UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
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ATLANTA, GEORGIA 30303-8931

April 28, 2009

Mr. Christopher L. Burton
Vice President
Carolina Power and Light Company
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 05000400/2009002

Dear Mr. Burton:

On March 31, 2009, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Shearon Harris reactor facility. The enclosed integrated inspection report documents the inspection results, which were discussed on April 14, 2009, 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 2.390 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) component 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/

Randall A. Musser, Chief
Reactor Projects Branch 4
Division of Reactor Projects

Docket Nos.: 50-400
License No.: NPF-63
Enclosure: NRC Inspection Report 05000400/2009002
w/Attachment: Supplemental Information

cc w/encl: (See page 2)

April 28, 2009

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Enclosure

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cc w/encl. (continued)
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Letter to Christopher L. Burton from Randall A. Musser dated April 28, 2009

SUBJECT: SHEARON HARRIS NUCLEAR POWER PLANT - NRC INTEGRATED INSPECTION REPORT 05000400/2009002

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.:	50-400
License No.:	NPF-63
Report No.:	05000400/2009002
Licensee:	Carolina Power and Light Company
Facility:	Shearon Harris Nuclear Power Plant, Unit 1
Location:	5413 Shearon Harris Road New Hill, NC 27562
Dates:	January 1, 2009 through March 31, 2009
Inspectors:	J. Austin, Senior Resident Inspector P. Lessard, Resident Inspector E. Lea, Senior Operations Engineer (Sections 1R11, 4OA2) M. Riches, Operations Engineer (Sections 1R11, 4OA2)
Approved by:	Randall A. Musser, Chief Reactor Projects Branch 4 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000400/2009002; January 1, 2009 – March 31, 2009; Shearon Harris Nuclear Power Plant, Unit 1; Routine Integrated Report.

The report covered a three month period of inspection by resident inspectors and announced inspection by regional operator licensing inspectors. No findings of significance were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, “Reactor Oversight Process,” Revision 4, dated December 2006.

Enclosure

REPORT DETAILS

Summary of Plant Status

Unit 1 operated at or near rated thermal power (RTP) for the entire inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection

.1 Winter Seasonal Readiness Preparations

a. Inspection Scope

The inspectors conducted a review of the licensee's preparations for winter conditions to verify that the plant's design features and implementation of procedures were sufficient to protect mitigating systems from the effects of adverse weather. Documentation for selected risk significant systems was reviewed to ensure that these systems would remain functional when challenged by inclement weather. During the inspection, the inspectors focused on plant specific design features and the licensee's procedures used to mitigate or respond to adverse weather conditions. Additionally, the inspectors reviewed the Updated Final Safety Analysis Report (UFSAR) and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant specific procedures. Cold weather protection, such as heat tracing and area heaters, was verified to be in operation where applicable. The inspectors also reviewed corrective action program items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their corrective action program in accordance with station corrective action procedures. Specific documents reviewed during this inspection are listed in the Attachment. The inspectors' reviews focused on the following plant systems:

- Emergency Service Water (ESW) system
- Refueling Water Storage Tank (RWST)
- Containment Spray (CT) System

b. Findings

No findings of significance were identified.

.2 Actual Adverse Weather Condition

a. Inspection Scope

During actual cold weather conditions when outside temperature dropped below the 35 degrees Fahrenheit (ºF) threshold of Administrative procedure-301 (AP-301, Seasonal Weather Preparations and Monitoring) the inspectors conducted walkdown tours of the

main control room and risk significant systems to assess system performance and alarm conditions of systems susceptible to cold weather conditions. Furthermore, the inspectors verified that the applicable equipment walkdown checklists required by AP-301 were implemented properly.

The inspectors reviewed the following ARs associated with this area to verify that the licensee identified and implemented appropriate corrective actions:

- AR #315092, AH-14Z (air handler-14Z) tripped on low temperature
- AR # 315327, AP-301 cold weather related deficiency identification improvement needed
- AR #304592, Heat trace panel (18753BB) not functioning
- AR #316527, Extreme cold weather improvements

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

.1 Quarterly Partial System Walkdowns

a. Inspection Scope

The inspectors performed three partial system walkdowns of the following risk significant systems:

- 'B' Residual Heat Removal (RHR) system while 'A' RHR was inoperable due to planned maintenance on February 4, 2009
- 'B' Containment Spray (CT) system while 'A' CT was inoperable due to planned maintenance on February 25, 2009
- 'B' Component Cooling Water (CCW) system while 'A' CCW was inoperable due to emergent maintenance on March 11, 2009

The inspectors selected these systems based on their risk significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could impact the function of the system and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, applicable portions of the UFSAR, Technical Specification (TS) requirements, outstanding work orders, condition reports, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also walked down accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of

mitigating systems or barriers and entered them into the corrective action program with the appropriate significance characterization. Documents reviewed are listed in the attachment.

b. Findings

No findings of significance were identified.

