UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
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October 23, 2003

Carolina Power and Light Company
ATTN: Mr. James Scarola
Vice President - Harris Plant
Shearon Harris Nuclear Power Plant
P. O. Box 165, Mail Code: Zone 1
New Hill, North Carolina 27562-0165

SUBJECT: SHEARON HARRIS NUCLEAR POWER PLANT - NRC INTEGRATED INSPECTION REPORT 050000400/2003004

Dear Mr. Scarola:

On September 27, 2003, the US Nuclear Regulatory Commission (NRC) completed an inspection at your Shearon Harris reactor facility. The enclosed integrated inspection report documents the inspection findings, which were discussed on October 6, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, no findings of significance were identified.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) components of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Paul E. Fredrickson, Chief
Reactor Projects Branch 4
Division of Reactor Projects

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

Enclosure: NRC Inspection Report 050000400/2003004
w/Attachment: Supplemental Information

cc w/encl: (See page 2)

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No:	50-400
License No:	NPF-63
Report No:	050000400/2003004
Licensee:	Carolina Power and Light Company
Facility:	Shearon Harris Nuclear Power Plant, Unit 1
Location:	5413 Shearon Harris Road New Hill, NC 27562
Dates:	June 29, 2003 - September 27, 2003
Inspectors:	R. Musser, Senior Resident Inspector R. Hagar, Resident Inspector G. MacDonald, Senior Project Engineer (Sections 1R05, 1R14, 1R15 & 4OA3)
Approved by:	P. Fredrickson, Chief Reactor Projects Branch 4 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000400/2003-004; 06/29/2003 - 09/27/2003; Shearon Harris Nuclear Power Plant, Unit 1; Routine Integrated Report.

The report covered a three month period of inspection by resident inspectors and a senior project engineer. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. Inspector-Identified and Self-Revealing Findings

None.

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status

The plant operated at or near rated power from the beginning of the inspection period until August 17, when the reactor was manually tripped following the failure of the A condensate pump motor. Following replacement of this motor, the plant was returned to power operation on August 19. On August 27, the A condensate pump motor began to experience an electrical faulted condition and a rapid downpower was initiated. The plant was stabilized at 45 percent power and the A condensate pump was secured. The plant was operated at approximately 45 percent power until September 6, when the unit was returned to rated thermal power. The plant was operated at or near rated power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope

When Hurricane Isabel was predicted for the site on September 18, the inspectors reviewed actions taken by the licensee in accordance with Procedure AP-300, "Adverse Weather," prior to the onset of that weather**,** to ensure that the adverse weather conditions would neither initiate a plant event nor prevent any system, structure, or component from performing its design function.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

a. Inspection Scope

Partial System Walkdowns:

The inspectors performed the following three partial system walkdowns, while the indicated SSCs were out-of-service for maintenance and testing:

- B motor-driven auxiliary feedwater train with the A motor-driven auxiliary feedwater train out of service on July 23
- A emergency diesel generator with the B emergency diesel generator out of service on August 6
- B residual heat removal system with the A residual heat removal system inoperable on September 17

To evaluate the operability of the selected trains or systems under these conditions, the inspectors reviewed valve and power alignments by comparing observed positions of valves, switches, and electrical power breakers to the procedures and drawings listed in the Attachment.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

For the six areas identified below, the inspectors reviewed the licensee's control of transient combustible material and ignition sources, fire detection and suppression capabilities, fire barriers, and any related compensatory measures, to verify that those items were consistent with Final Safety Analysis Report (FSAR) Section 9.5.1, Fire Protection System, and FSAR Appendix 9.5.A, Fire Hazards Analysis. The inspectors walked down accessible portions of each area and reviewed results from related surveillance tests, to verify that conditions in the area was consistent with the description of the area in the FSAR. Documents reviewed are listed in the Attachment.

- Reactor Auxiliary Building 236 foot elevation Auxiliary Feedwater (AFW) and Component Cooling Water (CCW) pump area (1-A-3-PB)
- Switchgear room A (1-A SWBRA)
- Switchgear room B (1-A-SWGRB)
- Main control room (12-A-CR)
- Computer room, process instrument control cabinets, and control-rod-drive circuit cabinets (12-A-CRC1)
- Vital battery room B (1-A-BATB)

Also, to evaluate the readiness of the licensee's personnel to prevent and fight fires, the inspectors observed fire brigade performance during an unannounced fire drill in the C CSIP room on August 29.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

On August 27, the inspectors observed licensed-operator performance during requalification simulator training, to verify that operator performance was consistent with expected operator performance, as described in Exercise Guide EOP-SIM-17.104. This training tested the operators' ability to deal with reactor coolant pump trouble, safety injection failure, and a main steam line break.

The inspectors focused on clarity and formality of communication, use of procedures, alarm response, control board manipulations, group dynamics and supervisory oversight.

