



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
612 EAST LAMAR BLVD, SUITE 400
ARLINGTON, TEXAS 76011-4125

July 26, 2010

David J. Bannister, Vice President
and Chief Nuclear Officer
Omaha Public Power District
Fort Calhoun Station FC-2-4
P.O. Box 550
Fort Calhoun, NE 68023-0550

Subject: FORT CALHOUN - NRC INTEGRATED INSPECTION REPORT 05000285/2010003

Dear Mr. Bannister:

On June 30, 2010, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Fort Calhoun Station. The enclosed integrated inspection report documents the inspection findings, which were discussed on June 30, 2010, with Mr. Jeffrey Reinhart, Site Vice President, and other members of your staff.

The inspections 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.

This report documents four NRC-identified violations of very low safety significance (Green) and one NRC-identified Severity Level IV violation. All of these findings were determined to involve violations of NRC requirements. Additionally, one licensee-identified violation, which was determined to be of very low safety significance, is listed in this report. However, because of the very low safety significance and because they are entered into your corrective action program, the NRC is treating these findings as noncited violations, consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest the violations or the significance of the noncited violations, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001, with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 612 E. Lamar Blvd, Suite 400, Arlington, Texas, 76011-4125; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at the Fort Calhoun facility. In addition, if you disagree with the characterization of any finding 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 IV, and the NRC Resident Inspector at the Fort Calhoun Station. The information you provide will be considered in accordance with Inspection Manual Chapter 0305.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, and its enclosure, will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Mr. Jeffery A. Clark, P.E.
Chief, Project Branch E
Division of Reactor Projects

Docket: 50-285
License: DPR-40

Enclosure:
NRC Inspection Report 05000285/2010003
w/Attachment: Supplemental Information

cc w/Enclosure:
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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 05000285

License: DPR-40

Report: 05000285/2010003

Licensee: Omaha Public Power District

Facility: Fort Calhoun Station

Location: 9610 Power Lane
Blair, NE 68008

Dates: April 1 through June 30, 2010

Inspectors: J. Kirkland, Senior Resident Inspector
J. Wingeback, Resident Inspector
P. Elkmann, Senior Emergency Preparedness Inspector
W. Schaup, Project Engineer

Approved By: Jeffrey Clark, P.E., Chief, Project Branch E
Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000285/2010003; 04/01/2010 – 06/30/2010; Fort Calhoun Station, Integrated Resident and Regional Report; Adverse Weather Protection; Correction of Emergency Preparedness Weaknesses and Deficiencies; Performance Indicator Verification/Identification and Resolution of Problems.

The report covered a 3-month period of inspection by resident inspectors and an announced baseline inspection by a regional inspector. Four Green noncited violations and one Severity Level IV noncited violation was identified. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 0609, "Significance Determination Process." The crosscutting aspects were determined using IMC 0310, "Components within the Cross-Cutting Areas." Findings for which the significance determination process does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. **NRC-Identified Findings and Self-Revealing Findings**

Cornerstone: Mitigating Systems

- Green. The inspectors identified a noncited violation of 10 CFR 50.36(c)(2)(ii)(B) for the failure to include an adequate limiting condition for operation in the technical specification. Specifically, the reactor cannot be placed in a cold shutdown condition using normal operating procedures when the river level exceeds 1009 feet mean sea level, as required by Technical Specification 2.16. This violation has been entered into the licensee's corrective action program to determine the appropriate limiting condition for operation.

The inspectors determined that the licensee's failure to include an adequate limiting condition for operation in the technical specification was a performance deficiency. This finding is more than minor because it affected the protection against external events attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, in that the reactor cannot be placed in a cold shutdown condition using normal operating procedures when the river level exceeds 1009 feet mean sea level. Because this finding occurred while the unit was operating at full power, the inspectors used Inspection Manual Chapter 0609, Appendix A, to determine its significance. Using Attachment 1 of that appendix, the inspectors determined that this finding had very low risk significance because the finding did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event, using the criteria included in Exhibit 1 of Inspection Manual Chapter 0609 Attachment 4. Since the finding is not indicative of current licensee performance, there is no crosscutting area assigned to this finding. (Section 1R01)

Cornerstone: Emergency Preparedness

- Green. The inspectors identified a noncited violation of 10 CFR 50.54(t)(2) for the failure to conduct an evaluation of the adequacy of interfaces between the licensee and state and local governments during a periodic review of the site emergency preparedness program. Specifically, the quality assurance audit team, for the February 2010 emergency preparedness audit, did not evaluate the adequacy of interfaces with offsite agencies and did not contact state or local emergency management or radiological health agencies during the audit to obtain information about their working relationships with the licensee. The licensee has placed this violation in their corrective action program as Condition Report 2010-2078.

