

U. S. NUCLEAR REGULATORY COMMISSION

REGION II

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

Report No: 50-400/99-06

Licensee: Carolina Power & Light (CP&L)

Facility: Shearon Harris Nuclear Power Plant, Unit 1

Location: 5413 Shearon Harris Road
New Hill, NC 27562

Dates: August 29 - October 9, 1999

Inspectors: J. Brady, Senior Resident Inspector
R. Hagar, Resident Inspector

Approved by: B. Bonser, Chief, Projects Branch 4
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

Shearon Harris Nuclear Power Plant, Unit 1
NRC Inspection Report 50-400/99-06

The report covers a six-week period of resident inspection.

Inspection findings were assessed according to potential risk significance, and were assigned colors of GREEN, WHITE, YELLOW, or RED. GREEN findings are indicative of issues that, while not necessarily desirable, represent little risk to safety. WHITE findings would indicate issues with some increased risk to safety, and which may require additional NRC inspections. YELLOW findings would be indicative of more serious issues with higher potential risk to safe performance and would require the NRC to take additional actions. RED findings represent an unacceptable loss of margin to safety and would result in the NRC taking significant actions that could include ordering the plant shut down. Those findings that cannot be evaluated for a direct effect on safety with the Significance Determination Process, such as those findings that affect the NRC's ability to oversee licensees, are not assigned a color.

Cornerstone: Barrier Integrity

- GREEN. The licensee failed to take appropriate corrective action under 10 CFR 50.65 (a)(1) when a maintenance rule (a)(1) performance goal was exceeded for the Target Rock Position Indication performance monitoring group in system 9001, containment isolation valves. The established goal of no more than one failure in 18 months was exceeded on June 11, 1999, but was not recognized by the licensee, and appropriate corrective action was not taken until another functional failure occurred on August 17, 1999. This issue was characterized as a Non-Cited Violation and was determined to have low risk significance because failure of the Target Rock position indicators did not prevent operators from determining valve positions, and other more time-consuming methods were available. Second, the failure to recognize that a maintenance rule goal had been exceeded did not affect the ability of any valve to operate (Section 1R12).

Report Details

The unit was at essentially 100 percent power until September 9, when power was reduced to 86 percent due to problems with the steam generator preheater bypass valves. Power was returned to 100 percent on September 11 and remained at 100 percent for the remainder of the period.

1. **REACTOR SAFETY**

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Preparations

a. Inspection Scope

The inspectors reviewed the licensee's preparations for Hurricane Floyd on September 15, 1999.

b. Observations and Findings

No findings were identified and documented through this inspection.

1R03 Emergent Work

a. Inspection Scope

The inspectors reviewed the following emergent items, as described in the referenced Work Request/Job Orders (WRJOs) and/or Action Requests (ARs):

<u>Reference</u>	<u>Title/Description</u>
WR/JO 99-AGUP1	Preheater bypass valve actuator air leaks
WR/JO 99-AGNX1	Boron totalizer replacement
AR 004097	Letdown pressure control valve (PCV 145) problems
AR 007914	SSPS relay problem during MST I0417

b. Observations and Findings

No findings were identified and documented through this inspection.

1R04 Equipment Alignment

a. Inspection Scope

The inspectors performed reviews of the motor-driven auxiliary feedwater system when the turbine-driven pump was inoperable for preventive maintenance, and the control room ventilation system during preventive maintenance.

b. Observations and Findings

No findings were identified and documented through this inspection.

1R05 Fire Protection

a. Inspection Scope

The inspectors reviewed the condition reports (CRs), work orders, and impairments associated with the fire suppression system. The inspectors reviewed the status of surveillance activities to determine whether they were current to support the operability of the fire protection system. The inspectors observed a fire drill associated with a direct current (DC) battery charger in the B switchgear room.

b. Observations and Findings

No findings were identified and documented through this inspection.