.2 Semi-Annual Complete System Walkdown

a. Inspection Scope

During the week of January 19th, 2009, the inspectors performed a complete system alignment inspection of the Emergency Diesel Generators to verify the functional capability of the system. This system was selected because it was considered risk significant in the licensee's probabilistic risk assessment. The inspectors walked down the system to review mechanical and electrical equipment line ups, electrical power availability, system pressure and temperature indications, component labeling, component lubrication, component and equipment cooling, hangers and supports, operability of support systems, and to ensure that auxiliary equipment or debris did not interfere with equipment operation. A review of a sample of past and outstanding work orders (WOs) was performed to determine whether any deficiencies significantly affected the system function. In addition, the inspectors reviewed the corrective action program (CAP) database to ensure that system equipment alignment problems were being identified and appropriately resolved. The documents used for the walkdown and issue review are listed in the attachment.

The inspectors reviewed the following ARs associated with this area to verify that the licensee identified and implemented appropriate corrective actions:

- AR #238595, During performance of 'B' EDG barring check the main transfer panel switch did not firmly stop
- AR #246642, EDG transfer relay 43T-DG4/SA would not transfer back to normal
- AR #247000, Four EDG transfer relays have required replacement
- AR #315949, EDG spray shield configuration discrepancy
- AR #318778, Tubing fretting discovered on the 1B-SB EDG

b. Findings

No findings of significance were identified.

1R05 Fire Protection

.1 Quarterly Resident Inspector Tours

a. Inspection Scope

The inspectors conducted six fire protection walkdowns which were focused on availability, accessibility, and the condition of firefighting equipment in the following risk significant plant areas:

- Fuel Handling Building, 261' Elevation
- Fuel Handling Building, 286' Elevation
- Chemical and Volume Control System and Boron Thermal Regeneration System Heat Exchanger Area
- Water Chiller Area A and B
- Reactor Auxiliary Building Heating Ventilation and Air Conditioning Room
- Reactor Auxiliary Building Heating Ventilation and Air Conditioning Equipment Area

The inspectors reviewed the six areas to assess if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capability, maintained passive fire protection features in good material condition, and had implemented adequate compensatory measures for out of service, degraded or inoperable fire protection equipment, systems, or features in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to fire risk, their potential to impact equipment which could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. Using the documents listed in the attachment, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed, that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's corrective action program.

The inspectors reviewed the following ARs associated with this area to verify that the licensee identified and implemented appropriate corrective actions:

- AR #322566, Unattended combustibles in non-intervening combustible zone
- AR #321988, Delayed notification of forest fire on HNP lands

b. Findings

No findings of significance were identified.

.2 Annual Fire Protection Drill Observation

a. Inspection Scope

On March 13, 2009, the inspectors observed fire brigade performance during an announced fire drill that simulated a fire in the 'B' Chiller Area on the 261' level of the Reactor Auxiliary Building. The observation was used to determine the readiness of the plant fire brigade to fight fires. The inspectors verified that the licensee staff identified deficiencies, openly discussed them in a self-critical manner at the drill debrief, and took appropriate corrective actions. Specific attributes evaluated were:

- Proper wearing of turnout gear and self-contained breathing apparatus
- Proper use and layout of fire hoses
- Employment of appropriate fire fighting techniques
- Sufficient firefighting equipment brought to the scene
- Effectiveness of fire brigade leader communications, command, and control
- Search for victims and propagation of the fire into other plant areas
- Utilization of pre planned strategies
- Adherence to the pre planned drill scenario
- Fulfillment of drill objectives

The inspectors reviewed the following AR associated with this area to verify that the licensee identified and implemented appropriate corrective actions:

- AR #327207, No audible fire alarm in RAB 261 'A' chiller area

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program

.1 Quarterly Review

a. Inspection Scope

On January 8, 2009, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator requalification examinations to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems and training was being conducted in accordance with licensee procedures. The licensed operators responded to a simulated turbine runback and pressurizer relief valve failure, followed by a reactor trip, safety injection and loss of auxiliary feedwater. The inspectors evaluated the following areas:

- Licensed operator performance
- Crew's clarity and formality of communications
- Ability to take timely actions in the conservative direction
- Prioritization, interpretation, and verification of annunciator alarms

- Correct use and implementation of abnormal and emergency procedures
- Control board manipulations
- Oversight and direction from supervisors
- Ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications

The crew's performance in these areas was compared to pre-established operator action expectations and successful critical task completion requirements.

b. Findings

No findings of significance were identified.

