



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

April 23, 2013

Mr. George T. Hamrick  
Vice President  
Shearon Harris Nuclear Plant  
Carolina Power & Light Company  
P.O. Box 165, Mail Code: Zone 1  
New Hill, NC 27562-0165

**SUBJECT: SHEARON HARRIS NUCLEAR PLANT - NRC INSPECTION  
PROCEDURES 95001 SUPPLEMENTAL AND 92702 FOLLOW UP  
INSPECTIONS - INSPECTION REPORT 05000400/2013008, AND  
ASSESSMENT FOLLOW-UP LETTER**

Dear Mr. Hamrick:

On March 22, 2013, the U.S. Nuclear Regulatory Commission (NRC) staff completed the supplemental and follow up inspections pursuant to Inspection Procedures 95001, "Inspection for One or Two White Inputs in a Strategic Performance Area," and 92702, "Follow Up on Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, Confirmatory Orders, and Alternate Dispute Resolution Confirmatory Orders," at your Shearon Harris Nuclear Plant. The enclosed inspection report documents the inspection results, which were discussed at the exit meeting on March 22, 2013, with you and other members of your staff. Implementation of corrective actions was discussed during a Regulatory Performance Meeting on March 22, 2013 immediately following the exit meeting.

As required by the NRC Reactor Oversight Process Action Matrix, this supplemental inspection was performed because a finding of low to moderate safety significance (White) was identified in the second quarter of 2012. This issue was documented previously in NRC Inspection Reports (IR) 05000400/2012007, and 05000400/2012010. The NRC was informed on March 6, 2013, of your staff's readiness for this inspection.

The objectives of this supplemental inspection were: (1) to provide assurance that the root causes and contributing causes of risk significant performance issues are understood; (2) to provide assurance that the extent of condition and extent of cause of risk significant performance issues are identified; (3) to provide assurance that the licensee's corrective actions for risk significant performance issues are sufficient to address the root and contributing causes and prevent recurrence. The objectives of the follow up inspection were to provide assurance that: (1) adequate corrective actions have been implemented for the traditional enforcement violation; (2) the root cause(s) of this enforcement action has been identified, that their generic implications have been addressed, and that the licensee's programs and practices have been appropriately enhanced to prevent recurrence. The inspection consisted of examination of activities conducted under your license as they related to safety, compliance with the Commission's rules and regulations, and the conditions of your operating license.

The inspectors determined that your staff performed an adequate evaluation of the Severity Level (SL)-III violation and White finding. Your staff's evaluation identified the root cause of the issue to be that site personnel did not fully recognize the requirements for emergency response facility functionality, the effects a degraded emergency response facility have on emergency response organization members' ability to perform their assigned response functions, and the subsequent reportability requirements per NUREG-1022. The inspectors found the extent of condition and extent of cause reviews were adequate, and the corrective actions implemented were adequate. The inspectors concluded that you re-established compliance. All immediate and long term corrective actions have been completed with the exception of: (1) revise procedures to require prompt entry of equipment or facility issues into the corrective action program; and (2) complete corrective action effectiveness reviews.

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

After reviewing the performance in addressing the White finding documented in this inspection report, the NRC concluded your actions met the inspection objectives. Therefore, in accordance with the guidance in Inspection Manual Chapter (IMC) 0305, "Operating Reactor Assessment Program," the White finding will only be considered in assessing plant performance for a total of four quarters. As a result, the NRC determined the performance at Shearon Harris Nuclear Plant to be in the Licensee Response Column of the ROP Action Matrix as of April 1, 2013.

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 ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the <http://www.nrc.gov/reading-rm/adams.html>) (the Public Electronic Reading Room).

