UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET SW SUITE 23T85
ATLANTA, GEORGIA 30303-8931

May 5, 2003

Carolina Power & 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 50-400/03-02

Dear Mr. Scarola:

On April 5, 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 April 10, 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, the inspectors identified one issue of very low safety significance (Green). This issue was determined to involve violations of NRC requirements. However, because of its very low safety significance and because it has been entered into your corrective action program, the NRC is treating this issue as a non-cited violation, in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you contest this non-cited violation, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001, with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Shearon Harris facility.

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: Inspection Report 50-400/03-02
w/Attachment: Supplemental Information

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No:	50-400
License No:	NPF-63
Report No:	50-400/03-02
Licensee:	Carolina Power & Light Company
Facility:	Shearon Harris Nuclear Power Plant, Unit 1
Location:	5413 Shearon Harris Road New Hill, NC 27562
Dates:	January 5, 2003 - April 5, 2003
Inspectors:	J. Brady, Senior Resident Inspector R. Hagar, Resident Inspector K. O'Donohue, Senior Operations Engineer (1R11) L. Miller, Senior Operations Engineer (1R11) L. Mellen, Senior Emergency Preparedness Inspector (1EP1, 1EP4, 4OA1) W. Sartor, Senior Emergency Preparedness Inspector (1EP1, 1EP4, 4OA1) G. MacDonald, Senior Project Engineer (1R22)
Approved by:	P. Fredrickson, Chief Reactor Projects Branch 4 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000400-03-02; Carolina Power and Light; 01/05/2003 - 04/05/2003; Shearon Harris Nuclear Power Plant, Unit 1; Fire Protection.

The report covered a three month period of inspection by resident inspectors, operations engineers, emergency preparedness inspectors, and a senior project engineer. One Green non-cited violation (NCV) was identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. 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 Findings

Cornerstone: Mitigating Systems, Barrier Integrity

Green. A failure to complete a written evaluation required by 10 CFR 50.59 involving two fire watch related procedures resulted in an inappropriate use of continuous fire watches to rove between fire areas.

A non-cited violation of 10 CFR 50.59 (d)(1) was identified. This finding is greater than minor because there was a reasonable likelihood that the subject changes would have required Commission review and approval prior to implementation. However, the finding is of very low safety significance because the consequences of the change would not have adversely affected the licensee's ability to achieve and maintain safe shutdown of the plant. (Section 1R05)

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status: The unit began the inspection period at full rated thermal power, and operated at full power for the entire inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity,

1R04 Equipment Alignment

a. Inspection Scope

Partial System Walkdowns

During this inspection period, the inspectors performed the following four partial system walkdowns, while the indicated structures, systems and components (SSCs) were out-of-service for maintenance and testing:

- B train of the emergency services chilled water system, with the A train out-of-service on January 15
- A train of the auxiliary feedwater system, with the B train out-of-service on January 22
- B train of the residual heat removal/low head safety injection system, with the A train out-of-service on February 4
- A emergency diesel generator with the B emergency diesel generator out-of-service on February 19

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

Complete System Walkdown

The inspectors conducted a detailed review of the alignment and condition of the essential services chilled water system. To determine the proper system alignment, the inspectors reviewed the procedures, drawings, and Final Safety Analysis Report (FSAR) sections listed in the Attachment.

The inspectors walked down the system, to verify that the existing alignment of the system was consistent with the correct alignment. System conditions reviewed during the walkdown included the following:

- Valves were correctly positioned and did not exhibit leakage that would impact the function(s) of any given valve.
- Electrical power was available as required.
- Major system components were correctly labeled, lubricated, and ventilated
- Hangers and supports were correctly installed and functional.
- Essential support systems were operational.

- Ancillary equipment or debris did not interfere with system performance.
- Tagging clearances were appropriate.
- Valves were locked as required by the licensee's locked valve program.

The inspectors reviewed the documents listed in the Attachment, to verify that the ability of the system to perform its functions could not be affected by outstanding design issues, temporary modifications, operator workarounds, adverse conditions, and other system-related issues tracked by the engineering department. The inspector also discussed with the system engineer the system health report, open issues identified in the documents listed in the attachments, current system maintenance rule status and maintenance rule history, and long range plan for system maintenance.

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 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 these areas were consistent with descriptions of the areas in the FSAR.