.2 Biennial Review

a. Inspection Scope

The inspectors reviewed the facility operating history and associated documents in preparation for this inspection. While onsite the inspectors reviewed documentation, interviewed licensee personnel, and observed the administration of operating tests associated with the licensee's operator requalification program. Each of the activities performed by the inspectors was done to assess the effectiveness of the licensee in implementing requalification requirements identified in 10 CFR Part 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." The inspectors evaluated the licensee's simulation facility for adequacy for use in operator licensing examinations using ANSI/ANS-3.5-1998, "American National Standard for Nuclear Power Plant Simulators for use in Operator Training and Examination." The inspectors observed two crews during the performance of the operating tests. Documentation reviewed included written examinations, Job Performance Measures (JPMs), simulator scenarios, licensee procedures, on-shift records, simulator modification request records and performance test records, the feedback process, licensed operator qualification records, remediation plans, watchstanding, and medical records. The records were inspected using the criteria listed in Inspection Procedure 71111.11. Documents reviewed during the inspection are listed in the report attachment.

Following the completion of the annual operating tests which ended on February 5, 2009, the inspectors reviewed the overall pass/fail results of the individual JPM operating tests and the simulator operator tests administered by the licensee during the operator licensing requalification cycle. These results were compared to the thresholds established in NRC Inspection 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 assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were entered into the corrective action program with the appropriate significance characterization. Documents reviewed are listed in the Attachment.

The inspectors evaluated degraded performance issues involving the following risk significant components:

- AR #247000, Emergency Diesel Generators (A and B) 43T-DG transfer relay functional failures
- AR #310452, Reactor Water Storage Tank (RWST) level channel drift

The inspectors focused on the following attributes:

- Implementing appropriate work practices
- Identifying and addressing common cause failures
- Scoping of systems in accordance with 10 CFR 50.65(b) of the maintenance rule;
- Characterizing system reliability issues for performance
- Charging unavailability for performance
- Trending key parameters for condition monitoring
- Ensuring 10 CFR 50.65(a)(1) or (a)(2) classification or re-classification
- Verifying appropriate performance criteria for structures, systems, and components (SSCs)/functions classified as (a)(2) or appropriate and adequate goals and corrective actions for systems classified as (a)(1)

The inspectors reviewed the following AR associated with this area to verify that the licensee identified and implemented appropriate corrective actions:

- AR #319512, Maintenance rule scoping of transfer relays may affect EDG status

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors reviewed the licensee's evaluation and management of plant risk and these activities were selected based on their potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that risk assessments were performed as required by 10 CFR 50.65(a)(4) and were accurate and complete. When emergent work was performed, the inspectors verified that the plant risk was promptly reassessed and managed. The inspectors reviewed the scope

of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed TS requirements and walked down portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

- Emergent work due to the inability to restore automatic control of the 'C' feed regulating valve resulting in extending a yellow risk condition with 'A' Hydrogen Analyzer inoperable on February 2, 2009;
- Emergent work on the boric acid batch counter (FIS-113) with 'A' Hydrogen Analyzer inoperable on February 5, 2009;
- Planned maintenance on the 'B' Emergency Diesel Generator (EDG) on February 11, 2009;
- Emergent work resulting from the failure of two Reactor Auxiliary Building Emergency Exhaust System (RABEES) dampers that resulted in RABEES inoperability on March 3, 2009;
- Emergent work on the 'A' CCW pump due to seal degradation on March 12, 2009.

The inspectors reviewed the following ARs associated with this area to verify that the licensee identified and implemented appropriate corrective actions:

- AR #318200, BA Counter FIS-113 Counting with no System Flow
- AR #318201, AOP-003 Entered for Malfunction of FIS-113

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors selected the following four potential operability issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the Technical Specifications (TS) and Updated Safety Analysis Report (USAR) to the licensee's evaluations, to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors also reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the attachment.

