The inspectors identified work request and/or PCR numbers to address all active operator work-arounds involving adverse conditions. The inspectors concluded that active items in the Work Around List are captured in the corrective action program.

The inspectors concluded that the licensee had established an appropriate threshold for deficiency identification. Prioritization of subprogram deficiencies and trending was considered to be sufficient to solve minor problems before more serious problems developed.

No violations or deviations were identified.

3. Deficiency/Event Evaluation (92720)

The inspectors reviewed ACFR investigations, event review team (ERT) reports, quarterly trend reports, and the licensee's administrative procedure AP-605, Root Cause Investigations, which provided guidance in the performance of these investigations.

The licensee investigates significant and important ACFRs. In addition, significant ACFRs undergo a root cause evaluation to determine corrective action to prevent recurrence. Little evaluation is performedon minor ACFRs. Quarterly trend reports are required to be issued to identify potential adverse trends from the data analysis.

Additional ACFRs are required to be generated for any adverse trends and corrective action formally assigned.

The licensee utilizes very similar investigative techniques at all three nuclear sites. Techniques employed include event and casual factor charting, change analysis, barrier analysis, and root cause analysis. Human performance evaluation systems are employed to investigate personnel/procedural errors. In addition, section managers or higher management can request an event review team be formed to investigate significant plant events and adverse conditions. These multi-discipline teams investigate the event to determine the cause and identify appropriate corrective actions to prevent recurrence.

Management involvement in the review of significant and important ACFRs was also evident in morning meetings where selected ACFRs were discussed. The inspector considered that appropriate ACFRs were being discussed during these meetings. The PNSC reviews any ACFRs involving TS violations, reportable events, and ERT reports issued. Significant and important ACFRs are discussed during the morning management meetings to assign responsibility and preliminary corrective action. After these ACFRs are received by the applicable supervisor, they are required to be routed to the main control room within two hours for an operability/reportability determination. If operability of the affected component is uncertain, the operability determination process described in procedure TMM-408, Operability Determination, is initiated.

a. The inspector reviewed ERT reports initiated for an inoperable turbine building radiation monitor in July 1994, inoperable safety injection valve 1SI-300 in July 1994, failed shut emergency service water strainer backflush valve 1SW-20 in June 1994, improper entry into a locked high radiation area in June 1994, unattended vehicles left inside the protected area in May 1994, and for improper depressurization of the containment personnel airlock in May 1994. The licensee had performed 25 ERT investigations since establishment of this process in 1993.

   In general, the inspector found the ERT reports to be very detailed and thorough which identified many contributing factors for corrective action. The ERT report on the failure of valve 1SW-20 indicated that several administrative barriers had been breached which resulted in the problem. Since the maintenance history indicated that equipment failures have occurred on this valve, the repetitive failure program was included as one of the barriers which had failed. The inspector found that this barrier failure was not included in the inappropriate acts/equipment malfunction section of the root cause analysis nor as a contributing factor to the event. In addition, no corrective action was assigned for the repetitive failure program deficiency. Based upon the review of other ERT reports, the inspector considered this example to be an isolated case.

b. Quarterly trend reports indicated a fairly constant number of open Level I and Level II ACFRs at 230 items (this number included open OEF items). The inspectors found that even with this large number of open items, only 11 items were overdue for evaluation or corrective action accomplishment.

The inspector reviewed a listing of Level I and II ACFRs from July 1993 through the time of this inspection. The purpose of this review was to independently identify potential adverse trends in the licensee's ACFRs. The licensee's ACFR trending reports were reviewed to assess the licensee's capability to identify and communicate these trends. The inspector also interviewed the plant staff that performed the trending analysis.

During the ACFR review, the inspector identified three potential adverse trends; clearance procedure problems, independent verification problems, and fire watch deficiencies. All three of these had been identified by the licensee's trend evaluation method and reported in a special outage trending report. The potential adverse trends were handled through the corrective action program and an ACFR was issued.