The inspected areas included the following (text in parentheses identify the corresponding fire area designations):

- A switchgear room (1-A-SWGRA)
- B switchgear room (1-A-SWGRB)
- B vital battery room (1-A-BATB)
- Reactor auxiliary building elevation 236 auxiliary feedwater pump and component cooling water pump area (1-A-3-PB)
- Main control room (12-A-CR)
- Control room complex (12-A-CRC1)

In addition, the inspectors reviewed the licensee's response to the circumstances of December 11, during which both the motor-driven fire pump and the diesel-driven fire pump were simultaneously out-of-service, to verify that the licensee's response was in accordance with Procedure FPP-013, Fire Protection Program, and the FSAR.

b. Findings

Introduction: A Green non-cited violation (NCV) of 10 CFR 50.59 (d)(1) was identified for failing to complete a written safety evaluation for changes to two procedures that allowed continuous fire watches to rove between fire areas with the fire protection program manager's approval.

Description: In 1999, the licensee revised 2 procedures (FPP-013, Fire Protection - Minimum Requirements and Mitigating Actions, and FPP-005, Duties of a Fire Watch) which implement compensatory measures for out-of-service fire protection equipment. The revision allowed continuous fire watches to survey multiple fire areas with fire protection program manager approval, rather than being restricted to a single fire area. On December 9 and December 14, 2002, the fire protection program manager gave approval for a continuous fire watch to survey multiple fire areas in the reactor auxiliary building. The licensee did not document the review of these changes in a written safety evaluation as required by 10 CFR 50.59, either when they revised the procedures, or on the two subsequent occasions when the fire protection program manager gave approval. After, the identification of this improper use of continuous fire watches, the licensee ceased using this type of fire watch to cover multiple areas and changed the procedures to restrict the use of continuous fire watches to single fire areas.

Analysis: The inspectors determined that the finding was more than minor, because the subject changes represented a failure to meet 10 CFR 50.59 requirements where there was a reasonable likelihood that the changes requiring 10 CFR 50.59 evaluation would require Commission review and approval prior to implementation. The inspectors considered that this likelihood was reasonable because the licensee's procedures did not include restrictions and performance criteria to ensure that external factors (such as problems that could arise while operating security doors and while exiting radiological control areas) could not introduce unexpected delays in the completion of fire watch surveys. That lack of reasonable assurance raised the possibility that in preventing or detecting a fire, a fire watch who surveyed multiple fire areas may not have been as effective as a fire watch who remained within a single fire area. Therefore, the inspectors considered that the change from a fire watch who remains within a single fire area to a fire watch who surveys multiple fire areas may have resulted in a more-than-minimal increase in the consequences of a fire. For that reason, the inspectors considered that there was a reasonable likelihood that the subject change would require Commission review and approval prior to implementation.

For the two occasions during which a continuous roving fire watch was used to survey multiple fire areas, the inspectors determined that the consequences would not have adversely affected the licensee's ability to achieve and maintain safe shutdown. This determination was based on the inspectors' analysis of available fire protection defense-in-depth features, and the inspectors' determination that the fire watches could each tour and evaluate both areas assigned to them in less than 15 minutes. Based on the above, the inspectors determined that the finding was very low safety significant.

Enforcement: For changes to procedures that contain information described in the FSAR, 10 CFR 50.59 (b)(1) requires, in part, that the licensee maintain records of those changes, and that these records must include a written evaluation which provides the

bases for the determination that the change, test, or experiment did not involve an unreviewed safety question. (NOTE: In this report, references to 10CFR50.59 are to the revision of 10CFR50.59 that was in effect when the procedure changes were made, and not to the current revision.)

FSAR Section 9.5.1 describes the licensee's fire protection program. FSAR Section 9.5.1.4.2 states, in part, that as conditions warrant, remedial actions taken for out-of-service fire protection equipment would include compensatory measures to ensure an equivalent level of fire protection. Procedure FPP-013, Fire Protection - Minimum Requirements and Mitigating Actions, implements fire protection program requirements and specifies compensatory measures (including continuous fire watches) to be implemented for out-of-service fire protection equipment. Procedure FPP-005, Duties of a Fire Watch, defines the duties and responsibilities of fire watches.

Contrary to the above, prior to December, 2002, the licensee did not prepare a written evaluation as required by 10 CFR 50.59 (b)(1), either when procedures FPP-005 and FPP-013 were revised to allow a continuous fire watch to survey multiple fire areas with the approval of the Fire Protection Program Manager, or when the Fire Protection Program Manager subsequently gave approval on two occasions for a continuous fire watch to survey multiple fire areas. Because the failure to complete a written safety evaluation for changes to the two fire protection procedures is of very low safety significance, and has been entered into the Corrective Action Program (AR 80999), this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy: NCV 50-400/03-02-01, Inadequate Roving Continuous Fire Watches.