The inspectors observed the post-exercise critique to verify that the licensee had identified deficiencies and discrepancies that occurred during the simulator training.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed one degraded SSC/function condition to verify the licensee's handling of the condition in accordance with 10CFR50, Appendix B, Criterion XVI, Corrective Action, and 10CFR50.65, Maintenance Rule. The specific condition involved multiple failures of 1CP-6, an isolation damper in the containment purge system, as reported in Action Request (AR) 88929.

The inspectors focused on the following attributes:

- Appropriate work practices,
- Identifying and addressing common cause failures,
- Scoping in accordance with 10 CFR 50,65(b),
- Characterizing reliability issues (performance),
- Charging unavailability (performance),
- Trending key parameters (condition monitoring),
- 10 CFR 50,65(a)(1) or (a)(2) classification and reclassification, and
- Appropriateness of performance criteria for SSCs/functions classified (a)(2) and/or appropriateness and adequacy of goals and corrective actions for SSCs/functions classified (a)(1).

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

To verify that the licensee performed adequate risk assessments and implemented appropriate risk management actions when required by 10CFR50.65(a)(4), the inspectors reviewed the licensee's risk assessments and the actions used to manage risk for the plant configurations associated with the four activities listed below. For emergent work, the inspectors also verified that any increase in risk was promptly assessed, and that appropriate risk management actions were promptly implemented.

- The work week of June 30, including the A emergency chilled water system outage on July 2
- The work week of July 28, including re-evaluation of plant risk for thunderstorm warnings
- The work week of September 8, including the RHR/CS pump room air handler being out of service
- The work week of September 15, including re-evaluation of plant risk for the approach of Hurricane Isabel

b. Findings

No findings of significance were identified.

1R14 Operator Performance During Non-Routine Evolutions and Events

a. Inspection Scope

Following the manual reactor trip of August 17, 2003, the inspectors responded to the site and observed plant instruments, reviewed plant logs and interviewed operators to verify that the operator's response was in accordance with post-trip procedures, plant operating procedures and related training. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed three operability determinations addressed in response to the AR's listed below. The inspectors assessed the accuracy of the evaluations, the use and control of any necessary compensatory measures, and compliance with the Technical Specifications (TS). The inspectors compared the justification made in the determination to the requirements from the TS, the FSAR, and the associated design-basis documents, to verify that operability was properly justified, and that the subject component remained available, such that no unrecognized increase in risk occurred. Documents reviewed are listed in the Attachment.

- AR 96373, HNP Action Plan for containment sump level transmitter LT-7161A
- AR 103527, Relay Failure on the 1B emergency safeguards sequencer
- AR 95977, Through wall leak on service water line near valve 1SW-118

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

For the five post-maintenance tests listed below, the inspectors witnessed the test and/or reviewed the test data, to verify that test results adequately demonstrated restoration of the affected safety functions described in the FSAR and TS.

- OP-155, Diesel Generator Emergency Power System, following repair of a fuel line leak on July 1
- ORT-1512, Essential Chilled Water Turbopak Units Quarterly Inspection/Checks Modes 1-6, following routine maintenance on the train A essential chilled water chiller on July 16
- OST-1008, 1A-SA RHR Pump Operability Quarterly Interval Modes 1-2-3, following maintenance on 1-RH-31, A RHR Pump Mini Flow Valve
- OST-1073, 1B-SB Emergency Diesel Generator Operability Test Monthly Interval Modes 1-2-3-4-5-6, following routine maintenance on the train B emergency diesel generator on August 6
- OPT-1014, Turbine Valve Test Quarterly Interval Modes 1-5, following a firmware modification to the digital electro-hydraulic system

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

For the four surveillance tests identified below, the inspectors witnessed testing and/or reviewed test data to verify that the systems, structures, and components involved in these tests satisfied the requirements described in the TS and the FSAR, and that the tests demonstrated that the SSCs were capable of performing their intended safety functions.

- MST-I0207, Refueling Water Storage Tank Level (L-0993) Operational Test
- OST-1211*, Auxiliary Feedwater Pump 1A-SA Operability Test Quarterly Interval Modes 1-4
- MST-I0151, Steam Generator C Narrow Range Level Loop (L-0496) Operational Test
- OST-1122, Train A 6.9 kV Emergency Bus Undervoltage Trip Actuating Device Operational Test and Contact Check Modes 1-6

*This procedure included inservice testing requirements.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors observed an operator training evolution conducted on August 27, to verify licensee self-assessment of classification, notification, and protective action recommendation development in accordance with NEI 99-02, Regulatory Assessment Indicator Guideline, Rev. 2.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

August 17 Reactor Trip

a. Inspection Scope

Following a manual reactor trip that occurred on August 17, 2003 from 100 percent power, due to a loss of the A condensate pump; the inspectors reviewed the licensee's actions, observed plant parameters for mitigating systems and fission product barriers, and assessed licensee event classification and reporting. The inspectors later reviewed the post-trip/safeguards actuation report to verify that plant response was as expected and to verify that plant equipment abnormalities were identified and corrected prior to plant startup. Refer to Section 1R14 for additional information. ocuments reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

