UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

August 1, 2013

Mr. Ernie Kapopoulos, Vice President
Carolina Power and Light Company
Shearon Harris Nuclear Power Plant
P. O. Box 165, Mail C ode: Zone 1
New Hill, North Carolina 27562-0165

SUBJECT: SHEARON HARRIS NUCLEAR POWER PLANT - NRC INTEGRATED INSPECTION REPORT 05000400/2013003

Dear Mr. Kapopoulos:

On June 30, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Shearon Harris reactor facility Unit 1. The enclosed inspection report documents the inspection results which were discussed on July 18, 2013, 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.

One self-revealing finding of very low safety significance (Green) was identified during this inspection. This finding did not involve a violation of NRC requirements.

If you contest this finding, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, 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 Shearon Harris facility.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region II; and the NRC Resident Inspector at the Shearon Harris facility.

ML13213A383

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Document Access and Management 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/

George T. Hopper, Chief
Reactor Projects Branch 4
Division of Reactor Projects

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

Enclosure: NRC Inspection Report 05000400/2013003
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

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DATE	7/24/2013	7/24/2013	7/23/2013	7/24/2013	7/24/2013	7/24/2013	7/31/2013
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Letter to George T. Hamrick from George Hopper dated August 1, 2013.

SUBJECT: SHEARON HARRIS NUCLEAR PLANT - NRC INTEGRATED INSPECTION REPORT 05000400/2013

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.:	50-400
License No.:	NPF-63
Report No.:	05000400/2013003
Licensee:	Carolina Power and Light Company
Facility:	Shearon Harris Nuclear Power Plant, Unit 1
Location:	5413 Shearon Harris Road New Hill, NC 27562
Dates:	April 1, 2013 through June 30, 2013
Inspectors:	J. Austin, Senior Resident Inspector P. Lessard, Resident Inspector A. Butcavage, Reactor Inspector (Section 1R07) A. Nielsen, Senior Health Physicist (Section 2RS7) R. Pursley, Health Physicist (Section 2RS6, 4OA1)
Approved by:	George T. Hopper, Chief Reactor Projects Branch 4 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000400/2013003: Carolina Power and Light Company on April 1, 2013 – June 30, 2013; Shearon Harris Nuclear Power Plant, Unit 1; Equipment Alignment.

The report covered a three month period of inspection by resident inspectors, a regional reactor inspector, and two regional health physicists. One self-revealing finding of very low safety significance (Green) was identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, issued June 19, 2012 "Significance Determination Process" (SDP). The cross-cutting aspects were determined using IMC 0310, "Components Within the Cross-Cutting Areas," issued October 28, 2011. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated January 28, 2013. The NRC's program for overseeing the safe operations of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process" revision 4.

NRC-Identified and Self-Revealing Findings

Cornerstone: Initiating Events

- Green. A self-revealing Green finding (FIN) was identified for the licensee's failure to adequately implement their procedure CAP-NGGC-0205, Condition Evaluation and Corrective Action Process, for two oil leaks from the "B" MFP which occurred on February 14, 2013 and February 17, 2013. Specifically, these failures resulted in a significant oil leak on the "B" MFP which required a rapid downpower to 55 percent RTP on March 29, 2013. The licensee entered this finding into their CAP as Action Request (AR) #598302. The licensee took corrective action to perform a design change to the breather to correct the plant issue.

  The licensee's failure to adequately implement their procedure CAP-NGGC-0205 was a performance deficiency. The performance deficiency was more than minor because it was associated with the human performance attribute of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions. Specifically, this failure resulted in another oil leak on the "B" MFP which required a rapid downpower to 55 percent RTP on March 29, 2013. In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 1 of IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings at Power," the inspectors determined that this finding was of very low safety significance (Green) because the performance deficiency did not cause a reactor trip or the loss of mitigation equipment. The finding had a cross-cutting aspect of Evaluation of Identified Problems, as described in the Corrective Action component of the Problem Identification and Resolution cross-cutting area because the licensee failed to thoroughly evaluate the two oil leaks in February 2013 to ensure that the resolution addressed the cause, resulting in the transient on March 29, 2013. (P.1(c)) (Section 1R04.2)

REPORT DETAILS

Summary of Plant Status

Unit 1 operated at or near RTP for the entire inspection period with the following exceptions. On May 14, 2013, the licensee reduced power to 75 percent RTP for governor valve 3 (GV-3) troubleshooting and turbine valve testing. Power was restored to RTP early the following day. Also, on May 15, 2013, the licensee completed a Technical Specification (TS) required plant shutdown to perform repairs to their reactor vessel head. Further details on this issue can be found in Inspection Report #05000400/2013010. The licensee returned to operations at RTP on June 8, 2013.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection

.1 Offsite and Alternate AC Power Readiness

a. Inspection Scope

The inspectors performed a review of the licensee's preparations for summer weather for selected systems, including conditions that could lead to an extended drought as a result of high temperatures. 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. Specific documents reviewed during this inspection are listed in the Attachment. The inspectors also reviewed CAP items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their CAP in accordance with station corrective action procedures. The inspectors' reviews focused specifically on the following plant systems:

- Essential Services Chilled Water System
- Electrical Switchyard
- Startup Transformers

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

- AR #613783, Main Reservoir Temperature has Failed
- AR #602293, AP-301, Seasonal Weather Preparations and Monitoring Concern
- AR #557164, Condenser Vacuum Pump Radiation Monitor Cooling Unit Found out of Service
- AR #603219, Single Point Vulnerability for Isophase Bus Duct Cooling

b. Findings

No findings of were identified.