Sincerely,

*/RA/*

Brian R. Bonser, Chief  
Plant Support Branch 1  
Division of Reactor Safety

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

Enclosure:  
Inspection Report 05000400/2013008  
w/Attachment: Supplemental Information

cc: (See page 3)

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**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION II**

Docket Nos.: 05000400

License Nos.: NPF-63

Report No.: 05000400/2013008

Licensee: Carolina Power and Light Company

Facility: Shearon Harris Nuclear Plant

Location: New Hill, NC

Dates: March 18, 2013 through March 22, 2013

Inspectors: M. Speck, Senior Emergency Preparedness Inspector  
D. Berkshire, Emergency Preparedness Inspector

Approved by: Brian Bonser, Chief  
Plant Support Branch 1  
Division of Reactor Safety

Enclosure

## SUMMARY OF FINDINGS

IR 05000400/2013008; 03/18/2013 – 03/22/2013; Shearon Harris Nuclear Plant; Supplemental Inspection for a White finding in the Emergency Preparedness Cornerstone and Traditional Enforcement Action Follow Up.

Two emergency preparedness inspectors performed this inspection. No findings were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process."

### **Cornerstone: Emergency Preparedness**

The NRC staff performed the supplemental inspection in accordance with IP 95001, "Inspection for One or Two White Inputs in a Strategic Performance Area," to assess the licensee's evaluation associated with the failure to maintain adequate emergency response facilities and equipment as required by 10 CFR 50.54(q) and the licensee's emergency plan. This failure resulted in the EOF ventilation system not being fully functional in the event of a radiological emergency for several periods of time. The NRC staff previously characterized this issue as having low to moderate safety significance (White), as documented in NRC IR 05000400/2012010. In addition, NRC staff performed the follow up inspection for the Severity Level (SL) III violation for failure to report the condition to the NRC, in accordance with IP 92702, "Follow Up on Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, Confirmatory Orders, and Alternate Dispute Resolution Confirmatory Orders."

During these inspections, the inspectors determined that your staff performed an adequate evaluation of the causes of the SL-III violation and White finding. Your staff's evaluation identified the root cause of the issue to be that site personnel did not fully recognize the requirements for emergency response facility functionality (ERF), the effects a degraded emergency response facility have on emergency response organization (ERO) members' ability to perform their assigned response functions, and the subsequent reportability requirements per 10 CFR 50.72. The inspectors found the extent of condition and extent of cause reviews were adequate, and the corrective actions implemented were adequate. All immediate and long term corrective actions have been completed except for: (1) revise procedures to require prompt entry of equipment or facility issues into the corrective action program (ECD 5/27/13); and (2) complete corrective action effectiveness reviews (due within 6 months and 12 months following CAPR completion).

A. NRC-Identified and Self-Revealing Findings

None

B. Licensee-Identified Violations

None

## REPORT DETAILS

### 4. OTHER ACTIVITIES

#### 4OA4 SUPPLEMENTAL INSPECTION (95001)

##### .01 Inspection Scope

The NRC staff performed this supplemental inspection in accordance with Inspection Procedure (IP) 95001 to assess the licensee's evaluation of a White finding that affected the emergency preparedness cornerstone in the reactor safety strategic performance area. The inspection objectives were to provide assurance that the:

- root causes and contributing causes of risk significant performance issues were understood
- extent of condition and extent of cause of risk significant performance issues were identified
- licensee's corrective actions for risk significant performance issues were sufficient to address the root and contributing causes and prevent recurrence

The licensee entered the Regulatory Response Column of the NRC's Action Matrix in the second quarter of 2012 as a result of one inspection finding of (low to moderate safety significance (White). The finding was associated with the failure to adequately maintain emergency response facilities, particularly the EOF ventilation system for several extended periods. The finding was characterized as having (White) safety significance as discussed in NRC IR 05000400/2012010.

The licensee informed the NRC staff on March 6, 2013, that they were ready for the supplemental inspection. In preparation for the inspection, the licensee performed a root cause investigation, documented in Condition Reports 580945, 526951, and 554200, to identify weaknesses that existed in various organizations and processes that resulted in the risk-significant (White) finding.

