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

April 19, 2016

Mr. Benjamin C. Waldrep
Site Vice President
Shearon Harris Nuclear Power Plant
M/C HNP01
New Hill, NC 27562-0165

SUBJECT: SHEARON HARRIS NUCLEAR POWER PLANT - NRC INTEGRATED INSPECTION REPORT 05000400/2016001

Dear Mr. Waldrep:

On March 31, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Shearon Harris nuclear power plant Unit 1. The enclosed inspection report documents the inspection results which were discussed on April 12, 2016, with you and other members of your staff.

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

If you disagree with a finding not associated with a regulatory requirement 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 Shearon Harris Nuclear Power Plant.

In accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Agency 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 IR 05000400/2016001
w/Attachment: Supplemental Information

cc Distribution via ListServ

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DATE	4/15/2016	4/14/2016	4/15/2016	4/14/2016	4/14/2016	4/14/2016	
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Letter to Benjamin C. Waldrep from George T. Hopper dated April 19, 2016

SUBJECT: SHEARON HARRIS NUCLEAR POWER PLANT - NRC INTEGRATED INSPECTION REPORT 05000400/2016001

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.:	50-400
License Nos.:	NPF-63
Report No.:	05000400/2016001
Licensee:	Duke Energy Progress, Inc.
Facility:	Shearon Harris Nuclear Power Plant, Unit 1
Location:	5413 Shearon Harris Road New Hill, NC 27562
Dates:	January 1, 2016 through March 31, 2016
Inspectors:	J. Austin, Senior Resident Inspector M. Riches, Resident Inspector M. Bates, Senior Operations Engineer (Section 1R11.3)
Approved by:	George T. Hopper, Chief Reactor Projects Branch 4 Division of Reactor Projects

Enclosure

SUMMARY

IR 05000400/2016001; January 1, 2016, through March 31, 2016; Duke Energy Progress, Inc., Shearon Harris Nuclear Power Plant, Unit 1, Licensed Operator Requalification Program.

The report covered a three-month period of inspection by resident inspectors and a regional inspector. There was one NRC-identified finding of very low safety significance (Green) identified in this report. The significance of inspection findings are indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," (SDP) dated April 29, 2015. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated February 4, 2015. The NRC's program for overseeing the safe operations of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

Cornerstone: Mitigating Systems

Green. The inspectors identified a finding of very low safety significance associated with 10 CFR 55.59, "Requalification," based on a determination that greater than 20 percent of the written examination questions administered to licensed operators during the 2014 biennial written examination were flawed. The licensee entered this issue into their Corrective Action Program (CAP) as Action Request (AR) 01940942, Inspection Procedure (IP) 71111.11B NRC Biennial LOCT Inspection Feedback, dated August 6, 2015.

The inspectors determined that the finding was more than minor because it was associated with the Human Performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the finding adversely affected the quality and level of difficulty of biennial written examinations, which potentially impacted the facility's ability to appropriately evaluate licensed operators. The risk importance of this issue was evaluated using IMC 0609, Appendix I, "Licensed Operator Requalification Significance Determination Process (SDP)."

The qualitative standards used by the inspectors were defined in TPP-306, "Licensed Operator Continuing Training Program," and TRN-NGGC-0441, "Licensed Operator Requalification Annual/Biennial Exam Development," and further described within NUREG-1021, Revision 9, ES-602, Attachment 1, "Guidelines for Developing Open-Reference Examinations," and Appendix B, "Written Examination Guidelines." Because more than 20 percent, but less than 40 percent, of the questions reviewed were flawed, Blocks 4 and 5 of Appendix I characterized the finding as having very low safety significance (Green). A review of the cross-cutting aspects was performed and no associated cross-cutting aspect was identified. (Section 1R11.3)