.2 Readiness For Impending Adverse Weather Condition

a. Inspection Scope

On June 6, 2013, a severe weather warning due to Tropical Storm Andrea travelling up the coast was issued for the plant area. Inspectors reviewed the licensee's overall preparations and protection for impending adverse weather conditions. The inspectors walked down areas of the plant susceptible to high winds, including the licensee's emergency alternating current (AC) power systems. The inspectors evaluated the licensee staff's preparations against the site's procedures to determine if the staff's actions were adequate. During the inspection, the inspectors focused on plant specific design features and the licensee's procedures used to respond to specified adverse weather conditions. The inspectors also toured the plant grounds to look for any loose debris that could become missiles during a tornado. The inspectors' evaluated operator staffing and accessibility of controls and indications for those systems required to control the plant. Additionally, the inspectors reviewed the UFSAR and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant specific procedures. The inspectors also reviewed a sample of CAP items to verify that the licensee identified adverse weather issues at an appropriate threshold and dispositioned them through the CAP in accordance with station corrective action procedures. Specific documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings 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:

- The "B" 6.9kV switchgear and "B" Emergency Diesel Generator (EDG) was out of service (OOS) for maintenance on May 22, 2013;
- The "B" Emergency Service Water Intake Structure while the "A" EDG was OOS for maintenance on May 23, 2013; and
- The "A" and "B" safety related DC systems while the Dedicated Shutdown Diesel Generator (DSDG) was nonfunctional due to planned maintenance on June 10, 2013.

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, 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 CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.2 Semi-Annual Complete System Walkdown

a. Inspection Scope

On April 1, 2013, the inspectors performed a complete system alignment inspection of the “B” Main Feedwater system 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 CAP database to ensure that system equipment 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 #575169, No Margin Evaluation for Feedwater System Health Report
- AR #572767, Margin Issues Identified and Program Health Items

b. Findings

Introduction: A self-revealing Green finding (FIN) was identified for the licensee's failure to adequately implement their procedure CAP-NGGC-0205, Condition Evaluation and Corrective Action Process, for two oil leaks from the "B" MFP which occurred on February 14, 2013 and February 17, 2013. Specifically, these failures resulted in a significant oil leak on the "B" MFP which required a rapid downpower to 55 percent RTP on March 29, 2013.

Description: On February 14, 2013, the licensee identified a pencil sized stream of oil leaking from the non-safety related "B" MFP while the plant was operating at RTP. The licensee entered this condition into their CAP as AR #589647. A similar occurrence happened on February 17, 2013, and they entered this condition into their CAP as work request #571520 to replace the oil system breather and replace the oil.

While evaluating AR #589647, the licensee determined that breathers had previously been perforated prior to installation to improve venting of the oil system without a proper modification evaluation. The licensee also determined that there was additional evidence that the breather design did not allow adequate venting of the MFP oil system. Both of these conditions were entered into the CAP as AR #589919 on February 18, 2013. This AR was assigned a quick cause evaluation. As such, licensee procedure CAP-NGGC-0205, section 9.1.3, step 3 directs the evaluation to describe the equipment failure and failure mechanism. Step 3 also directs the evaluation to determine the likely cause for the equipment failure. However, the evaluation of AR #589919 focused on the improper modification of the breathers. It failed to evaluate the breather design and inadequate venting of the MFP oil system.

On March 29, 2013, the "B" MFP developed another significant oil leak. This required the licensee to rapidly downpower the plant to 55 percent RTP and secure the "B" MFP. This issue was entered into the CAP as AR #598302. The licensee performed a root cause investigation of AR #598302, which determined that the cause of the oil leaks was modifications that they had made to the MFP oil system. These modifications resulted the inadequate venting of the oil system and caused a positive pressure inside the oil sump. This positive pressure forced oil from the sump to a vent path which caused oil to spill into a diked area surrounding the MFP.

Analysis: The licensee's failure to adequately implement their procedure CAP-NGGC-0205 was a performance deficiency. The performance deficiency was more than minor because it was associated with the human performance attribute of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions. Specifically, this failure resulted in another oil leak on the "B" MFP which required a rapid downpower to 55 percent RTP on March 29, 2013. In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 1 of IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings at Power," the inspectors determined that this finding was of very low safety significance (Green) because the performance deficiency did not cause a reactor trip or the loss of mitigation equipment. The finding had a cross-cutting aspect of Evaluation of Identified Problems, as described in the Corrective Action component of the Problem Identification and Resolution cross-cutting area because the

licensee failed to thoroughly evaluate the two oil leaks in February 2013 to ensure that the resolution addressed the cause, resulting in the transient on March 29, 2013. (P.1(c))

Enforcement: This finding does not involve enforcement action because no violation of a regulatory requirement was identified. The licensee took corrective action to perform a design change to the breather to correct the plant issue. Additionally, they performed training on the lessons learned from this event with the committees which determine what level of evaluation is assigned to issues entered into the CAP. The licensee entered this finding into their CAP as AR #598302. Because this finding does not involve a violation of regulatory requirements and is of very low safety or security significance, it is identified as a FIN 05000400/2013003-01, "Power Transient due to a Main Feedwater Pump Oil Leak."

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:

- "A" Switchgear Ventilation Room
- "B" Switchgear Ventilation Room
- Containment 221' Elevation
- Containment 236' Elevation
- Containment 261' Elevation
- Containment 286' Elevation

The inspectors reviewed 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 as documented in the plant's Individual Plant Examination of External Events with later additional insights, 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 CAP.

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

- AR #610589, Fire hoses in Containment

b. Findings

No findings were identified.