1R09 Inservice Testing (IST) of Pumps and Valves

a. Inspection Scope

The inspectors reviewed the performance of the following IST tests:

<u>Number</u>	<u>Rev.</u>	<u>Title</u>
OST 1051	7	"Reactor Auxiliary Building Emergency Exhaust System IST Quarterly" for damper 1AV-3
OST 1038	10	"Sampling, Chemical Addition, and Main Steam Drain ISI Valve Test"

b. Observations and Findings

No findings were identified and documented through this inspection.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors reviewed licensed operator requalification simulator examinations for operations crew C.

b. Observations and Findings

No findings were identified and documented through this inspection.

1R12 Maintenance Rule Implementationa. Inspection Scope

The inspectors reviewed the licensee's implementation of the Maintenance Rule (10 CFR 50.65) with respect to the equipment issues described in the following CRs and Engineering Service Request (ESR):

CR	99-02358	Target Rock containment isolation valve position indication
CR	99-01918	Containment isolation valve 1AF-157 stroke time problems
ESR	97-00547	Essential Services Chilled Water nonessential isolation valve

b. Observations and Findings

The inspectors found that significant CR 99-02358 described two failures of Target Rock valve position indicators under system 9001, containment isolation valves (CIV). The description stated that the goals set forth in CR 97-03489 for the Target Rock Position Indication performance monitoring group (PMG) under system 9001 had been exceeded. The goal was for no more than one functional failure due to reed switch failure during an 18-month period starting at the completion of refueling outage (RFO)8 on December 2, 1998. Some 20 valves which were not CIVs were added to the PMG which included CIVs because the a(1) corrective actions had included a modification to upgrade the position indicators.

The inspectors reviewed the maintenance rule database to confirm the status of the Target Rock PMG in system 9001. The inspectors confirmed that the PMG was in a(1) status, that CR-97-03489-1 established the goals for the a(1) to a(2) transition, and that the goal was no more than one failure in the 18-month period between RFO8 and RFO9. The inspectors reviewed the maintenance rule event log and found that functional failures under the Target Rock Position Indication PMG had occurred on January 18, 1999 (CR 99-00164); June 11, 1999 (CR 99-00699); and August 17, 1999 (CR 99-02358). Only the last one identified that the goal had been broken. None of these functional failures involved a failure of the valves to perform their containment isolation function. The inspectors questioned why the occurrence on June 11 (CR 99-00699) had not been considered as the functional failure that caused the goal to be exceeded.

The licensee reviewed the associated information and initiated significant AR 00008315, Failure to Recognize Exceeding a Maintenance Rule a(1) Goal, as a result of their review. The AR identified that procedures ADM-NGGC-0101, Maintenance Rule Program, and CAP-NGGC-0001, Corrective Action Management, require that when an a(1) goal is exceeded, a "significant adverse" CR is to be initiated for the purpose of evaluating the need for additional corrective action.

10 CFR 50.65 a(1), Maintenance Rule, requires that when the performance or condition of a structure, system, or component does not meet established goals, appropriate corrective action shall be undertaken. As stated above, the licensee failed to recognize that the established goal of no more than one failure in 18 months was exceeded on

June 11, 1999, and therefore did not take appropriate corrective action based on that until another functional failure occurred on August 17, 1999. This is considered a violation of 10 CFR 50.65 a(1) for not taking appropriate corrective action when a Maintenance Rule goal was not met. This violation is being treated as a Non-Cited Violation, consistent with Appendix F of the NRC Enforcement Policy. This violation is in the licensee's corrective action program as AR 00008315. The inspectors have designated this violation NCV 50-400/99-06-01, Failure to Recognize That an a(1) Goal Was Exceeded.

This issue had relatively low ("green") risk significance, for two reasons:

- First, failure of the Target Rock position indicators did not prevent operators from determining valve positions, because other, more time-consuming methods were available.
- Second, the failure to recognize that a maintenance rule goal had been exceeded did not affect the ability of any valve to operate.