REPORT DETAILS

Summary of Plant Status

Unit 1: The unit began the period at 100 percent power. On January 29, 2016, the unit was lowered to 90 percent power following a feedwater heater isolation. The unit returned to 100 percent power on January 31, 2016, and remained at this power level for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 – 1 sample)

a. Inspection Scope

.1 Impending Adverse Weather Conditions

The inspectors reviewed the licensee's preparations to protect risk-significant systems during an extended period with temperatures near or below freezing from February 11 to February 15, 2016. The inspectors evaluated the licensee's implementation of adverse weather preparation procedures and compensatory measures, including operator staffing, before the onset of and during the adverse weather conditions. The inspectors reviewed the licensee's plans to address the ramifications of potentially lasting effects that may result from the cold weather conditions. The inspectors verified that operator actions specified in the licensee's adverse weather procedure maintain readiness of essential systems. The inspectors verified that required surveillances were current, or were scheduled and completed, if practical, before the onset of anticipated adverse weather conditions. The inspectors also verified that the licensee implemented periodic equipment walkdowns or other measures to ensure that the condition of plant equipment met operability requirements. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04 – Partial 3 samples; Complete 1 sample)

a. Inspection Scope

.1 Partial Walkdown

The inspectors verified that critical portions of the selected systems were correctly aligned by performing partial walkdowns. The inspectors selected systems for assessment because they were a redundant or backup system or train, were important for mitigating risk for the current plant conditions, had been recently realigned, or were a single-train system. The inspectors determined the correct system lineup by reviewing plant procedures and drawings. Documents reviewed are listed in the Attachment.

The inspectors selected the following systems or trains to inspect:

- Protected equipment walkdown of the Refueling Water Storage Tank and 1&4A/2&3A Spent Fuel Pool (SFP) Cooling pumps and breakers while time to reach 200 degrees in SFP is less than 72 hours on February 20, 2016
- Protected equipment walkdown of 'B' Motor Driven Auxiliary Feedwater (AFW) system and Turbine Driven AFW system while 'A' Motor Driven AFW system was out of service for planned maintenance on February 24, 2016
- Protected equipment walkdown of the Diesel Driven Fire Pump system while the Motor Driven Fire Pump was out of service for planned maintenance from March 28 to March 31, 2016

.2 Complete Walkdown

The inspectors verified the alignment of the dedicated shutdown diesel generator/ alternate seal injection system. The inspectors selected this system for assessment because it is a risk-significant mitigating system. The inspectors determined the correct system lineup by reviewing plant procedures, drawings, the updated final safety analysis report (UFSAR), and other documents. The inspectors reviewed records related to the system's outstanding design issues, maintenance work requests, and deficiencies. The inspectors verified that the selected system was correctly aligned by performing a complete walkdown of accessible components.

To verify the licensee was identifying and resolving equipment alignment discrepancies, the inspectors reviewed corrective action documents, including condition reports and outstanding work orders. The inspectors also reviewed periodic reports containing information on the status of risk-significant systems, including maintenance rule reports and system health reports. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05A/Q – 1A/6Q samples)

a. Inspection Scope

Quarterly Inspection

The inspectors evaluated the adequacy of selected fire plans by comparing the fire plans to the defined hazards and defense-in-depth features specified in the fire protection program. In evaluating the fire plans, the inspectors assessed the following items:

- control of transient combustibles and ignition sources
- fire detection systems
- water-based fire suppression systems
- gaseous fire suppression systems
- manual firefighting equipment and capability
- passive fire protection features
- compensatory measures and fire watches
- issues related to fire protection contained in the licensee's CAP

The inspectors toured the following fire areas to assess material condition and operational status of fire protection equipment. Documents reviewed are listed in the Attachment.