1R06 Flood Protection Measures

.1 Annual Review of Cables Located in Underground Bunkers/Manholes

a. Inspection Scope

The inspectors conducted an inspection of underground bunkers/manholes subject to flooding that contain cables whose failure could disable risk-significant equipment. The inspectors performed walkdowns of risk-significant bunkers, including:

- M816BSB on June 11, 2013;
- M70CSB and M70DSB on June 12, 2013; and
- M71CSB and M71DSB on June 17, 2013.

The inspectors verified that the cables were not submerged in water, that cables and/or splices appear intact and to observe the condition of cable support structures. When applicable, the inspectors verified proper dewatering device (sump pump) operation and verified level alarm circuits are set appropriately to ensure that the cables will not be submerged. Where dewatering devices were not installed; the inspectors ensured that drainage was provided and was functioning properly.

b. Findings

No findings were identified.

1R07 Heat Sink Performance

.1 Triennial Review of Heat Sink Performance

a. Inspection Scope

The inspector interviewed plant personnel and reviewed records for a sample of heat exchangers. The inspector selected the following heat exchanger samples that are directly cooled by the service water system: the emergency diesel generator jacket water coolers, the essential chilled water condensers and the charging /safety injection pump oil coolers. The Inspector also selected the residual heat removal (RHR) pump seal oil cooler as a sample of a heat exchanger that is indirectly cooled by a closed loop system. These heat exchangers were chosen based on their risk significance in the licensee's probabilistic risk analysis, their safety-related mitigating system support functions, and previous NRC heat sink inspection scope.

For these heat exchangers, the inspector performed a review of licensee procedures for inspection, monitoring and trending of heat exchanger performance and inspection results. Current action reports associated with the service water system were also reviewed for related performance type issues.

For the selected heat exchangers, the inspector reviewed a sample of the methods and results of heat exchanger flow balance testing to verify that relatively recent major modifications that had the potential to increase heat exchanger duty loadings were accounted for in plant flow testing and that the flow balance testing was maintained in accordance with the current design and licensing basis. The inspector also determined whether the monitoring of biotic and macro-fouling combined with licensee service water chemistry monitoring program provided reasonable assurance that fouling will not interfere with proper heat transfer in heat exchangers cooled directly by the service water system. The inspector also reviewed the test methodology, test conditions, test frequency, acceptance criteria, and that the results were adequate to confirm the heat transfer capability of the heat exchangers, and detect degradation prior to loss of heat removal capabilities below design and licensing basis values was being accomplished. The inspector reviewed records of heat exchanger tube plugging to verify that the number of plugged tubes was within pre-established limits based on capacity and heat transfer assumptions. The inspector also reviewed periodic flow testing records at or near maximum design flow to verify flow through each heat exchanger was consistent with the system basis. In addition, the inspector reviewed eddy current test reports and visual inspection records to evaluate the structural integrity of the heat exchangers. The inspector also reviewed a sampling of system health reports. A walk-down sample of the emergency service water pump intake structure was conducted to assess the material condition and functionality of accessible structures and components such as strainers, pumps, instrumentation, and component supports. Selected operations procedures were also reviewed to verify that reservoir temperatures are monitored in the control room and features are provided to alert the control room to temperature and differential pressure alarm points which could have the potential to impact system performance before actual design limits are exceeded.

The inspector interviewed the plant service water system engineer, the ultimate heat sink reservoir subject matter expert, and the piping system hydraulic design engineer. Chemistry and operations personnel were also interviewed.

A review of the 2013 action reports associated with the 2013 FERC inspection of the auxiliary reservoir was also conducted and combined with a review of the plant operating procedures to verify that loss of ultimate heat sink has been addressed in the plant operating procedures. The inspector also reviewed a sample of the licensee's in-service testing of the service water system motor operated valve (MOV) maintenance and reviewed the work order package for MOV 1SW-39 that provides a system isolation function for the service water system to verify that the MOV testing results were appropriately evaluated.

A sampling of corrective action documents related to the service water system and heat sink performance issues were reviewed to determine if the licensee had an appropriate threshold for identifying issues and evaluate the effectiveness of the corrective actions.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program

.1 Quarterly Review

a. Inspection Scope

On June 3, 2013, 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 scenario exercised the operators' ability to respond to a steam generator tube rupture. The inspectors evaluated the following areas:

- Licensed operator performance
- Crew's clarity and formality of communications
- Ability to take timely and conservative actions
- 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 were identified.

.2 Licensed Operator Performance in the Actual Plant/Main Control Room

a. Inspection Scope

On May 22, 2013, the inspectors observed operators in the plant's main control room during lower inventory operations. Additionally, on June 7-8, 2013, the inspectors observed select portions of the reactor startup and power increase performed by the operators in the main control room. The inspectors evaluated the following areas:

- Operator compliance and use of plant procedures, including procedure entry and exit, performing procedure steps in the proper sequence, procedure place-keeping, and TS entry and exit;
- Control board/in-plant component manipulations;
- Communications between crew members;

- Use and interpretation of plant instruments, indications, and alarms; diagnosis of plant conditions based on instruments, indications, and alarms;
- Use of human error prevention techniques, such as pre-job briefs and peer checking;
- Documentation of activities, including initials and sign-offs in procedures, control room logs, TS entry and exit, entry into out-of-service logs; and
- Management and supervision of activities, including risk management and reactivity management.

b. Findings

No findings 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 CAP 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 #603430, “A” Heater Drain Pump Trip
- AR #611083**,** Electrical Main Turbine Overspeed Trip Failed to Illuminate
- AR #610858, “B” Steam Generator High Steam Pressure Rate Bistable Toggling