The inspectors reviewed the licensee's Root Cause Evaluations (RCEs) and other assessments conducted in support of and as a result of the investigation. Corrective actions taken to address the identified root and contributing causes were also reviewed. The inspectors observed a tabletop exercise in which an Operations Shift Manager and Emergency Preparedness and Licensing group staff members appropriately evaluated, prioritized, and determined reporting requirements for simulated conditions in which equipment was out of service due to both pre-planned maintenance and emergent work. Additionally, inspectors interviewed licensee personnel to ensure that the root and contributing causes and the contribution of safety culture components were understood and corrective actions were appropriate to address the causes and preclude repetition

##### .02 Evaluation of Inspection Requirements

###### 02.01 Problem Identification

- a. Determine that the evaluation identifies who (i.e., licensee-identified, self-revealing, or NRC-identified) and under what conditions the issue was identified.

The licensee accurately characterized the failure to adequately maintain the Emergency Operations Facility functional during ventilation system maintenance as NRC-identified.

The inspectors verified that this information was documented in the licensee's evaluation.

- b. Determine that the evaluation documents how long the issue existed and prior opportunities for identification.

The licensee identified that the EOF ventilation system had been rendered non-functional for varying time frames between August 4, 2009, and November 9, 2011. The licensee fully restored the EOF ventilation system on November 9, 2011. The licensee identified several opportunities for identification in this time period.

The inspectors determined that the licensee's evaluation and assessments were adequate with respect to identifying how long the issue existed and the prior opportunities for identification and did not identify any additional opportunities.

- c. Determine that the evaluation documents the plant-specific risk consequences, as applicable, and compliance concerns associated with the issue.

The NRC determined this issue was a White finding, as documented in NRC IR 05000400/2012010 dated October 3, 2012, and the licensee also documented the associated finding in their Reply to Notice of Violation: EA-12-132 dated November 1, 2012 and amended on March 15, 2013. In addition, the RCE documented the consequences of the issue, including potential adverse impacts on the ability of the site to mitigate the effects of events during an emergency and the licensee's responsibility to protect the health and safety of the public. At the time the condition was identified, the ventilation system was fully functional.

The inspectors concluded that the licensee appropriately documented the risk consequences and compliance concerns associated with the finding.

- d. Findings

No findings were identified.

#### 02.02 Root Cause and Extent of Condition Evaluation

- a. Determine that the problem was evaluated using a systematic methodology to identify the root and contributing causes.

The licensee investigation was performed by a diverse, qualified team of three members using licensee procedure CAP-NGGC-0205, Condition Evaluation and Corrective Action Process. The following systematic methods and tools were used to perform the root cause evaluation:



- Event Timeline
- Event and Causal Factor Chart Analysis
- Barrier Analysis
- Interviews
- Extent of Condition Evaluation
- Human Performance Analysis
- Extent of Cause Evaluation
- Nuclear Safety Culture Analysis
- Organization and Programmatic Worksheet
- Training Performance Analysis
- Cause and Effect Analysis (Why Staircase and Event Tree)

The licensee performed a focused self-assessment (Assessment 576997) in December, 2012, to determine their readiness for inspection and the need for additional corrective actions. Another self-assessment (Assessment 586206) was completed in February, 2013, to verify the issues were fully addressed, actions implemented, and accurately documented.

The inspectors determined that the licensee adequately evaluated the issue using systematic methodologies to identify root and contributing causes.

- b. Determine that the root cause evaluation was conducted to a level of detail commensurate with the significance of the problem.

The Root Cause Evaluation was detailed in the scope of investigation and performed the following activities in support of the evaluation:

- Conducted interviews with key personnel involved with the issue
- Performed searches and reviews of the corrective action database for Emergency Preparedness identified items, Training department lesson plans and supporting documents to include Emergency Preparedness, Work Control, and Operations procedures
- Performed reviews of industry operating experience, internal operating experience, and emergency preparedness internal change documentation.