- AR #312986, OST-1214 Sect. 7.8, unable to obtain desired test flow during testing of the A Emergency Service Water System
- AR #314483, OST-1119 B Containment spray eductor flow not within TS limits
- AR #315949, EDG spray shield configuration discrepancy
- AR #318778, Tubing fretting discovered on the “B” EDG

The inspectors reviewed the following ARs associated with this area to verify that the licensee identified and implemented appropriate corrective actions:

- AR #319018, Failure of meteorological tower air temperature
- AR #315289, Unplanned A-SA containment hydrogen analyzer inoperability
- AR #318505, ESW pump room exhaust fan running during low ambient temperature
- AR #320900, Oil leak on “B” charging safety injection pump oil reservoir
- AR #316677, “A” train RVLIS not updating at RVLIS panel

b. Findings

No findings of significance were identified.

1R18 Plant Modifications

a. Inspection Scope

Temporary modification EC 68821, temporary isolation of a leaking cooling coil bank on number 3 containment fan cooler (AH-3) and related documentation were reviewed for adequacy of the associated 10 CFR 50.59 safety evaluation screening, consideration of design parameters, implementation of the modification, post-modification testing, and that relevant procedures, design, and licensing documents were properly updated. The inspectors observed ongoing and completed work activities to verify that installation was consistent with design control documents. This temporary modification isolated one of the sixteen cooling coil banks in AH-3 to stop it from leaking.

The inspectors reviewed the following ARs associated with this area to verify that the licensee identified and implemented appropriate corrective actions:

- AR #328477, AH-3 Blind flange connection to structural steel
- AR #329044, EC 68821 did not consider GL 96-06 effects

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

The inspectors reviewed the following six post-maintenance (PM) activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- Work order 1446448; OST-1008, 1A-SA RHR Pump Operability Quarterly Interval Modes 1-2-3, and OST-1814, TMI III D.1.1 Inservice Liquid Systems Leak Test Refueling Outage Interval at all Times, performed after planned maintenance on the 'A' RHR pump and selected valves on February 4, 2009;
- Work request 368563; Post maintenance testing on 'C' Feed Regulating Valve following repairs made on February 4, 2009;
- Work order 1482708; MST-I0116, Train A Containment Hydrogen Analyzer System Calibration, and OWP-PAH, Post Accident Hydrogen, following repairs to the 'A' Hydrogen Analyzer on February 6, 2009;
- Work order 1511158; Post maintenance testing on RABEES damper AV-D11SA-1 following emergent repairs on March 5, 2009;
- Work order 1006210; OST-1092, 1B-SB RHR Pump Operability Quarterly Interval Modes 1-2-3 following planned maintenance on 1RH-66, the RHR heat exchanger 1B-SB outlet valve on March 10, 2009;
- Work order 1514092; OST-1216, Component Cooling Water System Operability (A-SA and B-SB Pumps in Service) Quarterly Interval Modes 1-2-3-4, followings repairs to the 'A' Component Cooling Water pump on March 11, 2009.

These activities were selected based upon the structure, system, or component's ability to impact risk. The inspectors evaluated these activities for the following: the effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed; acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate; tests were performed as written in accordance with properly reviewed and approved procedures; equipment was returned to its operational status following testing, and test documentation was properly evaluated. The inspectors evaluated the activities against TS and the UFSAR to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with post-maintenance tests to determine whether the licensee was identifying problems and entering them in the corrective action program and that the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the attachment.

The inspectors reviewed the following ARs associated with this area to verify that the licensee identified and implemented appropriate corrective actions:

- AR #318285, OST-1008, Rev. 25, 1A-SA RHR Pump Operability Quarterly Interval

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

.1 Routine Surveillance Testing

a. Inspection Scope

For the four surveillance tests identified below, the inspectors observed surveillance tests and/or reviewed the test results for the following activities to verify the tests met TS surveillance requirements, UFSAR commitments, inservice testing requirements, and licensee procedural requirements. The inspectors assessed the effectiveness of the tests in demonstrating that the SSCs were operationally capable of performing their intended safety functions.

- OST-1118, Containment Spray Operability Train B Quarterly Interval Modes 1-4 performed on January 13, 2009;
- EST-702, Moderator temperature Coefficient – EOL which required maneuvering the plant with the turbine control system in manual on January 23, 2009;
- MST-I0151, Steam Generator 'C' Narrow Range level Loop (L-0496) Operational Test which requires placing the associated feedwater regulator valve in manual control on February 2, 2009;
- OST-1191, Steam Generator PORV and Block Valve Operability Test Quarterly Interval Modes 1-4 performed on March 31, 2009.