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;
- Counting unavailability time during performance of maintenance;
- Trending key parameters for condition monitoring;
- Ensuring 10 CFR 50.65(a)(1) or (a)(2) classification or re-classification; and
- Verifying appropriate performance criteria for structures, systems, and components (SSCs)/functions classified as (a)(2) are appropriate and adequate goals and corrective actions for systems classified as (a)(1).

b. Findings

No findings 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 for the seven maintenance and emergent work activities affecting risk-significant equipment listed below to verify that the appropriate risk assessments were performed prior to removing equipment for work:

- Emergent Risk Assessment as a result of “A” Heater Drain Pump Trip on April 14, 2013; risk remained green;
- Elevated Green risk condition during MST-I0146, “B” Steam Generator Narrow Range Level Loop Operational Test on April 22, 2013;
- Emergent Risk Assessment as a result of shutting the pressurizer power operated relief valve (PORV) block valve due to PORV (1RC-118) excessive leakage on April 27, 2013; risk remained green.
- Elevated Green risk condition during a planned maintenance outage of the “B” Emergency Diesel Generator (EDG) on May 9, 2013;
- Yellow Risk condition on May 14, 2013, due to scheduled down power to 75 percent in support of main turbine Governor Valve Number 3 Troubleshooting;
- Elevated Green risk condition during planned maintenance on the DSDG and Alternate Seal Injection Pump on June 10, 2013; and
- Risk during spent fuel pool (SFP) piping repairs which occurred on June 11-12, 2013, risk remained green.

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.

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

- AR #605813, Incorrect Train Startup Transformer Identified for Protected Equipment Posting
- AR #611482, Delays Occurred during SFP Piping Repair
- AR #611560, Missed Opportunity to Improve SFP Pipe Repair Contingency
- AR #611568, SFP Piping Grinding Stopped

b. Findings

No findings were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors selected the following five 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 TS and UFSAR 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 #606098, "A" Component Cooling Water Pump Inboard Mechanical Seal Leak
- AR #601044, 1SP-948 (Reactor Coolant System Hot Leg Sample Valve Inside Containment Isolation Valve) Failed to Open Following Testing
- AR #601706, 1MS-72 (Steam Supply to "C" Auxiliary Feedwater Pump) Failed to Open due to Failed Contact
- AR #609681, Unqualified Zinc Based Coatings in Containment
- AR #601767, "A" Emergency Diesel Generator Lube Oil Strainer Cover Leak

b. Findings

No findings were identified.

1R18 Plant Modifications

a. Inspection Scope

The following engineering design package was reviewed and selected aspects were discussed with engineering personnel:

- Engineering Change (EC) #87232, Permanent Modification to New RHR Sample Isolation Valves
- EC #91203, Temporary Modification to Main Feed Pump Oil Breather

This document 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 relevant procedures, design, and licensing documents were properly updated. The inspectors observed ongoing and completed work activities to verify that installation was consistent with the design control documents. The permanent modification, EC #87232, incorporates the addition of one normally closed globe valve. The addition of this valve

will prevent a pressure build up when the post accident sampling system is not in service and allow personnel to access the valve in a lower radiological dose area. The temporary modification, EC #91203, approves slitting the pleats of the main feed pump lube oil reservoir air filter. This will prevent excessive back pressure from developing in the oil reservoir even after the filter becomes clogged.

b. Findings

No findings were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

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

Procedure	Title	Related Maintenance Activity	Date
OPT-1512	Essential Chilled Water Turbopak Units Quarterly Inspection/Checks Modes 1-6	Work Order (WO) #2198913, Permanent Repair of Leak on 1SW-1057 (Chiller Condenser Inlet)	April 25, 2013
MST-I0109	Pressurizer Pressure and PORV Loop (P-0445) Calibration	WO #2235169, Replace and Calibrate Circuit Card	April 27, 2013
OST-1073	“B” EDG Operability Test Monthly Interval Modes 1-6	WO #1995440, Turbocharger Bracket Bolting	May 9, 2013
OST-1411	Turbine Driven Auxiliary Feedwater (TDAFW) Pump Operability Test Quarterly Interval Mode 1, 2, 3	WO #2230688, Replace TDAFW 72/O Contact	May 15, 2013
OWP-ESF-02 and 03	Operations Work Procedure Engineered Safety Feature Actuation	WO #2245356, Troubleshoot Unexpected Bistable Toggling	May 29, 2013

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 CAP and that the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R20 Refueling and Outage Activities

For the outage that began on May 15, 2013 and ended on June 7, 2013, the inspectors evaluated licensee outage activities as described below to verify that licensees considered risk in developing outage schedules, adhered to administrative risk reduction methodologies they developed to control plant configuration, and adhered to operating license and TS requirements that maintained defense-in-depth. The inspectors also verified that the licensee developed mitigation strategies for losses of the following key safety functions:

- Decay heat removal
- Inventory control
- Power availability
- Reactivity control
- Containment integrity

.1 Review of Outage Plan

a. Inspection Scope

The inspectors reviewed the outage risk control plan to verify that the licensee had performed adequate risk assessments, and had implemented appropriate risk-management strategies when required by 10 CFR 50.65(a)(4).

b. Findings

No findings were identified.

.2 Monitoring of Shutdown Activities

a. Inspection Scope

The inspectors observed portions of the cooldown process to verify that TS cooldown restrictions were followed.

b. Findings

No findings were identified.

.3 Licensee Control of Outage Activities

a. Inspection Scope

During the outage, the inspectors observed the items or activities described below to verify that the licensee maintained defense-in-depth commensurate with the outage risk-control plan for key safety functions and applicable TS when taking equipment out of service.