- Reactor Auxiliary Building (RAB), 236' Elevation, 1C CSIP Transfer Switch Room
- RAB, 236' Elevation, Charging Pump Rooms
- RAB, 236' Elevation, CCW and AFW Area
- RAB, 236' Elevation, Southwest Corridor
- Diesel Fuel Oil (DFO) Transfer Pump Area
- DFO Storage Building Yard Area

.2 Annual Inspection

The inspectors evaluated the licensee's fire brigade performance during a drill on February 4, 2016, and assessed the brigade's capability to meet fire protection licensing basis requirements. The inspectors observed the following aspects of fire brigade performance:

- capability of fire brigade members
- leadership ability of the brigade leader
- use of turnout gear and fire-fighting equipment
- team effectiveness
- compliance with site procedures

The inspectors also assessed the ability of control room operators to combat potential fires, including identifying the location of the fire, dispatching the fire brigade, and sounding alarms. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program and Licensed Operator Performance (71111.11 – 2 samples)

a. Inspection Scope

.1 Resident Inspector Quarterly Review of Licensed Operator Requalification

On March 29, 2016, the inspectors observed a simulator scenario conducted for training of an operating crew as part of the continuing training program for licensed operators. Evaluators were identifying and documenting crew performance and the training was conducted in accordance with the licensee's procedure. The simulator scenario focused on the crew's response to a faulted steam generator.

The inspectors assessed the following:

- licensed operator performance
- the ability of the licensee to administer the scenario and evaluate the operators
- the quality of the post-scenario critique
- simulator performance

Documents reviewed are listed in the Attachment.

.2 Resident Inspector Quarterly Review of Licensed Operator Performance in the Actual Plant/Main Control Room

The inspectors observed licensed operator performance in the main control room during the inadvertent isolation of the 1A and 2A feedwater heaters and the subsequent power reduction to 90 percent on January 29, 2016.

The inspectors assessed the following:

- use of plant procedures
- control board manipulations
- communications between crew members
- use and interpretation of instruments, indications, and alarms
- use of human error prevention techniques
- documentation of activities
- management and supervision

Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.3 (Closed) Unresolved Item (URI) 05000400/2015003-02: Written NRC Biennial Examinations Did Not Meet Qualitative Standards

a. Inspection Scope

In Inspection Report 05000400/2015003, the inspectors identified an URI associated with the quality of written NRC biennial examinations. The inspectors evaluated the quality of two 35-question written examinations that were administered in accordance with 10 CFR Part 55, "Operators' Licenses." While performing this review, several questions were determined to potentially not contain an appropriate level of difficulty. In many instances the question lacked an acceptable level of procedure selection knowledge and then did not contain an acceptable level of procedure content and application knowledge. This issue was being tracked as an URI pending further guidance from the Office of Nuclear Reactor Regulation to determine if a performance deficiency existed.

b. Findings

Introduction: The inspectors identified a finding of very low safety significance (Green) associated with 10 CFR 55.59, "Requalification," based on a determination that between 20 and 40 percent of the written examination questions administered to licensed operators during the biennial requalification examination were flawed.

Description: The NRC-required biennial written examinations are designed to ensure that licensed operators maintain safe standards of knowledge and ability in order to take appropriate safety-related actions in response to actual abnormal or emergency conditions. As part of the biennial licensed operator training inspection, the inspectors evaluated the content of two NRC-required biennial written examinations (Set 1 Exam 1 SRO and Set 2 Exam 4 SRO) that the licensee developed and administered to licensed operators in 2014. Eighteen of the 70 questions reviewed (approximately 26 percent) were determined to contain flaws such as more than one implausible distracter, direct

lookup, or low level of difficulty. These flaws collectively affected the level of examination difficulty, making the examinations less discriminating. The standard for determining a question flaw was located within site-specific procedures and further defined within NUREG-1021, "Operator Licensing Examination Standards for Power Reactors."

TPP-306, "Licensed Operator Continuing Training Program," Section 9.6.3.2, Comprehensive Written Requalification Examination, stated, "...The purpose of the examination is to determine each individual's knowledge…" Section 9.6.3.2 also stated that the written examinations will be developed and administered in accordance with TAP-403 and TRN-NGGC-0441.