1R06 Flood Protection Measures

a. Inspection Scope

Internal Flooding

The inspectors walked down the diesel fuel oil storage tank building, because it contains two diesel fuel oil transfer pumps, which are both risk-significant and susceptible to flooding from a postulated break in moderate-energy fire protection water piping. The inspectors verified that the area configuration, features, and equipment functions were consistent with the descriptions and assumptions used in the FSAR sections and calculations listed in the Attachment. Also, the inspectors reviewed Pprocedure APP-106, Laundry & Hot Shower Collection and Reverse Osmosis (the procedure which describes operator response to flooding in the subject building), to verify that operator actions taken to protect the diesel fuel oil transfer pumps from the effects of flooding were both achievable and reasonable.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

On February 5, the inspectors observed licensed-operator performance during requalification simulator training for crew C, to verify that operator performance was consistent with expected operator performance, as described in job performance measures JPM-CR-037, JPM-CR-170, and JPM-CR-056**.** This training tested the operators' ability to emergency borate, determine reactor coolant system subcooling, and manually align safety injection following a loss of offsite power. The inspectors focused on clarity and formality of communication, use of procedures, alarm response, and control board manipulations. The inspectors discussed the licensee critique comments with the lead instructor.

During the week of January 20, 2003, the inspectors reviewed documentation, interviewed licensee personnel, and observed the administration of plant and simulator operating tests associated with the licensee's operator requalification program. Each of the activities performed by the inspectors assessed the effectiveness of the licensee in implementing requalification requirements identified in 10 CFR 55 Operators' Licenses. The evaluations were also performed to determine if the licensee effectively implemented operator requalification guidelines established in NUREG-1021, Operator Licensing Examination Standards for Power Reactors, and Inspection Procedure 71111.11, Licensed Operator Requalification Program. The inspectors observed two operator crews during the performance of the operating tests. Documentation reviewed included written examinations, Job Performance Measures (JPMs), simulator scenarios, licensee procedures, on-shift records, licensed operator qualification records, the contents of the training section tracking program, requalification program feedback forms, remediation plans. and medical records. Licensee documents reviewed during the inspection are listed in the Attachment.

The inspectors reviewed the biennial written examination for the examination testing cycle which ended March, 2003. The inspectors observed approximately 40% of the individual JPM operating tests and 100% of the simulator operating tests administered by the licensee during the week of January 20, 2003. These results were compared to the thresholds established in Manual Chapter 609 Appendix I, Operator Requalification Human Performance Significance Determination Process.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the two degraded SSC/function performance problems or conditions listed below, to verify the licensee's appropriate handling of these performance problems or conditions in accordance with 10CFR50, Appendix B, Criterion

XVI, Corrective Action, and 10CFR50.65, Maintenance Rule.

- Failures in the digital electro-hydraulic control system for main turbine valves caused reactor trips on October 23, 1998 (AR 1516) and July 13, 2002 (AR 65763)

- Main steam safety valve (MSSV) leakage (AR 54291); 8 of 15 MSSVs were leaking

The inspectors focused on the following:

- 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

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

- Failure of the train-B containment ventilation isolation signal on January 12, and subsequent removal of train B of the engineered safeguards facilities actuation system from service to facilitate repair.
- Removal of electrical bus 1D1 from service for routine planned maintenance on January 16.
- Removal of the B startup transformer from service for emergent corrective maintenance on January 30.
- Rescheduling of a surveillance on February 22 when a tornado watch declaration caused an increase in risk for loss of offsite power.
- Addition of emergent work on March 21 for cooling tower makeup.
- Removal of the B emergency service water pump from service on March 30, to repair a strainer water leak.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the four operability determinations addressed in the ARs 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 verified that the operability determinations were made as specified by Procedure AP-618, Operability Determinations. The technical adequacy of the determinations was reviewed and compared to the TS, the FSAR, and associated design-basis documents.

- AR 81940, Emergency Service Water Intake Structure Low Temperature
- AR 83590, Inadequately Staked Cap Screws Could Render RHR and Containment Spray Pumps Inoperable
- AR 85071, Containment Isolation Valve LLRT Failure (1CP-1)
- AR 82450, Disabled Space Heater in a 480 VAC Motor Control Center Cabinet

b. Findings

No findings of significance were identified.