- Clearance Activities
- Reactor Coolant System Instrumentation
- Electrical Power
- Decay Heat Removal (DHR)
- Inventory Control
- Reactivity Control
- Containment Closure

The inspectors also reviewed responses to emergent work and unexpected conditions to verify that resulting configuration changes were controlled in accordance with the outage risk control plan, and to verify that control-room operators were kept cognizant of the plant configuration.

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

- AR #610226, Containment close out discrepancies
- AR #608116, Stuck Reactor Guide
- AR #607155, No Indication on “B” Main Steam Isolation Valve

b. Findings

No findings were identified.

.4 Reduced-Inventory Conditions

a. Inspection Scope

The inspectors reviewed commitments from Generic Letter 88-17, and confirmed by sampling that those commitments are still in place and adequate. Periodically, during the reduced-inventory conditions, the inspectors reviewed system lineups to verify that the configuration of the plant systems are in accordance with those commitments. During lower-inventory operations, the inspectors observed operator activities to verify that unexpected conditions or emergent activities did not degrade the operators’ ability to maintain required reactor vessel level.

b. Findings

No findings were identified.

.5 Monitoring of Heatup and Startup Activities

a. Inspection Scope

Prior to mode changes and on a sampling basis, the inspectors reviewed system lineups and/or control board indications to verify that TS, license conditions, and other requirements, commitments, and administrative procedure prerequisites for mode changes were met prior to changing modes or plant configurations. Also, the inspectors periodically reviewed RCS boundary leakage data, and observed the setting of containment integrity to verify that the RCS and containment boundaries were in place and had integrity when necessary. Prior to reactor startup, the inspectors walked down containment to verify that debris had not been left which could affect performance of the containment sumps. The inspectors reviewed reactor physics testing results to verify that core operating limit parameters were consistent with the design.

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

- AR #610237, Abnormal Operating Procedure entered due to “B” Reactor Coolant Pump Vibrations
- AR #610246, Control Rod P10 Reading Higher than Normal

b. Findings

No findings were identified.

.6 Identification and Resolution of Problems

a. Inspection Scope

Periodically, the inspectors reviewed the items that had been entered into the CAP to verify that the licensee had identified problems related to outage activities at an appropriate threshold and had entered them into the CAP. For the significant problems documented in the CAP, the inspectors reviewed the results of the investigations to verify that the licensee had determined the root cause and implemented appropriate corrective actions, as required by 10 CFR 50, Appendix B, Criterion XVI, Corrective Action.

b. Findings

No findings were identified.

1R22 Surveillance Testing

.1 Routine Surveillance Testing

a. Inspection Scope

For the three surveillance tests below, the inspectors observed the 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-1124, Train “B” 6.9 kV Emergency Bus Undervoltage Trip Actuating Device Operational Test and Contact Check Modes 1-6 on April 17, 2013;
- OST-1036, Shutdown Margin Calculation Modes 1-5 on June 6, 2013;
- OST-1081, Containment Visual Inspection when Containment Integrity is Required on June 5, 2013.

b. Findings

No findings were identified.

.2 In service Testing (IST) Surveillance

a. Inspection Scope

The inspectors reviewed the performance of OST-1193, Spent Fuel Pool Cooling System Train B, ISI Test, Quarterly Interval, on June 20, 2013, 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 for the 2 and 3B-SB fuel pool cooling pumps. 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

b. Findings

No findings were identified.

.3 Reactor Coolant System Leak Detection Inspection Surveillance

a. Inspection Scope

The inspectors observed and reviewed the test results for the reactor coolant system leak detection surveillance, OST-1026, Reactor Coolant System Leakage Evaluation, Computer Calculation, Daily Interval, Modes 1-2-3-4, on June 21, 2013. The inspectors observed in plant activities and reviewed procedures and associated records to determine whether: effects of the testing were adequately addressed by control room personnel or engineers prior to the commencement of the testing; acceptance criteria were clearly stated, demonstrated operational readiness, and were consistent with the system design basis; plant equipment calibration was correct, accurate, and properly documented; and the calibration frequency were in accordance with TS, the UFSAR, procedures, and applicable commitments; applicable prerequisites described in the test procedures were satisfied; test frequencies met TS requirements to demonstrate operability and reliability; tests were performed in accordance with the test procedures and other applicable procedures; test data and results were accurate, complete, within limits, and valid; equipment was returned to a position or status required to support the performance of its safety functions; and all problems identified during the testing were appropriately documented and dispositioned in the CAP.

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

- AR #613006, Unidentified RCS Leakage Exceeds Trigger Point Three
- AR #613675, Unidentified RCS Leakage Exceeds Trigger Point Two

b. Findings

No findings were identified.

2. RADIATION SAFETY

2RS6 Radioactive Gaseous and Liquid Effluent Treatment

a. Inspection Scope

Radioactive Effluent Treatment Systems: The inspectors walked-down selected components of the gaseous and liquid radioactive waste (radwaste) processing and effluent discharge systems. To the extent practical, the inspectors observed and evaluated the material condition of in-place waste processing equipment for indications of degradation or leakage that could constitute a possible release pathway to the environment. Inspected components included monitor tanks, waste condensate tanks, waste gas decay tanks, ventilation filtration systems, liquid waste processing equipment, and associated piping and valves. The inspectors interviewed licensee staff regarding radwaste equipment configuration and effluent monitor operation. The inspectors also reviewed surveillance testing records for auxiliary building ventilation filtration systems and for effluent flow rate measuring devices.