A cause and effect analysis was used to analyze two events: EOF ventilation system not functional for periods of time from August 2009 to November 2011; and failure to report to the NRC the non-functional status of the EOF ventilation. Analysis of the two events identified one root cause, one main contributing cause and four additional contributing causes. The following represent a synopsis of the root cause and contributing causes:

- 1) Site personnel did not fully recognize the requirements for ERF functionality, the effects a degraded ERF have on ERO members' ability to perform their assigned emergency response functions, or the subsequent reportability requirements.  
(Root Cause)

- 2) The governing procedure did not define the threshold for which “facility repairs” or “equipment replacements” became modifications. (Main Contributing Cause)
- 3) The implementing group failed to use self-checking and attention to detail when using the equipment/system repair and replacement process.
- 4) The controlling procedure was not revised with a thorough understanding of the reportability requirements of 10 CFR 50.72 as outlined in NUREG-1022.
- 5) Site personnel exhibited tunnel vision due to other priorities, specifically those related to plant operation.
- 6) Personnel were over-reliant on perceived industry norms.

Based on a review of the root cause evaluation and supporting documentation, the inspectors concluded that the evaluation was conducted to a level of detail commensurate with the significance of the problem.

- c. Determine that the root cause evaluation included a consideration of prior occurrences of the problem and knowledge of prior operating experience.

The root cause evaluation included a review of plant corrective action databases and industry databases. The licensee found one event applicable to the condition being evaluated, but it was too recent to have prevented the condition. The root cause evaluation identified prior instances in which personnel raised concerns with respect to EOF functionality but were not fully evaluated in their corrective action program. The evaluation also identified that the licensee failed to recognize a trend in the externally-generated concerns regarding challenges to EOF functionality. The licensee assigned and implemented appropriate corrective actions for these deficiencies.

Based on the licensee’s detailed evaluation and conclusions, the inspectors determined that the licensee’s root cause investigation included a consideration of prior occurrences of the problem and knowledge of prior operational experience.

- d. Determine that the root cause evaluation addressed the extent of condition and the extent of cause of the problem.

The licensee’s evaluation limited the extent of condition review to the evaluation of conditions and performance of maintenance on equipment important to Emergency Preparedness. The extent of condition was addressed from multiple perspectives including, the extent of the EOF habitability condition to that of the other Emergency Response Facilities (ERFs); the functionality and reportability of Equipment Important to Emergency Preparedness and ERO Response; other time periods when the EOF and TSC may have had degraded functionality and may not have been appropriately reported; and if HNP has appropriately reported other conditions required by NUREG-1022.. The extent of condition revealed concerns for the lack of 10 CFR 50.54(q) evaluations of maintenance activities. The licensee entered these deficiencies into their corrective action program as corrective actions 4, 8, and 9 in RCE 580945 (complete).

The extent of cause was limited to Emergency Preparedness equipment that could create a loss of function and therefore, a condition which is reportable to the NRC. Fire Protection and Security programs were also evaluated as part of the extent of cause. Evaluation concluded that both programs have procedures in place to assist those

organizations in maintaining functionality and reportability requirements and therefore these additional programs were considered adequate in the extent of cause analysis.

The inspectors performed an independent review of Plant Program (PLP) 717, "Equipment Important to Emergency Preparedness and ERO Response," to determine if all equipment identified in NUREG 0696 was included in the procedure. Inspectors identified no additional equipment requiring inclusion in the procedure.

The inspectors concluded that the licensee's root cause investigation adequately addressed the extent of condition and the extent of cause of the issue.

- e. Determine that the root cause, extent of condition, and extent of cause evaluations appropriately considered the safety culture components as described in IMC 0305.