1R13 Maintenance Work Prioritization & Control

a. Inspection Scope

The inspectors reviewed the licensee's assessments of the risk impacts of removing from service those components associated with the emergent work items listed in Section 1R03.

b. Observations and Findings

No findings were identified and documented through this inspection.

1R14 Nonroutine Plant Evolutions

a. Inspection Scope

The inspectors reviewed the operating crew's performance during the following non-routine evolutions:

- Unexpected shutting of all three steam generator preheater bypass valves on September 9 and associated power reduction to 86%.
- The planned shutting of the preheater bypass valves at 100% power on September 17.

b. Observations and Findings

No findings were identified and documented through this inspection.

1R15 Operability Evaluationsa. Inspection Scope

The inspectors reviewed the operability evaluations described in the following ESRs:

ESR 99-00114 R0 P-4 Operability Determination
 ESR 99-00142 R0 Essential Services Chilled Water Operability Evaluation for Shut
 Non-Nuclear-Safety Isolation Valves

b. Observations and Findings

No findings were identified and documented through this inspection.

1R16 Operator Work-Aroundsa. Inspection Scope

The inspectors reviewed an operator work-around associated with the essential service chilled water non-essential isolation valves.

b. Observations and Findings

No findings were identified and documented through this inspection.

1R19 Post Maintenance Testinga. Inspection Scope

The inspectors reviewed the following post-maintenance tests:

<u>Test Procedure</u>		
<u>Number</u>	<u>Title</u>	<u>Related maintenance task</u>
OST-1077	"Auxiliary Feedwater Valves Operability Test Quarterly Interval Mode 4-5-6"	Steam generator preheater bypass valve air pump leak repair
OST-1085	"1A-SA Diesel Generator Operability Test"	Diesel generator preventive maintenance
EPT-33	"Emergency Safeguards Sequencer System Test"	Sequencer relay calibration.

b. Observations and Findings

No findings were identified and documented through this inspection.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the following surveillance tests:

<u>Number</u>	<u>Rev.</u>	<u>Title</u>
MST-10027	7	"Steam generator B Narrow Range Level (L-0485) Calibration - ATWS portion"
FPT-3004	9	"Main Fire Pump Flow Test, Annual Interval"

b. Observations and Findings

No findings were identified and documented through this inspection.

4. **OTHER ACTIVITIES**

4OA4 Other

(Closed) LER 50-400/98-004-00 and 01: Design deficiency related to inadequate runout protection for the Turbine Driven AFW Pump. This LER did not involve a violation of regulatory requirements and was closed.

4OA5 Management Meetings

1. Exit Meeting Summary

The inspectors presented the inspection results to members of licensee management on October 21, 1999. The licensee acknowledged the findings presented.

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

PARTIAL LIST OF PERSONS CONTACTED**NRC**

B. Bonser, Chief, Reactor Projects Branch 4
R. Laufer, Harris Project Manager, NRR

Licensee

D. Alexander, Regulatory Affairs Manager
C. Burton, Director of Site Operations
B. Clark, Harris Plant General Manager
J. Cook, Outage Manager
R. Field, Nuclear Assessment Manager
T. Hobbs, Acting Operations Manager
J. Holt, Outage and Scheduling Manager
M. Keef, Training Manager
G. Kline, Harris Engineering Support Services Manager
J. Scarola, Harris Plant Vice President
B. Waldrep, Maintenance Manager
E. Wills, Environmental & Radiation Control Manager

ITEMS OPENED, CLOSED, AND DISCUSSEDOpened

50-400/99-06-01 NCV Failure to recognize that an a(1) goal was exceeded
(Section 1R12)

Closed

50-400/99-06-01 NCV Failure to recognize that an a(1) goal was exceeded
(Section 1R12)

50-400/98-004-00 LER Design deficiency related to inadequate runout protection for the
Turbine Driven AFW Pump. (Section 4OA4)

50-400/98-004-01 LER Design Deficiency related to inadequate runout protection for the
Turbine Driven AFW Pump. (Section 4OA4)