The inspectors reviewed the following ARs associated with this area to verify that the licensee identified and implemented appropriate corrective actions:

- AR #314483, OST-1119, Containment spray eductor flow not within TS limits
- AR #312986, OST-1214 Section 7.8, unable to obtain desired test flow

b. Findings

No findings of significance were identified.

.2 In Service Testing (IST) Surveillance

a. Inspection Scope

The inspectors reviewed the performance of OST-1214, Emergency Service Water System Operability Train A Quarterly Interval Modes 1-2-3-4-5-6-Defueled on January 4, 2009 to evaluate the effectiveness of the licensee's American Society of Mechanical Engineers (ASME) Section XI testing program for determining equipment availability and reliability. This surveillance satisfies the IST requirements of multiple pumps and valves throughout the A ESW system. The inspectors evaluated selected portions of the following areas:

- Testing procedures and methods
- Acceptance criteria
- Compliance with the licensee's IST program, TS, selected licensee commitments, and code requirements
- Range and accuracy of test instruments
- Required corrective actions

The inspectors reviewed the following AR associated with this area to verify that the licensee identified and implemented appropriate corrective actions:

- AR #312989, OST-1214 Rev 49 did not fully incorporate ISI information

b. Findings

No findings of significance were identified.

1EP6 Emergency Planning Drill Evaluation

a. Inspection Scope

The inspectors observed the emergency preparedness drill conducted on January 27, 2009. The inspectors reviewed the drill scenario narrative to identify the timing and location of classifications, notifications, and protective action recommendations development activities. The inspectors evaluated the drill conduct from the control room simulator, technical support center, and the emergency operations facility. During the drill, the inspectors assessed the adequacy of event classification and notification activities. The inspectors observed portions of the licensee's post-drill critiques at the technical support center and emergency operating facility. The inspectors verified that the licensee properly evaluated the drill's performance with respect to performance indicators and assessed drill performance with respect to drill objectives.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

To verify the accuracy of the PI data reported to the NRC, the inspectors compared the licensee's basis in reporting each data element to the PI definitions and guidance contained in Nuclear Energy Institute (NEI) Document 99-02, Regulatory Assessment Indicator Guideline.

Initiating Events Cornerstone

- Unplanned Scrams per 7000 Critical Hours
- Unplanned Power Changes per 7000 Critical Hours
- Unplanned Scrams with Complications

The inspectors sampled licensee submittals for the performance indicators listed above for the period from the first quarter 2008 through the fourth quarter 2008. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports and NRC Inspection reports for the period to validate the accuracy of the submittals.

Mitigating Systems Cornerstone

- Safety System Functional Failures

The inspectors reviewed licensee submittals for the Safety System Functional Failures performance indicator for the period from the first quarter 2008 through the fourth quarter 2008. The inspectors reviewed the licensee's operator narrative logs, operability assessments, maintenance rule records, maintenance work orders, issue reports, event reports and NRC Integrated Inspection reports for the period to validate the accuracy of the submittals.

Barrier Integrity Cornerstone

- Reactor Coolant System (RCS) Specific Activity

The inspectors reviewed licensee submittals for the Reactor Coolant System Specific Activity performance indicator for the period from the first quarter 2008 through the fourth quarter 2008. The inspectors reviewed the licensee's RCS chemistry samples, TS requirements, issue reports, and event reports for the period to validate the accuracy of the submittals. In addition to record reviews, the inspectors observed a chemistry technician obtain and analyze a reactor coolant system sample.

- Reactor Coolant System Leakage

The inspectors sampled licensee submittals for the Reactor Coolant System Leakage performance indicator for the period from the first quarter 2008 through the fourth quarter 2008. The inspectors reviewed the licensee's operator logs, RCS leakage tracking data, issue reports, and event reports for the period to validate the accuracy of the submittals.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

.1 Routine Review of items Entered Into the Corrective Action Program

a. Inspection Scope

To aid in the identification of repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed frequent screenings of items entered into the licensee's corrective action program. The review was accomplished by reviewing daily action request reports.

b. Findings

No findings of significance were identified.