The licensee found weaknesses in the following cross-cutting aspects:

- Human Performance (HU) component of Decision Making [H1(a) and (c)]: This related to the failure to utilize existing work management processes to notify shift operations personnel of maintenance activities in the EOF and TSC which may affect facility functionality.
- HU component of Resources [H2(b) and (c)]: This related to the failure of site leadership to effectively establish, implement, and communicate expectations for site ownership of EP and resolution of EP issues and to the failure to perform adequate reportability reviews.
- HU component of Work Control [H3(a) and (b)]: This related to the failure to utilize existing work management processes to notify shift operations personnel of maintenance activities in the EOF and TSC which may affect facility functionality.
- HU component of Work Practices [H4(a), (b), and (c)]: This related to the failure to maintain appropriate oversight of contract maintenance performed at the EOF and to the failure to consistently use appropriate processes to implement changes at the EOF.
- Problem Identification and Resolution (PI&R) component of Corrective Action Program [P1(a), (b), (c), (d), and (e)]: This related to the failure to utilize existing work management processes to control activities in the EOF and TSC which may affect facility functionality; failure to perform adequate reportability reviews; failure to historically establish the design basis for components which affect the functionality of the EOF and TSC; and failure to recognize a trend in externally-generated concerns relating to EOF functionality.
- PI&R component of Self and Independent Assessments [P3(a) and (c)]: This related to the failure to perform adequate reportability reviews.
- Other Safety Culture component of Accountability [O1(a) and (b)] and Safety Policies [O4(a), (b), and (c)]: This related to site leadership's failure to effectively

establish, implement, and communicate expectations for site ownership of EP and resolution of EP issues.

- Other Safety Culture component of Continuous Learning Environment, O2(a) and (b): This related to the failure to perform adequate reportability reviews per procedure.

The inspectors determined that the licensee's root cause investigation included a proper consideration of whether a weakness in any safety culture component was a root cause or significant contributing cause of the issue.

f. Findings

No findings were identified.

02.03 Corrective Actions

- a. Determine that appropriate corrective actions are specified for each root and contributing cause or that the licensee has an adequate evaluation for why no corrective actions are necessary.

The licensee identified the following root cause and implemented the corresponding corrective action:

- Site personnel did not fully recognize the requirements for ERF functionality, the effects degraded facilities have on ERO members' ability to perform their assigned functions, and the subsequent reportability requirements. As corrective actions, the licensee developed procedure PLP 717, "Equipment Important to Emergency Preparedness and ERO Response," to clearly identify equipment important to EP and response facility functionality; developed Design Basis Document 322, "Emergency Response Facilities"; developed procedures governing maintenance and operation of the ERFs; established a line owner for the ERFs; and revised procedure AP-617, "Reportability Determination and Notification."

The licensee developed corrective actions to address contributing causes as summarized below:

- The governing procedure did not define the threshold for which "facility repairs" or "equipment replacements" became modifications; As a corrective action, the licensee updated MNT-NGGC-0006, "Facility Change Process Screening Matrix," to ensure that specified ERF equipment can only be changed by an Engineering Change and not by a Facility Change Traveler, thereby controlling facility configuration management.
- Personnel failed to use self-checking and exercise appropriate attention to detail when using the equipment/system repair and replacement process. As corrective actions, the licensee coached the Facility Maintenance supervisor on proper use of associated procedures and created a procedure to govern the use

of generic work orders to ensure they are only used to perform maintenance activities classified as minor or less.

- The controlling procedure was not revised with a thorough understanding of the reportability requirements of 10 CFR 50.72 as outlined in NUREG-1022. As a corrective action, the licensee revised AP-617, "Reportability Determination and Notification" to remove the ability to take credit for an alternate emergency facility and to clarify that a reportable condition exists when an emergency response facility is unable to perform its intended function for the specified period of time.
- Site personnel focused on priorities other than EP, specifically those related to plant operation. As a corrective action, the licensee revised 10 CFR 50.59 applicability/screening forms to evaluate if a proposed activity involves a change to the Emergency Plan.
- Personnel were over-reliant on perceived industry norms. As a corrective action, the licensee adopted legacy Duke Power Employee Concerns Process.

The inspectors determined that the corrective actions were appropriate and addressed the root and contributing causes in the licensee's detailed evaluation and conclusions. The inspectors determined that the licensee's root cause investigation included an appropriate consideration of prior occurrences of the problem and knowledge of prior operational experience.

- b. Determine that corrective actions have been prioritized with consideration of risk significance and regulatory compliance.