Questions that were flawed contained typographical errors in distractors, subset issues that either created multiple correct answers or rendered distractors implausible, answers that were direct lookup or multiple distractors that could be disqualified based on direct lookup information.
Several questions were determined to not contain an appropriate level of difficulty. In many instances the question lacked an acceptable level of procedure selection knowledge and then did not contain an acceptable level of procedure content and application knowledge. For example, on multiple occasions when the question did not require meaningful procedure selection knowledge, the question also contained distractors that could be quickly disqualified by a quick reference to the applicable procedure. Distractors could be eliminated because the information contained within the distractors did not appear within the applicable procedure. Therefore, disqualification of the distractors could occur, not based on understanding and applying procedure content, but based only on the presence of the information or the absence of the information within the procedure. This provided a method to either arrive at the correct answer or greatly limit the possible answer choices, without applying site-specific knowledge of systems or procedures. Therefore, these questions did not serve their intended purpose of providing reasonable assurance that operators who answered correctly actually had mastered the knowledge that was intended to be tested. These questions were determined to have an unacceptably low level of difficulty.

The licensee entered the issue into their CAP as AR 01940942.

Analysis: The inspectors determined that the failure to ensure that NRC-required biennial written examinations met the qualitative standards established for NRC written examinations was an issue of concern. The issue of concern was reasonably within the licensee's ability to foresee and correct and should have been prevented, thus it was determined to be a performance deficiency.

The inspectors determined that the performance deficiency was more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," because it was associated with the Human Performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the finding affected the quality and discriminatory level of biennial written examinations, which potentially impacted the facility's ability to appropriately evaluate licensed operators. The finding was not subject to traditional enforcement since the issue did not impact the NRC's ability to perform its regulatory function and was not willful.

The significance of the finding was evaluated using IMC 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process (SDP)." The inspectors considered the percentage of written examination questions that did not meet the qualitative standard for the written examination questions. The qualitative standard used by the inspectors was defined in TRN-NGGC-0441 and in NUREG-1021, Revision 9, ES-602, Attachment I, "Guidelines for Developing Open-Reference Examinations," and Appendix B, "Written Examination Guidelines." Since between 20 and 40 percent of the questions reviewed did not meet the guidance, Blocks 4 and 5 of IMC-609 Appendix I resulted in a finding of very low safety significance (Green). A review of the possible cross-cutting aspects was performed and no cross-cutting aspect was identified that would be considered a contributor to the cause of the finding.

Enforcement: 10 CFR 55.59, "Requalification," Section 4, "Evaluation," requires in part, that the requalification program must include written examinations which determine licensed operators' and senior operators' knowledge of subjects covered in the requalification program and provide a basis for evaluating their knowledge of abnormal and emergency procedures. However, the regulation does not specify a requirement for the quality of examination material; therefore, no violation of regulatory requirements occurred. Enforcement action does not apply because the performance deficiency did not involve a violation of a regulatory requirement. The facility licensee entered the issue into their CAP as AR 01940942. Because this finding does not involve a violation of regulatory requirements and has very low safety significance, it was identified as a FIN: 05000400/2016001-01, NRC Biennial Written Examinations Did Not Meet Qualitative Standards.

1R12 Maintenance Effectiveness (71111.12 – 4 samples)

a. Inspection Scope

The inspectors assessed the licensee's treatment of the issues listed below to verify the licensee appropriately addressed equipment problems within the scope of the maintenance rule (10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants"). The inspectors reviewed procedures and records to evaluate the licensee's identification, assessment, and characterization of the problems as well as their corrective actions for returning the equipment to a satisfactory condition. The inspectors also interviewed system engineers and the maintenance rule coordinator to assess the accuracy of performance deficiencies and extent of condition. Documents reviewed are listed in the Attachment.