.2 Review of Licensed Operator Remediation Process

a. Inspection Scope

The inspectors used guidance identified in Inspection Procedure (IP) 711111.11, Licensed Operator Requalification Program, to perform a review of documentation associated with the remediation of operators who failed their annual operator licensing written examination.

b. Findings

No findings of significance were identified. The inspectors reviewed documentation which identified actions taken to remediate three licensed operator who failed their 2008 annual written examination. The inspectors found that each operator, who failed the initial written examination, was given several practice examinations followed by a retake examination. The inspectors performed a review of the practice examinations and the retake examinations given to the three operators. From the review, the inspectors determined that for one operator, 10 of the 35 questions on the retake examination were identical to questions on the practice examinations; for the second operator, 8 of the 35 questions on the retake examination were identical to questions on the practice examinations; and for a third operator, 3 of the 35 questions on the retake examination were identical to questions on the practice examinations. This inspector observation was determined not to be a performance deficiency, but was placed into the licensee's corrective action program as AR #314929.

.3 Selected Issue Follow-up Inspection: Emergency Diesel Generator (EDG) Transfer Relays

a. Inspection Scope

The inspectors selected AR #247000, Four EDG transfer relays have required replacement, for detailed review. This AR was associated with maintenance rule functional failures and historical transfer relay performance. The inspectors reviewed

this report to verify that the licensee 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.

b. Findings

No findings of significance were identified.

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period the inspectors conducted observations of security force personnel and activities to ensure that the activities were consistent with licensee security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours.

These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status reviews and inspection activities.

b. Findings

No findings of significance were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On April 14, 2008 the inspector presented the inspection results to Mr. Burton, and other members of the licensee staff. The inspectors confirmed that proprietary information was not provided or examined during the inspection period.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

B. Bernard, Superintendent, Security
C. Burton, Vice President Harris Plant
D. Corlett, Supervisor, Licensing/Regulatory Programs
J. Dills, Manager, Outage and Scheduling
J. Dufner, Manager, Maintenance
K. Harshaw, Manager, Site Support Services
K. Henderson, Plant General Manager
G. Kilpatrick, Training Manager
S. O'Connor, Manager, Engineering
M. Parker, Superintendent, Radiation Protection
B. Parks, Manager, Nuclear Assessment Section
J. Robinson, Superintendent, Environmental and Chemistry
S. Saunders, Manager, Operations

NRC personnel

R. Musser, Chief, Reactor Projects Branch 4, Division of Reactor Projects, Region II

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

None.

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures:

- PIC-E048, (Rev. 23) Process Instrument Calibration
- CL-I008, (Rev. 12) Temperature Switch Calibration Check
- CL-E0010, (Rev. 10) Heat Trace Panel Current Check and Relay Calibration
- AP-301, (Rev. 50) Seasonal Weather Preparations and Monitoring

Work Orders:

- Work Order 1126755 Current Check and Relay Calibration
- Work Order 1435406 Heat Trace (FPP-HT-18751D) Circuit #5 Not Indicating
- Work Order 1447061 Heat Trace (18751A) Receiving Intermittent Alarms

Section 1R04: Equipment Alignment

Partial System Walkdown

'B' Residual Heat Removal System:
- Procedure OP-111, Residual Heat Removal System
- Drawing 2165-S-1324, Simplified Flow Diagram Residual Heat Removal System

'B' Containment Spray (CT) System:
- Procedure OP-112, Containment Spray System
- Drawing 2165-S-0550, Simplified Flow Diagram Containment Spray

'B' Component Cooling Water (CCW) system:
- Procedure OP-145, Component Cooling Water
- Drawing 2165-S-1321, Component Cooling Water System
- Drawing 2165-S-1322, Component Cooling Water System

Complete System Walkdown

- Procedure OP- 155, Diesel Generator Emergency Power System
- Plant Operating Manual EOP-EPP-001, Emergency Operating Procedure
- System Description 155.01, Emergency Diesel Generator System
- Design Basis Document 201 Emergency Diesel Generator
- Drawing 1364-16451 thru 16462
- UFSAR Section 8.3.1
- Abnormal Operating Procedure (AOP-025-BD), Loss of One Emergency AC Bus
- Annunciator Panel Procedure (APP-ALB-025), Main Control Board

Section 1R05: Fire Protection

- FPP-001 Fire Protection Program Manual
- FPP-004, Transient Combustible Control