The trending reports were considered by the inspector to be good. Qualitative as well as quantitative information was used to communicate the areas where more attention should be focused. The qualitative discussion was effective in supporting the conclusions of the trend analysis. The time dependent graphs in both the overall ACFRs and the subprogram were appropriate for representing the status of programs.

The staff has been trained in an industry approved method of trend evaluation. The staff has shown enthusiasm, knowledge, and skill in the use of this method for trend identification.

c. The inspector reviewed a list of Level I and II ACFRs from July 1993 through the time of this inspection and selected 8 for review. This included a review of the evaluation for level of detail and corrective action determination.

The inspector found that the ACFRs were appropriately evaluated and appropriate corrective actions had been determined. The level of detail for the evaluation was adequate and the conclusions were well supported. A few minor clerical errors were noted on the documentation, but these were not a factor in the evaluations or the corrective actions.

The inspectors found the ACFR evaluations to be good with well supported conclusions. Event review team investigations were generally found to be very detailed and thorough. The trending of Level I and II ACFRs was

found to be superior to the subprogram efforts as was the control of the backlog of open items.

No violations or deviations were identified.

4. Corrective Action (92720)

The inspectors reviewed the history of NRC enforcement action since 1992, SALP reports, NAD assessments, and ACFR trends to determine if the licensee's implemented corrective action was preventing recurrence of similar problems. Also, reports of incomplete Level I and II ACFR corrective action assignments were also reviewed.

Although the enforcement history included ten violations for inadequate corrective action, a comparison with the last six months of enforcement history indicated no repetition of similar problems.

During the review of ACFR evaluations and OEF evaluations discussed in other sections of this report, the inspectors found that corrective action assignments were appropriate and timely implemented. Trend reports indicated that only a few Level I and Level II ACFR corrective action assignments were overdue.

No violations or deviations were identified.

5. Operating Experience Feedback Program (92720)

The inspectors reviewed the licensee's Operating Experience Feedback (OEF) program, AP-031, Operating Experience Feedback, to determine program inputs and verify appropriate corrective action for selected events. Inputs for this program included ACRs from other licensee nuclear plants, industry reports, and NRC information notices. Significant ACFRs generated were sent to the other licensee nuclear plants as well. A quarterly report of OEF action status is issued to the plant general manager and an annual assessment made. The inspector reviewed a list of OEF items from July 1994 through the time of this inspection and selected 15 of these for a detailed review. These 15 OEF items were reviewed for effective evaluations and appropriate recommended corrective actions. Three corrective actions were verified completed.

The inspectors reviewed several OEF items and ACFRs shared between the CP&L nuclear plants. The evaluations and corrective actions accomplished for these events were considered to be appropriate. Some of these evaluations were considered to be very thorough.

The inspector found the evaluations to be good in the level of detail provided. The level of detail did not diminish even when the item did not pertain to the plant design. The evaluation conclusions were supported well by technical data and source information.

The corrective actions taken for the OEF items reviewed were completed as require and in a timely fashion. Five of the 15 OEF items reviewed, identified industry events the licensee had addressed prior to the issuance of the OEF item to the industry. Three of the OEF corrective actions were checked by the inspector to verify the completion as stated in the licensee's recommendations for corrective actions. These were also found to be completed in a timely manner.

The inspectors concluded that the licensee was effectively using OEF information to prevent the recurrence of similar problems at plant Harris.

No violations or deviations were identified.

6. Exit Interview (30703)

The inspectors met with licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on August 26, 1994. During this meeting, the inspectors summarized the scope and findings of the inspection as they are detailed in this report. 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.

7. Acronyms and Initialisms

ACFR	-	Adverse Condition Feedback Report
ACR	-	Adverse Condition Report
AMMS	-	Automated Management System
CFR	-	Code of Federal Regulations
ERT	-	Event Review Team
NAD	-	Nuclear Assessment Department
NRC	-	Nuclear Regulatory Commission
OEF	-	Operating Experience Feedback
PCR	-	Plant Change Request
PNSC	-	Plant Nuclear Safety Committee
SALP	-	Systematic Assessment of Licensee Performance
TS	-	Technical Specification