1R16 Operator Work-Arounds

a. Inspection Scope

There were no new operator work-arounds initiated the inspection period. The inspectors reviewed the four operator workarounds listed below, to verify that the effects of those workarounds could not increase an initiating event frequency, affect multiple mitigating systems, or affect the ability of operators to respond in a correct and timely manner to plant transients and accidents.

- 269, Containment purge trips off in auto
- 274, Auto fill for reactor coolant pump standpipe inoperative
- 277, Pressurizer relief tank will not maintain pressure
- 278, Gross failed fuel detector will not maintain set flow

The inspectors also reviewed the licensee's cumulative effects review dated January 18.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

For the four post-maintenance tests listed below, the inspectors observed 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. The tests and associated maintenance included the following:

- OST-1191, Steam Generator [Power Operated Relief Valve] Operability Test Quarterly Interval; for 1MS-58 actuator oil replacement
- MST-I0320, Train B Solid State Protection System Actuation Logic & Master Relay Test; for replacement of failed safeguards output driver board in solid state protection train B
- OST-1008, 1A-SA RHR Pump Operability Quarterly Interval; for RHR motor maintenance
- OST-1411, Auxiliary Feedwater Pump 1X-SAB Operability Test; for preventive maintenance on turbine governor

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities

a. Inspection Scope

The inspectors observed activities associated with receipt and inspection of new fuel, to verify that those activities were being performed in accordance with Special Plant Procedure SPP-0015, Unpacking and Handling of New Fuel Assemblies, New Trash Baskets with PWR Top Nozzles and New Fuel Shipping Containers, and Procedure FMP-106, New Fuel Receipt Inspection and Storage Location Verification. Also, the inspectors observed related record-keeping activities and reviewed related records, to verify that the location of the new fuel assemblies was tracked from unloading from the shipping containers to storage in new fuel racks.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

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

- OST-1124, Train B 6.9 [Kilovolt] Emergency Bus Undervoltage Trip Actuating Device Operational Test and Contact Check Modes 1-6
- OST-1216*, Component Cooling Water System Operability (A-SA and B-SB Pumps in Service) Quarterly Interval Modes 1-2-3-4
- EST-220**, Type C LLRT of Containment Purge Exhaust Penetration (M-58)
- OST-1076, Auxiliary Feedwater Pump 1B-SB Operability Test Quarterly Interval Modes 1-4
- OST-1013, 1A-SA Emergency Diesel Generator Operability Test Monthly Interval
- MST-I0025, Steam Generator A Narrow Range Level (L-0476) Calibration

*This procedure included inservice testing requirements.
** This procedure included testing of a large containment isolation valve.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the temporary modification described in Engineering Change 51183, which provided temporary power to the motor driven fire pump and provided a non-safety feeder to emergency service water structures. The purpose of the inspection was to verify that the modification did not affect the safety functions of important safety systems, and to verify that the modification satisfied the requirements of 10CFR50, Appendix B, Criterion III, Design Control.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP1 Exercise Evaluation

a. Inspection Scope

The inspectors reviewed the scope, objectives, and scenario for the biennial, full-participation 2003 emergency response exercise to verify that they were designed to suitably test major elements of the licensee's emergency plan per 10 CFR 50, Appendix E, Section IV.F.2.f. During the period March 3-6, 2003, the inspectors observed and evaluated the licensee's performance in the exercise, as well as selected activities related to the licensee's conduct and self-assessment of the exercise. On March 4, 2003, the inspectors observed the conduct of the exercise to ensure that employees of the licensee were familiar with their specific emergency response duties per 10 CFR 50, Appendix E Section IV.F.1.(a). Licensee activities observed during the exercise included those occurring in the Control Room Simulator (CRS), Technical Support Center (TSC), Operational Support Center (OSC), and Emergency Operations Facility

(EOF). The NRC's evaluation focused on the risk-significant activities of event classification, notification of governmental authorities, onsite protective actions, offsite protective action recommendations, and accident mitigation. The inspectors also evaluated command and control, the transfer of emergency responsibilities between facilities, communications, adherence to procedures, and the overall implementation of the emergency plan. On March 5, the inspectors attended selected portions of the post-exercise critique to evaluate the licensee's critique of Emergency Response Organization performance against the requirements of 10 CFR 50, Appendix E Section IV.F.2.g. On March 6, prior to attending the presentation of the exercise critique results to plant management, the inspectors reviewed 13 ARs initiated by the licensee to address problem areas identified during the exercise. ARs 86478, 86613, 86622, and 86623 were reviewed in detail to verify that all problems with the two unsuccessful drill/exercise performance opportunities in the CRS were documented.