The licensee completed a root cause evaluation and a subsequent assessment to determine contributing causes and developed appropriate corrective actions with consideration of risk significance.

The inspectors determined that the immediate and follow-on corrective actions were adequately prioritized with consideration of the risk significance and regulatory compliance.

- d. Determine that a schedule has been established for implementing and completing the corrective actions.

The licensee established due dates for the corrective actions in accordance with their corrective action program. The inspectors reviewed the status of each corrective assignment and determined that an appropriate schedule had been established for implementing the corrective actions with the only remaining actions being: (1) revise procedures to require prompt entry of equipment or facility issues into the corrective action program (ECD 5/27/13); and (2) complete corrective action effectiveness reviews (due within 6 months and 12 months following CAPR completion ECD 12/1/14).

- e. Determine that quantitative or qualitative measures of success have been developed for determining the effectiveness of the corrective actions to prevent recurrence.

The licensee established an effectiveness review plan. Final effectiveness reviews are scheduled to be completed by 12/1/2014.

The inspectors observed that the effectiveness review plan as written would verify and validate that no additional failures to evaluate, prioritize, and report occurred; however, there did not appear to be a test of personnel's ability to utilize the new processes put in place. This observation was discussed with the licensee and added to the corrective action program.

- f. Determine that the corrective actions planned or taken adequately address a Notice of Violation (NOV) that was the basis for the supplemental inspection, if applicable.

The licensee's response described: (1) corrective actions taken and the results achieved; (2) actions which will be taken; (3) the date when full compliance was achieved; and (4) the reasons for the violation. During this inspection, the inspectors confirmed that the licensee's root cause investigation and actions completed or planned adequately addressed the NOV. The licensee restored full compliance on November 9, 2011.

- f. Findings

No findings were identified.

#### 4OA5 Follow up Inspection (92702)

##### .01 Inspection Scope

The NRC staff performed this follow up inspection in accordance with IP 92702 to assess the licensee's evaluation of the traditional enforcement SL-III violation for failure to make a required notification in accordance with 10 CFR 50.72. The inspection objectives were to:

- determine that adequate corrective actions have been implemented for the traditional enforcement violations;
- verify that the root causes of these enforcement actions have been identified;
- determine if their generic implications have been addressed; and
- determine that the licensee's programs and practices have been appropriately enhanced to prevent recurrence.

The licensee was informed by inspection report 05000400/2012010, dated October 3, 2012, of the traditional enforcement violation which was previously discussed in inspection report 05000400/2012007. This violation was associated with the failure to notify the NRC of a major loss of radiological event assessment capability in accordance with 10 CFR 50.72.

The NRC staff was informed on March 6, 2013, of the licensee's readiness for the supplemental inspection. In preparation for the inspection, the licensee performed a root cause evaluation (RCE) for Condition Report (CR) 580945, to identify the root cause, contributing causes, organizational weaknesses, programmatic weaknesses, extent of condition and extent of cause, that existed and resulted in the White finding, and the SL-III violation. The licensee also evaluated safety culture components and identified immediate corrective actions and corrective actions to prevent recurrence.

The inspectors reviewed the licensee's RCE in addition to other evaluations conducted in support of and as a result of the RCE. The inspectors reviewed corrective actions that were taken and implemented to address the identified causes. The inspectors also conducted walkdowns of on-site emergency response facilities and interviewed various licensee personnel to ensure that the root and contributing causes and the contribution of safety culture components were understood. The inspectors verified that corrective actions planned and implemented were appropriate to address the causes and prevent recurrence.

The inspectors observed a tabletop exercise in which an Operations Shift Manager and Emergency Preparedness and Licensing group staff members correctly evaluated, prioritized, and determined reporting requirements for simulated conditions in which equipment was out of service due to both pre-planned maintenance and emergent work.