- AR 2003290, Maintenance Rule evaluation of the emergency personnel hatches on the Emergency Diesel Generator (EDG) Building
- AR 1995068, Maintenance Rule evaluation of the over-ranged PI-7204 on the discharge of the Alternate Seal Injection System
- AR 2006310, 1CZ-17 (Control Room Purge Makeup Inlet Valve) Post Maintenance Test Unsatisfactory
- AR 1988214, High Temperature "A" Normal Service Water Pump Motor Lower Bearing

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 6 samples)

a. Inspection Scope

The inspectors reviewed the maintenance activities listed below to verify that the licensee assessed and managed plant risk as required by 10 CFR 50.65(a)(4) and licensee procedures. The inspectors assessed the adequacy of the licensee's risk assessments and implementation of risk management actions. The inspectors also verified that the licensee was identifying and resolving problems with assessing and managing maintenance-related risk using the CAP. Additionally, for maintenance resulting from unforeseen situations, the inspectors assessed the effectiveness of the licensee's planning and control of emergent work activities. Documents reviewed are listed in the Attachment.

- January 12, 2016, Emergent Risk Assessment following 'A' NSW Pump and Motor out of service for replacement
- February 29, 2016, Yellow Qualitative Risk while 'C' Feedwater Regulating Valve is in Manual for Scheduled Surveillance Testing
- March 23, 2016, Yellow Qualitative Risk while calibration of Boric Acid Flow Loop is in progress
- March 26, 2016, Emergent Risk Assessment following inoperability of the 'A' CSIP skid
- March 28, 2016, Qualitative Risk Assessment of the Motor Driven Fire Pump out of service for maintenance(Green)
- March 30, 2016, Yellow Qualitative Risk while 'A' Feedwater Regulating Valve is in Manual for Scheduled Surveillance Testing

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – 6 samples)

a. Inspection Scope

.1 Operability and Functionality Review

The inspectors selected the operability determinations or functionality evaluations listed below for review based on the risk-significance of the associated components and systems. The inspectors reviewed the technical adequacy of the determinations to ensure that technical specification (TS) operability was properly justified and the components or systems remained capable of performing their design functions. To verify whether components or systems were operable, the inspectors compared the operability and design criteria in the appropriate sections of the TS and UFSAR to the licensee's evaluations. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. Additionally, the inspectors reviewed a sample of corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the Attachment.

- AR 1989367, 'B' ESCW chiller has low oil temp
- AR 1995041, Unexpected Alternate Seal Injection (ASI) system response during OPT-1532
- AR 2002391, OPT-1532 test unsatisfactory due to ASI pump start time
- AR 1993965, TDAFW elevated particulates in lube oil sample
- AR 1988806, Long-term reliability of (480 VAC) bucket starter coils
- AR 2007256, 1AF-137 (Steam Turbine Auxiliary Feedwater "A" Isolation) open stroke time trending high

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18 – 2 samples)

a. Inspection Scope

The inspectors verified that the plant modifications listed below did not affect the safety functions of important safety systems. The inspectors confirmed the modifications did not degrade the design bases, licensing bases, and performance capability of risk significant structures, systems and components. The inspectors also verified modifications performed during plant configurations involving increased risk did not place the plant in an unsafe condition. Additionally, the inspectors evaluated whether system operability and availability, configuration control, post-installation test activities, and changes to documents, such as drawings, procedures, and operator training materials, complied with licensee standards and NRC requirements. In addition, the inspectors reviewed a sample of related corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with modifications. Documents reviewed are listed in the Attachment.

- Engineering Change (EC) 299561, Provide a Temporary Source to Security 375KVA UPS [uninterruptible power source]
- Installation of Temporary heater for non-functional Room Heater in the Diesel Fuel Oil Storage Tank (DFOST) Building; Ref. NCR 2005162

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – 6 samples)

a. Inspection Scope

The inspectors either observed post-maintenance testing or reviewed the test results for the maintenance activities listed below to verify the work performed was completed correctly and the test activities were adequate to verify system operability and functional capability.