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

The inspector reviewed changes to the Radiological Emergency Plan (REP) as contained in Revision 45, against the requirements of 10 CFR 50.54(q) to determine whether any of the changes decreased REP effectiveness.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors observed an emergency preparedness drill conducted on February 11, to verify licensee self-assessment of classification, notification, and protective action recommendation development in accordance with 10CFR50, Appendix E, and NEI 99-02, Regulatory Assessment Indicator Guideline, Rev. 2.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

a. Inspection Scope

For the performance indicators (PIs) listed below, the inspectors sampled licensee records for the period from January 2002, through January 2003. To verify the accuracy of the PI data reported during that period, the inspectors compared the licensee's basis in reporting each data element to the PI definitions and guidance contained in NEI 99-02, Regulatory Assessment Indicator Guideline, Rev. 2.

Mitigating Systems Cornerstone

- Safety System Unavailability, High Pressure Safety Injection
- Safety System Unavailability, Residual Heat Removal

The inspectors reviewed licensee event reports, records of inoperable equipment, and Maintenance Rule records, to verify that the licensee had adequately accounted for unavailability hours that the subject systems had experienced during the previous four quarters. The inspectors also reviewed the number of hours those systems were required to be available and the licensee's basis for identifying unavailability hours. In addition, the inspectors interviewed licensee personnel associated with the PI data collection, evaluation, and distribution.

Emergency Preparedness Cornerstone

- Emergency Response Organization (ERO) Drill/Exercise Performance
- ERO Drill Participation
- Alert and Notification System Reliability

The inspectors assessed the accuracy of the PI for ERO drill and exercise performance over the past eight quarters through review of a sample of drill and event records. The inspectors reviewed training records to assess the accuracy of the PI for ERO drill participation during the previous eight quarters for personnel assigned to key positions in the ERO. The inspectors assessed the accuracy of the PI for the alert and notification system reliability through review of a sample of the licensee's records of the semi-weekly silent tests and quarterly full-cycle tests.

- Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

.1 Annual Sample Review

a. Inspection Scope

The inspectors selected significant adverse condition AR 56692 for detailed review. This AR was associated with high oil particulate levels in the C charging /safety injection pump (CSIP). The inspectors reviewed this report to verify that the licensee had identified the full extent of the issue, performed an appropriate evaluation, and specified and prioritized appropriate corrective actions. The inspectors evaluated the report against the requirements of the licensee's corrective action program as delineated in corporate Procedure CAP-NGGC-0200, Corrective Action Program, and 10 CFR 50, Appendix B . Because the root cause investigation and corrective actions were made generic to all three CSIPs, the inspectors reviewed adverse condition report AR 62522, high oil particulate levels in the B CSIP, to determine its impact on resolution of AR 56692.

b. Observations and Findings

From the review of AR 56692, no findings of significance were identified. However, the licensee had identified that an additional example of the problem had occurred (AR 62522) and had not reevaluated the root cause evaluation from the previous occurrence to determine why the corrective actions were ineffective. The additional example was not categorized as significant which resulted in the corrective action being given a lower priority.

4OA5 Other Activities

The Inspectors reviewed the final report for the Institute of Nuclear Power Operations (INPO) evaluation completed on April 17, 2002.

4OA6 Meetings, Including Exit

On April 5, 2003, the resident inspectors presented the inspection results to Mr. Jim 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 CONTACTS

Licensee personnel

J. Briggs, Superintendent, Environmental and Chemical
J. Caves, Licensing Supervisor
F. Diya, Superintendent, Systems Engineering
R. Duncan, Director Site Operations
W. Gurganious, Nuclear Assessment Manager
T. Hobbs, Operations Manager
A. Khanpour, Harris Engineering Support Services Manager
G. Miller, Maintenance Manager
T. Morton, Manager Support Services
M. Munroe, Training Manager
T. Natale, Outage and Scheduling Manager
T. Pilo, Emergency Preparedness Supervisor
J. Scarola, Harris Plant Vice President
G. Simmons, Superintendent, Radiation Control
B. Waldrep, Harris Plant General Manager

NRC personnel

P. Fredrickson, Chief, Reactor Projects Branch 4

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Opened and Closed

50-400/03-02-01	NCV	Inadequate Roving Continuous Fire Watches (Section 1R05)