- FPP-013, Fire Protection – Minimum Requirements, Mitigating Actions and Surveillance Requirements
- FPP-012-03-FHB, Fuel Handling Building Fire Pre-Plan, F05-FHB Emergency Exhaust Electrical Room
- FPP-012-03-FHB, Fuel Handling Building Fire Pre-Plan, F06-FHB Emergency Exhaust Room and Fuel Pool Demineralizer Room A and B
- FPP-012-03-FHB, Fuel Handling Building Fire Pre-Plan, F07-FHB Operating Floor including New Fuel Pools, Spent Fuel Pools, Fuel transfer Canals, Main transfer Canal, New Fuel Storage Area, and Cask Loading Pool
- FPP-012-02-RAB 236, Reactor Auxiliary Building Elevation 236 Fire Pre-Plan, A14-CVCS and BTRS Heat Exchanger Area
- FPP-012-02-RAB261, Reactor Auxiliary Building Elevation 261 Fire Pre-Plan, A19-Water Chiller Area A and B
- FPP-012-02-RAB305-324, Reactor Auxiliary Building Elevations 305 and 324 Fire Pre-Plan, A56-Reactor Auxiliary Building, HV and Instrument Repair, HVAC Room
- FPP-012-02-RAB305-324, Reactor Auxiliary Building Elevations 305 and 324 Fire Pre-Plan, A58-RAB HVAC Equipment Area
- Fire Drill Planning Guide and Critique Form: RAB 261' Chillers
- Fire Brigade Initial Training Lesson Plan LP-12.19, Interior Structural Fire Fighting
- TPP-219, Emergency Services Training Program

Section 1R11: Licensed Operator Requalification program

Procedures

- TPP-206, Rev. 9, Simulator Program
- TPP-306, Rev. 18, Licensed Operator Continuing Training Program
- TAP-403, "Examination and Testing," Rev. 15
- TAP-404, "Training Documentation and Records," Rev. 3
- TAP-405, "License Applications, Renewals, and Operator Physicals," Rev. 0
- TAP-409, "Conduct of Simulator Training and Evaluation," Rev. 12
- TAP-410, "NRC License Examination Security Program," Rev. 11
- TAP-412, "Simulator Operation, Maintenance and Testing," Rev. 7
- TRN-NGGC-0002, "Performance Review and Remedial Training," Rev. 0
- TRN-NGGC-0005, "Superintendent – Shift Operations Training Program," Rev. 2
- TRN-NGGC-0008, "Conduct of on-the-job Training and Task Performance Evaluation," Rev. 4
- TRN-NGGC-0100, "Analysis Phase," Rev. 1
- TRN-NGGC-0200, "Design Phase," Rev. 0
- TRN-NGGC-0300, "Development Phase," Rev. 0
- TRN-NGGC-0400, "Implementation Phase," Rev. 1
- TRN-NGGC-0500, "Evaluation Phase," Rev. 2
- TRN-NGGC-0503, "Instructor Training and Qualification Program," Rev. 4
- OMM-001, "Operations – Conduct of Operations," Rev. 81
- OMM-002, "Shift Turnover Package," Rev. 50
- SAF-NGGC-2171, "Medical Requirements for NRC Licensed Operators," Rev. 8

Simulator Steady State Tests

- SST-001, "Steady State Accuracy and Stability Test," Performed 11/21/09 (BOL)*
- SST-002, "Steady State Accuracy and Stability Test," Performed 11/24/08 (MOL)*
- SST-003, "Steady State Accuracy Test," Performed 11/21/08 (EOL)*
- TT-001, "Reactor Trip," Performed 11/30/08
- TT-007, "Maximum Power Ramp Rate," Performed 11/09/08
- TT-011, "Maximum Design Load Rejection," Performed 11/03/08

Simulator Service Requests

- SSR-07-0426, "Issue Found during Exam Work-up"
- SSR-08-0429, "RCP Amps following Shaft Shear"
- SSR-08-518, "LOCT Exam Validation Issue"
- SSR-08-537, Initial License Exam Issue #1"
- SSR-08-538, Initial License Exam Issue #2"

Remedial Training Packages

- All remedial training packages since last biennial requalification inspection

Records

- Badge Access Transaction Reports for Reactivation of Licenses
- Licensed Operator Medical

Written Examinations

- 2008 biennial requalification cycle examinations (5 RO and 5SRO)

Simulator Deficiencies:

- Open and closed Simulator Service Requests since last biennial requalification inspection

Section 1R12: Maintenance Effectiveness

- NUMARC 93-01, Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants
- Regulatory Guide 1.160, Monitoring the Effectiveness of Maintenance at Nuclear Power Plants
- ADM-NGGC-0101, Maintenance Rule Program

Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluation

- OMP-003, Outage Shutdown Risk Management
- WCM-001, On-line Maintenance
- WCM-005, Work Order Prioritization Process