Effluent Sampling and Release: The inspectors observed the collection and processing of airborne and liquid effluent samples from the main plant stack, waste processing building stack, and the secondary waste sample tank. The inspectors reviewed recent liquid and gaseous release permits including pre-release sampling results, effluent monitor setpoints, and public dose calculations. The inspectors reviewed the 2011 and 2012 Annual Radioactive Effluent Reports to evaluate reported doses to the public, to review any anomalous events, to evaluate groundwater sampling results, and to review Offsite Dose Calculation Manual (ODCM) changes. The inspectors also reviewed compensatory sampling data for time periods when selected radiation monitors were out of service. The inspectors discussed quality control activities for count room equipment with chemistry staff and reviewed the results of the 2011 and 2012 radiochemistry cross-check program. The inspectors also reviewed effluent source term evaluation and changes to effluent release points. In addition, the inspectors evaluated recent land use census results and meteorological data used to calculate doses to the public.

Ground Water Protection: The inspectors reviewed the licensee's continued implementation of the industry's Ground Water Protection Initiative (Nuclear Energy Institute (NEI) 07-07) and discussed any changes to the program. The inspectors discussed program guidance for dealing with spills, leaks, and unexpected discharges with licensee staff and reviewed recent entries into the 10 CFR 50.75(g) decommissioning file. The inspectors reviewed and discussed the licensee's program for monitoring of structures, systems, and components with the potential to release radioactive material to the environment. Potential effluent release points due to onsite surface water bodies were also evaluated.

Problem Identification and Resolution: The inspectors reviewed Corrective Action Program (CAP) documents in the area of gaseous and liquid effluent processing and release. The inspectors evaluated the licensee's ability to identify and resolve the identified issues. The inspectors also reviewed recent self-assessment results.

Radwaste system operation, effluent processing activities, and groundwater protection efforts were evaluated against requirements and guidance documented in the following: 10 CFR 20; 10 CFR 50 Appendix I; ODCM; FSAR Section 11; Regulatory Guide (RG) 1.21, "Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants"; RG 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50 Appendix I"; NEI 07-07, "Industry Groundwater Protection Initiative – Final Guidance Document"; and TS Section 5. Procedures and records reviewed during the inspection are listed in the report Attachment.

b. Findings

No findings were identified.

2RS7 Radiological Environmental Monitoring Program (REMP)

a. Inspection Scope

REMP Implementation: The inspectors observed routine sample collection and surveillance activities as required by the licensee's environmental monitoring program. The inspectors noted the material condition and operability of airborne particulate filter and iodine cartridge sample stations and observed collection of weekly air samples at selected monitoring locations. The inspectors checked environmental thermoluminescent dosimeters for material condition at selected sites. The inspectors also observed collection of surface water samples in Harris Lake and the Cape Fear River. In addition, the inspectors reviewed and evaluated land use census results, changes to the ODCM, monitoring for hard-to-detect radionuclides, and sample collection/processing activities.

The inspectors reviewed the last two calibration records for selected environmental air samplers. The inspectors also reviewed the 2011 and 2012 Radiological Environmental Operating Reports, the 2012 Annual Radioactive Effluent Report, results of the 2011 and 2012 interlaboratory cross-check program for the Harris Energy & Environmental Center, and procedural guidance for environmental sample collection and processing. Selected environmental measurements were reviewed for consistency with licensee effluent data, evaluated for radionuclide concentration trends, and compared with detection level sensitivity requirements. The inspectors reviewed the licensee's groundwater monitoring program as part of Inspection Procedure 71124.06.

Meteorological Monitoring Program: The inspectors observed the physical condition of the tower and its instrumentation and discussed equipment operability and maintenance history with licensee staff. The inspectors evaluated transmission of locally generated meteorological data to other licensee groups such as main control room operators. For the meteorological measurements of wind speed, wind direction, and temperature, the inspectors reviewed the last two calibration records for applicable tower instrumentation. The inspectors also evaluated measurement data recovery for 2011 - 2012 and available information for 2013.

Problem Identification and Resolution: The inspectors reviewed CAP documents in the areas of radiological environmental monitoring and meteorological tower maintenance. The inspectors evaluated the licensee's ability to identify and resolve the issues in accordance with licensee procedures. The inspectors also reviewed recent self-assessment results.

REMP implementation and meteorological monitoring activities were reviewed against the guidance and requirements of 10 CFR Part 20; Appendices E and I to 10 CFR Part 50; TS Section 6.8; FSAR Chapter 2; ODCM; RG 4.15, "Quality Assurance for Radiological Monitoring Programs (Normal Operation) - Effluent Streams and the Environment"; Safety Guide 23, "Onsite Meterological Programs"; Branch Technical Position, "An Acceptable Radiological Environmental Monitoring Program" – 1979; and approved licensee procedures. Documents reviewed are listed in the report Attachment.

b. Findings

Introduction: The inspectors identified an Unresolved Item (URI) regarding environmental air samplers that may not be collecting particulate samples that are representative of actual airborne radionuclide concentrations.

Description: During an observation of environmental sample collection, the inspectors noted that three of the nine environmental air samplers (locations 63, 90, and 91) contained a housing fan that appeared to blow exhaust air directly onto the inlet of the particulate/iodine sampling head. The inspectors also noted that the interior walls of the air sampler housing contained a fibrous insulation media that appeared to act as a mechanical filter due to the particulate loading stains readily visible. Since the housing fan draws air from the interior of the enclosure, and blows the exhaust directly onto the air sampler intake, the potential exists for the air sampler to collect a non-representative (diluted) sample. This arrangement could result in a non-conservative measurement of airborne particulate radionuclide concentrations. Discussions with environmental monitoring staff indicated that the three air samplers in question have been in service for approximately five years.