Closed

None

Discussed

None

Attachment

LIST OF DOCUMENTS REVIEWED

1R04 Equipment Alignment

Partial System Walkdown

Emergency Services Chilled Water system:
Procedure OP-148, “Essential Services Chilled Water System”
Drawing 2165-S-0998, “Simplified Flow Diagram HVAC Essential Services Chilled Water - Distribution - Unit 1 - SA”

Auxiliary feedwater system:
Procedure OP-137, “Auxiliary Feedwater System”
Drawing 2165-S-0544, “Simplified Flow Diagram Feedwater System

Residual heat removal/low head safety injection system:
Procedure OP-111, Residual Heat Removal System
Procedure OP-110, Safety Injection System
Drawing 2165-S-1324, Simplified Flow Diagram Residual Heat Removal System
Drawing 2165-S-1310, Simplified Flow Diagram Safety Injection System

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

Complete System Walkdown

Procedure OP-148, Essential Services Chilled Water System
System Description 148, Essential Services Chilled Water System
Design Basis Document -132, Essential and Non-essential Services Chilled Water Systems
Drawing 2165-S-0998, Simplified Flow Diagram HVAC Essential Services Chilled Water SA, sheets 1 thru 4
Drawing 2165-S-0999, Simplified Flow Diagram HVAC Essential Services Chilled Water SB, sheets 1 thru 4
FSAR section 9.2.8, Essential Services Chilled Water System

Work orders - reviewed all open and completed since 1/1/2002. Reviewed the following open work orders in detail to verify no immediate TS operability affect:

- 00357480, WC-2A is low on refrigerant
- 00286442, WC-2B high refrigerant pressure

Action Requests (ARs) and Action Item Assignments (AIAs)- reviewed open and completed since 1/1/2002. Reviewed open AR 57079, Operability issue on target rock chiller expansion tank isolation valves, in detail to verify no immediate TS operability affect.

System health report.

1R05 Fire Protection

Procedures:

Results from FPT-3205, Fire Detector Functional Test Local Fire Detector Panel 5 12 Month Interval
Results from FPT-3206, Fire Detector Functional Test Local Fire Detector Panel 6 12 Month interval
Results from FPT-3207, Fire Detector Functional Test Local Fire Detector Panel 7 12 Month Interval
Results from FPT-3151, Fire Extinguisher Inspection: Auxiliary Building Monthly Interval
Results from OPT-3010, Fire Hose Service Test Various Intervals
Results from FPT-3425, Fire Damper Inspection 18 Month Interval RAB 286 Elevation
Results from FPT-3426, Fire Damper Inspection 18 Month Interval RAB 236 Elevation and 261 Elevation Modes: All
Results from FPT-3550, Fire Penetration Seal Visual Inspection 18 Month Interval

1R06 Flood Protection Measures

FSAR Sections

3.4.1, Flood Protection
3.6, Protection Against Dynamic Effects Associated with the Postulated Rupture of Piping
3.6A.6, Flooding Analysis

Calculations:

Appendix I to the HNP Probabilistic Safety Assessment, “Internal Flooding Analysis”
PSA Appendix I: Internal Flooding Analysis
PRA-F/E-10, “[Diesel Fuel Oil Storage Tank] Building - Flood Analysis”

1R11 Licensed Operator Requalification

Training Administrative Procedure, TAP-500, Rev. 3
Performance Review and Remedial Training, NGGS-TRN-0002, Rev. 1
Examination and Testing, TAP-403, Rev. 2
Licensed Operator Continuing Training Program, TPP-306, Rev. 12
2002 Biennial written examination for all crews

1R15 Operability Evaluations

SD-111, Residual Heat Removal System
FSAR section 5.47
OE 14898, RHR pump damage due to dislodged ring cap screw
Flowserve letter dated January 28, 2003 related to OE14898
FSAR 6.2.6, Containment Leakage testing
10 CFR 50 Appendix J
ANS-56.8-1994, Containment System Leakage Requirements
RG 1.163, Performance Based Containment Leak-Test Program
OMM-01, Operations - Conduct of Operations
Plant Change Request 7163, Evaluate the Minimum Allowable Temperature in Outlying Buildings

1R22 Surveillance Testing

Technical Specification Sections

3/4.3.2.1, Engineered Safety Features Actuation System Instrumentation
3/4.6.3, Containment Isolation Valves
3/4.7.1.2, Auxiliary Feedwater System
3/4.7.3, Component Cooling Water System
3/4.3, Instrumentation
3/4.8.1, A.C. Sources

40A1 Performance Indicator (PI) Verification

Radiological Emergency Plan, Revision 45