On October 6, 2003, the resident inspectors presented the inspection results to Mr. James Scarola and other members of his staff. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

D. Braund, Security Superintendent
J. Briggs, Superintendent, Environmental and Chemical
J. Caves, Licensing Supervisor
F. Diya, Superintendent, System Engineering (Acting Engineering Support Services Mgr.)
R. Duncan, Director Site Operations
W. Gurganious, Nuclear Assessment Manager
E. McCartney, Training Manager
G. Miller, Maintenance Manager
T. Morton, Manager Support Services
T. Natale, Outage and Scheduling Manager
G. Olive, Lead Nuclear Security Specialist
T. Pilo, Emergency Preparedness Supervisor
J. Scarola, Harris Plant Vice President
G. Simmons, Superintendent, Radiation Control
B. Waldrep, Harris Plant General Manager
M. Wallace, Senior Specialist, Licensing
E. Wills, Operations Manager

NRC personnel

P. Fredrickson, Chief, Reactor Projects Branch 4

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

1R04 Equipment Alignment

Partial System Walkdown

Emergency diesel generator system
- Procedure OP-155, Diesel Generator Emergency Power System
- Drawing 2165-S-563, Simplified Flow Diagram Diesel Fuel Oil System, Unit 1
- Drawing 2165-S-633S01, Simplified Flow Diagram Emergency Diesel Generator Lube Oil and Air Intake & Exhaust System - Unit 1.
- Drawing 2165-S-0633S02, Simplified Flow Diagram Emergency Diesel Generator 1A-SA & 1B-SB Jacket Water System Unit 1

- Drawing 2165-S-0633S03, Simplified Flow Diagram Emergency Diesel Generator 1A-SA & 1B-SB Fuel Oil and Drainage Systems Unit 1
- Drawing 2165-S-0633S04, Simplified Flow Diagram Emergency Diesel Generator 1A-SA & 1B-SB Starting Air System Unit 1

Auxiliary Feedwater System
- Procedure OP-137, “Auxiliary Feedwater System”
- Drawing 2165-S-0544, “Simplified Flow Diagram Feedwater System Unit 1"

Residual Heat Removal System
- Procedure OP-111, “RHR System”
- Drawing 2165-S-LATER, “Simplified Flow Diagram Residual Heat Removal System Unit 1"

1R05 Fire Protection

Results from recent completions of the following procedures:

- FPT-1301, Hose Rack Inspection Auxiliary Building - Quarterly Interval Modes All
- FPT-3204, Fire Detector Functional Test Local Fire Detector Panel 4 -12 Month Interval
- FPT-3151, Fire Protection Periodic Test Fire Extinguisher Inspection Auxiliary Building - Monthly Interval
- FPT-3426, Fire Damper Inspection 18 Month Interval RAB 236 Elevation

Other Documents

- Fire Preplan FPP-012-02-RAB A09-4
- Fire Preplan FPP-012-02-RAB A34-6
- Fire Preplan FPP-012-02-RAB A35-6
- Fire Preplan FPP-012-02-RAB A38-6
- Fire Preplan FPP-012-02-RAB A51-7
- Fire Preplan FPP-012-02-RAB A52-7
- Fire Preplan FPP-012-02-RAB A53-7
- Fire Preplan FPP-012-02-RAB A55-7

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

Procedures

- Operations Work Procedure (OWP), OWP-HVAC, Emergency Ventilation

Other Documents

- Calculation 9-TMC-1
- Calculation HNP-F/PSA-0058

1R14 Personnel Performance During Nonroutine Plant Evolutions and Events and Section 4OA3: Event Follow-up

Procedures

- Emergency Operating Procedure (EOP), EOP-PATH-1, Path -1
- Abnormal Operating Procedure (AOP), AOP-10, Feedwater Malfunctions
- EOP-EPP-004, Reactor Trip Response

Other Documents

- OMM-4 Post-trip/Safeguards Review Package for August 17, 2003 Manual Reactor Trip

1R15 Operability Evaluations

Procedures

- Operations Surveillance Test (OST), OST-1021, Daily Surveillance Requirements, Daily Surveillance Log of containment sump level transmitter LIT-01CT-7161ASA
- Maintenance Surveillance Test (MST), MST-I0198, Containment Reactor Cavity Sump NR Level Loop (LM-7161A) Calibration
- Operating Procedure (OP), OP-163, Plant Computer

Other Documents

- FSAR Section 5.2.5.3.1
- AR 96373, HNP Action Plan for LT7161A
- DBD-141, Plumbing and Drainage System
- Data Results of containment sump level transmitter compensatory actions July 3 through September 20, 2003