- Work Order (WO) 20058429, 1A-36-SA-1B Inspect Starter Coil Assembly, March 2, 2016
- WO 13450586-02, Stroke Timing 1CS-752 (Charging Pump 'B' to Refueling Water Storage Tank), March 15, 2016
- WO 20065372, Air Conditioning Unit #17 Compressor will not automatically reset, March 18, 2016

- WO 13347638-12, Verify proper operation of FIS-01CS-0113SW, March 23, 2016
- WO 20029881-29, ORT-1408, Security Diesel Operability Run, March 24, 2016
- WO 12228313-03, Operability Testing of MCC 1A31-SA-10C (480 volt breaker for 1SI-326, March 28, 2016

The inspectors evaluated these activities for the following:

- Acceptance criteria were clear and demonstrated operational readiness
- Effects of testing on the plant were adequately addressed
- Test instrumentation was appropriate
- Tests were performed in accordance with approved procedures
- Equipment was returned to its operational status following testing
- Test documentation was properly evaluated

Additionally, the inspectors reviewed a sample of corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with post-maintenance testing. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 5 samples)

a. Inspection Scope

The inspectors reviewed the surveillance tests listed below and either observed the test or reviewed test results to verify testing adequately demonstrated equipment operability and met TS and licensee procedural requirements. The inspectors evaluated the test activities to assess for preconditioning of equipment, procedure adherence, and equipment alignment following completion of the surveillance. Additionally, the inspectors reviewed a sample of related corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with surveillance testing. Documents reviewed are listed in the Attachment.

Routine Surveillance Tests

- Operation Surveillance Test (OST)-1085, 1A-SA Diesel Generator Operability Test Semi-annual Interval Modes 1 - 6
- OST-1039, Calculation of Quadrant Power Tilt Ratio, Weekly Interval (with Alarm Operable) 12 Hour Interval (with Alarm Inoperable) Mode 1
- OPT- 1509, Turbine Trip Tests Quarterly Interval Modes 1 and 2

In-Service Tests (IST)

- OST-1411, Auxiliary Feedwater Pump 1X-SAB Operability Test Quarterly Interval

Reactor Coolant System Leak Detection

- OST-1026, Reactor Coolant System Leakage Evaluation, Computer Calculation, Daily Interval, Modes 1-2-3-4

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06 – 2 samples)

a. Inspection Scope

The inspectors observed the emergency preparedness drills conducted on January 12, 2016, and March 8, 2016. The inspectors observed licensee activities in the technical support center to evaluate implementation of the emergency plan, including event classification, notification, and protective action recommendations. The inspectors evaluated the licensee's performance against criteria established in the licensee's procedures. Additionally, the inspectors attended the post-exercise critique to assess the licensee's effectiveness in identifying emergency preparedness weaknesses and verified the identified weaknesses were entered in the CAP. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151 – 3 samples)

a. Inspection Scope

The inspectors reviewed a sample of the performance indicator (PI) data, submitted by the licensee, for the Unit 1 PIs listed below. The inspectors reviewed plant records compiled between January 2015 and December 2015 to verify the accuracy and completeness of the data reported for the station. The inspectors verified that the PI data complied with guidance contained in Nuclear Energy Institute 99-02, "Regulatory Assessment Performance Indicator Guideline," and licensee procedures. The inspectors verified the accuracy of reported data that were used to calculate the value of each PI. In addition, the inspectors reviewed a sample of related corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with PI data. Documents reviewed are listed in the Attachment.

Cornerstone: Initiating Events

- Unplanned scrams per 7000 critical hours
- Unplanned power changes per 7000 critical hours
- Unplanned scrams with complications

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152 – 2 samples)

.1 Routine Review

The inspectors screened items entered into the licensee's CAP to identify repetitive equipment failures or specific human performance issues for follow-up. The inspectors reviewed condition reports, attended screening meetings, or accessed the licensee's computerized corrective action database.