## .02 Evaluation of the Inspection Requirements

### 02.01 Corrective Actions

- a. The NRC issued a NOV to the licensee on October 3, 2012. The licensee provided the NRC written responses to the NOV on November 1, 2012 and an amended response on March 15, 2013. The licensee's responses described: (1) reasons for the violation; (2) corrective steps taken to avoid further violations and the results achieved; (3) the date when full compliance was achieved. During this inspection the inspectors confirmed that the licensee's RCEs listed planned and corrective actions implemented to address the NOV. The inspectors concluded that the licensee restored full compliance on October 30, 2012.
- b. Inspectors determined that follow-up corrective actions were specified and scheduled in the causal evaluation (RCE 580945).

### 02.02 Root Cause Analysis

- a. The licensee's RCE used event and causal factor charting, why staircase and event tree analysis, barrier analysis, and personnel interviews to determine the root and contributing causes. The inspectors determined that the licensee evaluated the issue using a systematic methodology to identify root and contributing causes.

The inspectors determined that the licensee's RCE included a consideration of prior internal and external occurrences of the problem and available operating experience (OE); addressed the extent of condition and the extent of cause of the issue; and included a proper consideration of whether a weakness in any safety culture component was a root cause or a significant contributing cause of the issue.

During this inspection, the inspectors confirmed that the RCE listed completed and planned corrective actions to address the NOV. The inspectors concluded that the RCE was adequate and conducted to a level of detail commensurate with the significance of the problem. The licensee restored full compliance on October 30, 2012.

b. Findings and Observations

The inspectors reviewed the SL-III violation, VIO 05000400/2012007-02, Failure to Report a Major Loss of Emergency Response Assessment Capability. The inspectors concluded that the RCE was adequate and conducted to a level of detail commensurate with the significance of the problem, and that the corrective actions identified were adequate to prevent recurrence.

02.03 Generic Implications Analysis

- a. The licensee's RCE considered the extent of condition and extent of cause associated with the failure to evaluate and therefore, the failure to report the loss of EOF function. Other aspects of EOF functionality as well as other emergency response facilities were considered. Both taking equipment out of service for planned maintenance as well as unplanned equipment failures were evaluated in terms of whether licensee processes were adequate to determine the need for NRC reporting. Corrective actions were implemented to close observed gaps.

An operating experience review was also performed by the licensee. The licensee's analysis included an evaluation of internal and external OE. The licensee considered prior occurrences and industry OE. As a result of this review, the licensee determined that OE was used to evaluate both reportability and compliance with design bases.

b. Findings and Observations

The inspectors concluded that the licensee's RCE adequately addressed the generic implications of the issue in the extent of condition analysis, extent of cause analysis, and in review of operating experience.

40A6 Exit Meeting

On March 22, 2013, the inspectors presented the inspection results to Mr. G. Hamrick and other members of the staff who acknowledged the results. The inspectors asked the licensee if any of the material examined during the inspection should be considered proprietary. The licensee did not identify any proprietary information.

At the conclusion of the exit meeting, Mr. T. Reis, Director, Division of Reactor Safety for NRC Region II, conducted a regulatory performance meeting. Licensee staff discussed implementation of corrective actions. NRC staff reviewed the Oversight Process timeline for closing inspection findings.

Attachment: Supplemental Information



## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

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R. Winkler, Work Control Center SRO  
C. Yarley, Root Cause Team member  
T. Zimmerman, Root Cause team member

### **ITEMS OPENED AND CLOSED**

#### Opened

None

#### Closed

VIO 05000400/2012007-01; Failure to Maintain Adequate EOF

VIO 05000400/2012007-02; Failure to Notify NRC of EOF Loss

### **DOCUMENTS REVIEWED**

#### **Plans and Procedures**

AD-AD-ALL-0004, Fleet Standard Workday, Attachment 16, Rev. 0  
AP-617, Reportability Determination and Notification, Rev. 31  
CAP-NGGC-0200, Condition Identification and Screening Process, Rev. 35  
CAP-NGGC-0205, Condition Evaluation and Corrective Action Process, Rev. 16