The inspectors concluded that more information is required to determine if there is a performance deficiency. URI 05000400, 2013003-02 Evaluate the Effects of Environmental Air Samplers Collecting Diluted Airborne Particulate Samples.

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 Performance Indicator Guideline.

- Safety System Functional Failures

The inspectors reviewed licensee submittals for the Safety System Functional Failures performance indicator for the period from the second quarter 2012 through the first quarter 2013. 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. Specific documents reviewed are described in the Attachment to this report.

.1 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 second quarter 2012 through the first quarter 2013. 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. Specific documents reviewed are described in the Attachment to this report.

- Reactor Coolant System Leakage

The inspectors sampled licensee submittals for the Reactor Coolant System Leakage performance indicator for the period from the second quarter 2012 through the first quarter 2013. 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. Specific documents reviewed are described in the Attachment to this report.

b. Findings

No findings were identified.

.2 Public Radiation Safety Cornerstone:

The inspectors reviewed the Radiological Control Effluent Release Occurrences PI results for the Public Radiation Safety Cornerstone from May 2012 through May 2013. The inspectors reviewed cumulative and projected doses to the public contained in liquid and gaseous release permits and Nuclear Condition Reports (NCR)s related to Radiological Effluent Technical Specifications/ODCM issues. The inspectors also reviewed licensee procedural guidance for collecting and documenting PI data. Documents reviewed are listed in the report Attachment.

b. Findings

No findings 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 CAP. The review was accomplished by reviewing daily AR reports.

b. Findings

No findings were identified.

.2 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screening discussed in Section 4OA2.1 above, licensee trending efforts, and licensee human performance results. The inspectors' review nominally considered the six month period of January 1, 2013 through June 30, 2013, although some examples expanded beyond those dates where the scope of the trend warranted. Additionally, the inspectors reviewed the adverse trend that was identified in Inspection Report 05000400/2012005. This trend was associated with inadequate determinations of operability and was entered into CAP as AR #584473. The inspectors continue to monitor the progress that the licensee has made toward closing this adverse trend.

The review also included issues documented outside the normal CAP in major equipment problem lists, repetitive and/or reworks maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self assessment reports, and Maintenance Rule assessments. The inspectors compared and contrasted their results with the results contained in the licensee's CAP trending reports. Corrective actions associated with a sample of the issues identified in the licensee's trending reports were reviewed for adequacy.

b. Findings

No findings were identified.

.3 Selected Issue Follow-up Inspection: Evaluation of Channel Checks

a. Inspection Scope

The inspectors selected AR #601414, Evaluation of Channel Checks, for detailed review. This AR was associated with the senior reactor operator's review of TS required channel check 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 CAP as delineated in corporate procedure CAP-NGGC-0200, Condition Identification and Screening Process, and 10 CFR 50, Appendix B.

b. Findings

No findings were identified.

4OA3 Follow-up of Events

.1 (Closed) Licensee Event Reports (LERs) 05000400/2012-003-00 and 05000400/2012-003-01, Primary Shield Cooling Fan Fails to Secure as Required

On October 26, 2012, “B” primary shield fan failed to secure upon demand from the main control board. This condition caused the “B” EDG to be inoperable because it could no longer meet all of its surveillance requirements. However, this inoperability was not recognized by the licensee until questioned by the inspectors. By that time, the “B” EDG had been inoperable for approximately five days. This time was greater than the TS 3.8.1.1 allowed outage time of 72 hours, and therefore a condition prohibited by TS. The licensee submitted LER 05000400/2012-003-00 on December 20, 2012, and then LER 05000400/2012-003-01 on May 9, 2013, for this issue. An NRC identified Green violation associated with this issue is documented in section 1R15.2 of inspection report 05000400/2013002. These LERs are closed.

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.

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

- AR #608737, Procedural Requirements for Security Related Information
- AR #599197, Unacceptable Perimeter Zone Performance
- AR #601516, Unauthorized Personnel and Vehicles at Auxiliary Reservoir
- AR # 602563, Security Barrier Failure

b. Findings

No findings were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On July 18, 2013 the inspectors presented the inspection results to Mr. Kapopoulos, and other members of the licensee staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report..

On June 14, 2013, the inspectors presented the inspection results of Section 1R07 to Mr. Kapopoulos, and other members of the licensee staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

On June 20, 2013, the inspectors presented the inspection results of Sections 2RS6, 2RS7, and 4OA1 to Mr. Kapopoulos, and other members of the licensee staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

S. Allen, Licensing
C. Barnhill, Chemistry Specialist
D. Corlett, Supervisor, Licensing/Regulatory Programs
J. Dufner, Plant Manager
D. Griffith, Training Manager
L. Hughes, Superintendent, Environmental and Chemistry
E. Kapopoulos, Vice President Harris Plant
C. Kidd, Manager, Nuclear Oversight
D. Moundous, Service Water System Engineer
S. O'Connor, Director, Harris Engineering
M. Parker, Superintendent, Radiation Control
W. Pridgen, PE, Major Projects
T. Scattergood, Design Engineer
T. Slake, Manager, Security
J. Warner, Manager, Outage and Scheduling
F. Womack, Manager, Operations

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000400/2013003-01	FIN	Power Transient due to a Main Feedwater Pump Oil Leak (Section 1R04.2)

Opened

05000400/2013003-02	URI	Evaluate the Effects of Environmental Air Samplers Collecting Diluted Airborne Particulate Samples (Section 2RS7)

Closed

05000400/2012-003-00	LER	Primary Shield Cooling Fan Fails to Secure as Required (Section 4OA3)
05000400/2012-003-01	LER	Revision to Primary Shield Cooling Fan Fails to Secure as Required (Section 4OA3)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