.2 Annual Follow-up of Selected Issues

a. Inspection Scope

The inspectors conducted a detailed review of the following two condition reports:

- AR 1981861, LS-01HD-1542A ALB-021LP Htr 1A Extra High Level Alarm Locked In (Isolation of FW heaters 1A and 2A which required a power reduction to 90 percent)
- AR 1990402, Implement F2 Delta-I penalty in OPdT trip function (Reduced margin to centerline fuel melt on OPdT setpoint)

The inspectors evaluated the following attributes of the licensee's actions:

- Complete and accurate identification of the problem in a timely manner
- Evaluation and disposition of operability and reportability issues
- Consideration of extent of condition, generic implications, common cause, and previous occurrences
- Classification and prioritization of the problem
- Identification of root and contributing causes of the problem
- Identification of any additional condition reports
- Completion of corrective actions in a timely manner

Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

On April 12, 2016, the resident inspectors presented the inspection results to Mr. Ben Waldrep and other members of the licensee's staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

A final exit teleconference was conducted by Operator Licensing Inspectors on February 23, 2016, with Mr. D. Griffith and other members of your staff. The inspectors confirmed that no proprietary information was reviewed during this inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

E. Bertram, Continuing Training Supervisor
J. Caves, (Acting) Manager, Nuclear Regulatory Affairs
L. Faulk, Director, Nuclear Plant Security
A. Forsha, Fleet NRC Examination Specialist
D. Griffith, Manager, Nuclear Training
T. Hamilton, Plant Manager
R. J. Horton, Operations Training
J. Keltner, Manager, Nuclear Chemistry
S. O'Connor, General Manager, Nuclear Engineering
M. Parker, Manager, Nuclear Radiation Protection
S. Rua, (Acting) Manager, Operations Training
B. McCabe, Manager, Nuclear Oversight
B. Waldrep, Site Vice President

NRC personnel

G. Hopper, Chief, Reactor Projects Branch 4, Division of Reactor Projects, Region II

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000400/2016001-01	FIN	NRC Biennial Written Examinations Did Not Meet Qualitative Standards (Section 11.3)

Closed

05000400/2015003-02	URI	Written NRC Biennial Examinations Did Not Meet Qualitative Standards (Section 11.3)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

ORT-1415, Electric Unit Heater Check Monthly Interval
OP-161.01, Operations Freeze Protection and Temperature Maintenance Systems
AP-300, Severe Weather
AP-301, Seasonal Weather Preparations and Monitoring
AP-401, Installation and Control of Temporary Power and Equipment
APP-111, ALB-8-1, HT-18751-A TB Trouble
APP-111, ALB-9-1, HT-18751-AA TB Trouble
APP-111, ALB-9-3, HT-18751-P TB Trouble

Work Orders

WO 20040801, 1DFV-E012 (Electric Heater Unit 56) Loud Squealing Noise during Fan Operation

NCRs

2000528 LP Turbine Pressure Sensing Lines Freeze

Miscellaneous

Temporary Heater spreadsheet

Section 1R04: Equipment Alignment

Partial System Walkdown

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

Spent Fuel Pool Cooling system:
Procedure OP-116, Fuel Pool Cooling and Purification System

Fire Protection system:
Drawing 2165-S-0555, Fire Protection System
OP-149, Fire Protection

Complete System Walkdown

Dedicated Shutdown Diesel Generator system:
Procedure OP-186, Dedicated Shutdown Diesel Generator System
Drawing CAR-2166-B-401 2029, Dedicated Shutdown Diesel Generator Control Wiring Diagram

Alternate Seal Injection system:
Procedure OP-185, Alternate Seal Injection System
Drawing 2165-S-1371, Simplified Flow Diagram Alternate Seal Injection System

Section 1R05: Fire Protection
FPP-001 Fire Protection Program Manual
FPP-013, Fire Protection – Minimum Requirements, Mitigating Actions and Surveillance Requirements
FPP-012-02-RAB 236, Reactor Auxiliary Building Elevation 236 Fire Pre-Plan
TPQ0001H, Turbine Building H2 Seal Oil Fire Drills Guide and Critique Form
TB 262 H2 Seal Oil Pre-Drill, Pre-Drill Briefing