- Work order 01492759-01, I, AP-929, “C” Feed Reg Valve not Controlling in Auto
- MST-I0151, Steam Generator ‘C’ Narrow Range level Loop (L-0496) Operational Test
- Work order 01493859-01, I, FY-113B, BA Batch Counter Counting with no Actual BA Flow
- Work order 01511158, AV-D11SA-1; Damper did not Fully Shut Upon CRIS Actuation

Section 1R15: Operability Evaluations

- UFSAR Section 6.2.2, Containment Heat Removal System
- OST-1119, Containment Spray Operability Train B Quarterly Modes 1-4
- OST-1214, Emergency Service Water System Operability Train A Quarterly Interval Modes 1-2-3-4-5-6-Defueled
- UFSAR Section 9.2.1, Service Water System
- OPS-NGGC-1305, Operability Determinations
- Procedure OP- 155, Diesel Generator Emergency Power System
- System Description 155.01, Emergency Diesel Generator System

Section 1R18: Plant Modifications

- Engineering Change (EC) 68821, Temporary Isolation of Leaking Coil Bank on AH-3
- Work order 1168269, EC 68821, AH-3 Cooling Coil has Small Leak
- Design Basis Document DBD-136, Containment Ventilation and Cooling, Rev. 7
- UFSAR Section 6.2.2, Containment Heat Removal System
- Operating Procedure OP-169, Containment Cooling and Ventilation
- Drawing 2165-S-0547, Simplified Flow Diagram Circulating and Service Water Systems, Sheet 1
- OST-1010, Containment Cooling Operability Test Monthly Interval Modes 1-4
- Generic Letter 89-13, Service Water System Problems Affecting Safety-Related Equipment
- EPT-163, Generic Letter 89-13 Inspections (Raw Water Systems and Local Area Air Handler Inspection and Documentation)
- REG-NGGC-0010, Rev.10, Attachment 1, Screen for EC 68821
- EGR-NGGC-0005, Engineering Change
- EGR-NGGC-0005, Engineering Change, Temporary Change Log, Leaking Coil on AH-3

Section 1R19: Post Maintenance Testing

- OST-1008, 1A-SA RHR Pump Operability Quarterly Interval Modes 1-2-3
- OST-1814, TMI III D.1.1 Inservice Liquid Systems Leak Test Refueling Outage Interval at all Times
- AP-929, Troubleshooting Guide
- Work order 01492759, I, AP-929, “C” Feed Reg Valve not Controlling in Auto
- Interconnecting Wire Diagrams 1364-46580S23 and 1364-46580S24
- MST-I0116, Train A Containment Hydrogen Analyzer System Calibration
- OWP-PAH, Post Accident Hydrogen

- UFSAR Section 6.2.5, Combustible Gas Control in Containment
- Work Order 01482708, I, MST-I0116, A H2 Analyzer Will Not Align Per OP-125 Sect 8.4
- OP-125, Post Accident Hydrogen System
- Work order 01511158, AV-D11SA-1; Damper did not Fully Shut Upon CRIS Actuation
- Work order 01006210, Perform PIC-I134 on PIC Card 1PIC-19
- OST-1092, 1B-SB RHR Pump Operability Quarterly Interval Modes 1-2-3
- PIC-I134, RHR Heat Exchanger Outlet Valve NTD Card Calibration
- CM-I0076, Westinghouse 7300 Series NTD Card Test and Calibration
- OST-1216, Component Cooling Water System Operability (A_SA and B_SB Pumps in Service) Quarterly Interval Modes 1-2-3-4

Section 1R22: Surveillance Testing

- OST-1214, Emergency Service Water System Operability Train A Quarterly Interval Modes 1-2-3-4-5-6-Defueled
- OST-1118, Containment Spray Operability train B Quarterly Interval Modes 1-4
- EST-702, Moderator Temperature Coefficient – EOL
- MST-I0151, Steam Generator 'C' Narrow Range level Loop (L-0496) Operational Test
- OST-1191, Steam Generator PORV and Block Valve Operability Test Quarterly Interval Modes 1-4

Section 4OA1: Performance Indicator Verification

- NEI 99-02, Regulatory Assessment Performance Indicator Guideline

Section 4OA2: Identification and Resolution of Problems

- CAP-NGGC-0200, Corrective Action Program.

Remedial Training Packages

- All remedial training packages since last biennial requalification inspection
- TRN-NGGC-0002, "Performance Review and Remedial Training," Rev. 0