OMM-001, Operations Administrative Requirements
AOP-028, Grid Instability
NGGM-IA-0003, Transmission Interface Agreement for Operation, Maintenance, and Engineering Activities at Nuclear Plants
AP-300, Severe Weather
AP-301, Seasonal Weather Preparations and Monitoring
OP-156.02 AC Electrical Distribution
FSAR 8.2 Offsite Power System

Section 1R04: Equipment Alignment

Partial System Walkdown

"A" and "B" safety related DC systems:
Procedure OP-156.01, DC Electrical System,
DC Power Student Text

Complete System Walkdown
Procedure OP-134.01 Feedwater System
Design Basis Document-112, Condensate and Feedwater
Drawing 2165-S-LATER, Simplified Flow Diagram LATER,
FSAR section 10.4.7, Condensate and Feedwater
5-S-0544, Sheets 1 and 2, Simplified Flow Diagram Feedwater System Unit 1
2196318-06, Remove Motor End Covers And Clean Motor
2196318-07, Remove Rubber Plugs From Bearing Ports
2196318-01, Filter Cannot be Cleaned
2196318-05, Install/Remove Temporary Filtration System
CAP-NGGC-0200, Condition Identification and Screening Process, Rev 35
CAP-NGGC-0200, Condition Identification and Screening Process, Rev 36

Section 1R05: Fire Protection

FPP-001 Fire Protection Program Manual
FIR-NGGC-0009, NFPA 805 Transient Combustibles And Ignition Source Controls Program

FPP-013, Fire Protection – Minimum Requirements, Mitigating Actions and Surveillance Requirements
FPP-012-02-RAB261, Reactor Auxiliary Building Elevation 261 Fire Pre-Plan
FPP-012-04-DBG, Diesel Generator Building Fire Pre-Plan
FPP-012-01-CNMT, Containment Building Fire Pre-Plan
FPP-012-03-FHB, Fuel Handling Building Fire Pre-Plan
FPP-012-07-TB, Turbine Building Fire Pre-Plan
FPP-012-06-WPB, Waste Processing Building Fire Pre-Plan
FPP-012-08-SEC, Out Building Fire Pre-Plan

FPP-012-09-LAF, Large Area Fire Pre-Plan
FPP-012-02-RAB 236, Reactor Auxiliary Building Elevation 236 Fire Pre-Plan
FPP-012-02-190-216, Reactor Auxiliary Building Elevations 190 and 216 Fire Pre-Plan
FPP-012-02-RAB286, Reactor Auxiliary Building Elevation 286 Fire Pre-Plan
FPP-012-02-RAB305-324, Reactor Auxiliary Building Elevations 305 and 324 Fire Pre-Plan

Section 1R07: Heat Sink Performance

Reports
Generic Letter 89-13 Test/Inspection Evaluation, Cycle 17 and RFO 17
Shearon Harris Nuclear Power Plant, Unit-1, Dam Safety Inspection Report for the Auxiliary Reservoir Dam, (TAC No. MD8547), 6/16/11
System Health Report – Service Water System, 2010-Q3, 2013-Q1
System Health Report – Essential Service Chilled Water System, 2010-Q3, 2013-Q-1
System Health Report – Emergency Diesel Generator & Auxiliaries, 2010-Q3, 2013-Q1
System Health Report – Chemistry Performance Dashboard, Circulating Water and Normal Service Water, May, 2013
System Health Report – HNP Chemistry System health Report, 2013-Q1
CSIP, Job No. PESC #35, Final Inspection Report for Charging Safety Injection Pump (CSIP) Lube Oil Cooler (LOC), and Emergency Diesel Generator (EDG) LOC-1B, 11/19/2010
EDG-JWC-1A, Job No. PESC-40, Emergency Diesel Generator Jacket Water Cooler-1A, Final Eddy Current Inspection Report, 7/2/2012
ESCWC-1A, Essential services Chilled water Hx-1A, Final Eddy Current Inspection Report, 7/2/12
EPT-163, Engineering Periodic Test Procedure, Report for “A” Essential Chilled water Condenser Water Box Inspection, 7/16/09
EPT-163, Engineering Periodic Test Procedure, Report for CSIP “A” Gear Oil Cooler Inspection Report, 6/7/11
EPT-163, Engineering Periodic Test Procedure, Report for CSIP “B” Pump Oil Cooler Inspection Report, 6/7/11
PLP-620, Attachment 6 – Generic Letter 89-13 Test Evaluation Report, Cycle 16 RFO 16, 10/31/2010

Procedures
PLP-620, Plant Program Procedure for Service Water Program (Generic Letter 89-13), Rev.16
ADM-NGGC-0106, Configuration Management Program Implementation, Section 3.2, Configuration Management, Rev. 8
EGR-NGGC-0005, Engineering Change, Section 1.0, Rev. 33
EGR-NGGC-0028, Engineering Evaluation, Rev. 0
EGR-NGGC-0007, Maintenance of Design Documents, Rev. 11
OP-139, Service Water System Valve Lineup Checklist, for 1SW-34, 1SW-33, Attachment 2, Rev. 106
AOP-022, Abnormal Operating Procedure, Loss of Service Water, Section 3.3, Loss of Ultimate Heat Sink, Rev. 34
AOP-022-BD, Abnormal Operating Procedure Basis Document, Loss of Service Water, Section 3.3, Loss of Ultimate Heat Sink, Rev. 8
ANATEC-EC-33, Final ECT Report for Miscellaneous Coolers, Personnel Qualification Summary Records, Samples Dated 12/18/10, 11/29/10

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Section 1R15: Operability Evaluations

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