EM-107, Temporary Power to K-Building, Rev 13  
 EPM-410, Communication and Facility Performance Tests, Rev 18  
 FPP-013, Fire Protection-Minimum Requirements, Mitigating Actions and Surveillance Requirements, Rev 74  
 NGGM-IA-0028, HNP/HEEC Complex and Lands Ownership Interface Agreement, Rev 3  
 OP-156.02, AC Electrical Distribution, Rev 109  
 Outside Auxiliary Operator Rounds Guidance, Rev. 11  
 PEP-240, Activation and Operation of the Technical Support System, Rev. 15  
 PEP-241, Technical Support Center (TSC) Emergency Ventilation System Operation, Rev. 2  
 PIC-1099, Emergency Operating Facility Emergency Ventilation System Calibration, Rev 4  
 PIC-1910, TSC Outside air Intake Radiation Monitor RM-1TS-3653C Calibration, Rev 7  
 PIC-1931, Emergency Operations Facility Outside Air Intake Radiation Monitor RM-1EOF-E007 Calibration, Rev 5  
 PLP-717, Equipment Important to Emergency Preparedness and Emergency Response, Rev. 4  
 SEC-NGGC-2147, Reporting of Safeguards and Fitness-for-Duty Events, Rev 6  
 WCP-NGGC-0300, Work Request Initiation, Screening, Prioritization and Classification, Rev. 3

### **Corrective Action Documents - Condition Report (CR)**

CR 381584; High standards not consistently reinforced  
 CR 504860; Assess EOF past functionality  
 CR 511870; Operating experience review – failures affecting TSC  
 CR 523957; EOF emergency diesel testing problem  
 CR 531016; PEP-270 lacks min/max temperature limits for EOF equipment  
 CR 596270; Editorial Correction to PLP-717  
 CR 596209; DBD-322 Table 1 illegible when printed  
 CR 596316; Standing Instruction 12-019 expired

### **Miscellaneous Documents**

Root Cause Evaluation, CR 580945, Rev 2  
 CR 580945 root cause evaluation oversight committee grading results  
 “Equipment Important to EP” contained in Harris Nuclear Plant EALs  
 50.54(q) Screen, EREG 531442, Providing and Maintaining Emergency Facilities  
 50.54(q) Screen, EREG 575820, Historical Changes to EOF Ventilation System  
 50.59 Screen, 531436, Providing and Maintaining Adequate Emergency Facilities  
 50.59 Screen, 557843, Historical Changes to EOF Ventilation System  
 Root Cause Evaluator and team member qualification records  
 Shift Manager and Control Room Supervisor shift turnover checklists  
 Design Basis Document 206, Plant Communications Systems, Rev 7  
 DBD-322, Emergency Response Facilities (TSC, EOF, and OSC), Rev. 0  
 TSC/EOF System Health Reports  
 ERF Availability performance indicator reports  
 Self-Assessments 576997 and 586206, 95001 Readiness, dated Dec. 2012 and Feb. 2013  
 Training document, Required Reading OPS-JITT-13-09, PLP-717, Rev. 4, dated 3/15/2013  
 Event Notifications 47775, 47973, and 47843  
 WO 03-MST-0417, Radiation Monitor Relay Logic Test  
 Standing Instruction 12-019, Logging TSC and EOF Temperatures  
 Training Module #EP-01, EP Fundamentals: Emergency Planning, Rev. 9  
 Training Module #EP-02, EP Fundamentals: Emergency Response, Rev. 14  
 Emergency Preparedness Forum minutes for January, 2013 and February, 2013

Quarterly EP newsletter for 1Q13  
EOF Generic Work Orders 00094842-01, 00095975-02, and 02046853-02

### **ACRONYMS**

EAL	Emergency Action Level
ECD	Expected Completion Date
ERF	Emergency Response Facility
IP	Inspection Procedures
IR	Inspection Report
NCR	Nuclear Condition Report
NRC	Nuclear Regulatory Commission
NOV	Notice of Violation
OE	Operating Experience
PARS	Publicly Available Records
RCE	Root Cause Evaluation