Section 1R11: Licensed Operator Requalification Program
Procedures
AD-OP-ALL-1000, Fleet Conduct of Operations, Revision 5
Operations Management Manual, OMM-001, Operations Administrative Requirements, Rev 92
Training Administrative Procedure (TAP) -403, Examination and Testing, Rev 19
TAP 410, NRC License Examination Security Program, Rev 15
TAP-412, Simulator Operations, Maintenance and Testing, Rev 8
Training Program Procedure (TPP)-206 Training Program Procedure-Simulator Rev 10
TPP- 306, Licensed Operator Continuing Training Program, Revision 20
TRN-NGGC-0420, Conduct of Simulator Training and Evaluation, Rev 0,
HNP-E/ELEC-0001 Appendix 1 Compliance Assessment by Scenario
TRN-NGGC-1000, Conduct of Training, Rev 3
Simulator Evaluation Guide, DSS-032, Rev. 10

Section 1R12: Maintenance Effectiveness
NUMARC 93-01, Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants
Regulatory Guide 1.160, Monitoring the Effectiveness of Maintenance at Nuclear Power Plant
AD-EG-ALL-1210, Maintenance Rule Program

Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluation
OMM-001, Operations Administrative Requirements
AD-WC-ALL-0200, Conduct of On-Line Work Management
WCM-001, On-line Maintenance Risk Management
AD-NF-ALL-0501, Electronic Risk Assessment Tool (ERAT)

Section 1R15: Operability Evaluations
OPS-OP-ALL-0105, Operability Determinations and Functionality Assessments
Prompt Functionality Assessment for NCR1995041
Prompt Functionality Assessment for NCR 2002391
Immediate Determination of Operability for NCR 1989367
Immediate Determination of Operability for NCR 1993965
Immediate Determination of Operability for NCR 1988806

Section 1R18: Plant Modifications
EC 299561
EC 274818
EC 287992
NCR 2005162
ORT-1408, Security Diesel Operability Run Monthly Interval Modes: ALL
ORT-1415, Electric Unit Heater Check Monthly Unit Interval, September thru March, Mode: ALL

Section 1R19: Post Maintenance Testing
PLP-400, Post Maintenance Testing
OST-1093, CVCS/SI System Operability Train B Quarterly Interval Modes 1 – 4
ORT-1408, Security Diesel Operability Run Monthly Interval Modes: ALL

Section 1R22: Surveillance Testing
OST-1085, 1A-SA Diesel Generator Operability Test Semi-annual Interval Modes 1 – 6
OST-1039, Calculation of Quadrant Power Tilt Ratio, Weekly Interval (with Alarm Operable) 12 Hour Interval (with Alarm Inoperable) Mode 1
OST-1026, Reactor Coolant System Leakage Evaluation, Computer Calculation Daily Interval Modes 1-2-3-4
OPT- 1509, Turbine Trip Tests Quarterly Interval Modes 1 and 2
OST-1411, Auxiliary Feedwater Pump 1X-SAB Operability Test Quarterly Interval Modes 1, 2, 3

Section 1EP6: Drill Evaluation
PLP-20, Emergency Plan
Emergency Response Organization Integrated Drill 16-01
Emergency Response Organization Integrated Drill 16-03

Section 4OA1: Performance Indicator Verification
NEI 99-02, Regulatory Assessment Performance Indicator Guideline
Calculation HNP-F/PSA-0068, NRC Mitigating System Performance Index Basis Document for Harris Nuclear Plant

Section 4OA2: Identification and Resolution of Problems
AD-PI-ALL-0100, Corrective Action Program
AD-PI-ALL-0101, Root Cause Evaluation
AD-PI-ALL-0102, Apparent Cause Evaluation
AD-PI-ALL-0103, Quick Cause Evaluation
AD-PI-ALL-0104, Prompt Investigation Response Team
AD-PI-ALL-0105, Effectiveness Reviews
PLP-106, Technical Specification Equipment List Program and Core Operating Limits Report Technical Specifications, Limiting Safety System Settings Table 2.2-1, Reactor Trip System Instrumentation Trip Setpoints