This finding is more than minor because it affected the offsite emergency preparedness attribute of the Emergency Preparedness Cornerstone objective. This finding was determined to be of very low safety significance because it was a failure to comply with an NRC requirement and was not associated with the planning standards of 10 CFR 50.47(b). This finding is associated with the resources component of the human performance crosscutting area [H.2(b)] (Section 1EP5).

- Green. The inspectors identified a noncited violation of 10 CFR 50.47(b)(14) for the failure to conduct drills that were adequate to maintain key skills. Specifically, environmental monitoring teams were not required to collect environmental samples during the 2008 and 2009 annual environmental monitoring drills. The licensee has placed this violation in their corrective action program as Condition Report 2010-2055.

This finding is more than minor because it affected the emergency response organization performance and procedure quality cornerstone attributes of the Emergency Preparedness Cornerstone objective. The finding is of very low safety significance because it is a failure to comply with NRC requirements, was associated with nonrisk significant planning standard 10 CFR 50.47(b)(14), and was not a functional failure of the planning standard. This finding is associated with the resources component of the human performance crosscutting area [H.2(c)] (Section 1EP5).

- Green. The inspectors identified a noncited violation of 10 CFR 50.47(b)(10) and 50.54(q) for the failure to develop and put into place guidelines for the choice of protective actions during an emergency that were consistent with federal guidance. Specifically, the licensee's methodology for determining protective action recommendations could result in recommendations to evacuate members of the public in areas where dose projections did not exceed EPA protective action guides. The licensee has placed this violation in their corrective action program as Condition Report 2010-2174.

This finding is more than minor because it adversely affected the emergency response organization performance and procedure quality cornerstone attributes of the Emergency Preparedness Cornerstone objective. This finding was determined to be of very low safety significance because it was a failure to comply with NRC requirements, is a finding associated with a risk significant planning standard, and is not a risk significant planning standard functional failure or degraded function. This finding was associated with the operating experience component of the problem identification and resolution crosscutting area [P.2(a)] (Section 4OA1).

Cornerstone: Miscellaneous

- Severity Level IV. The inspectors identified a noncited violation for the failure to submit a licensee event report within 60 days of discovery of an event as required by 10 CFR 50.73. Specifically, the turbine-driven auxiliary feedwater pump, FW-10, was inoperable from February 26 until April 6, 2009, which is a reportable condition required by 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by technical specifications. On March 11, 2009, the electric motor-driven auxiliary feedwater pump, FW-6, was inoperable for approximately four hours when diesel generator 1 was inoperable. With both auxiliary feedwater pumps simultaneously inoperable, this was a reportable condition required by 10 CFR 50.73(a)(2)(v) as an event that could have prevented fulfillment of a safety function. The licensee entered this violation into their corrective action program, completed a reportability evaluation and determined that a licensee event report was required to be submitted within 60 days of April 6, 2009, and had not been submitted. The licensee event report will be submitted prior to August 10, 2010.

The inspectors determined that the licensee's failure to submit a Licensee Event Report was a performance deficiency. The inspectors reviewed this issue in accordance with NRC Inspection Manual Chapter 0612 and the NRC Enforcement Manual. Through this review, the inspectors determined that traditional enforcement was applicable to this issue because the NRC's regulatory ability was potentially affected. Specifically, the NRC relies on licensees to identify and report conditions or events meeting the criteria specified in regulations in order to perform its regulatory function, and when this is not done the regulatory function is impacted, and is therefore a finding. The inspectors determined that this finding was not suitable for evaluation using the significance determination process and, as such, was evaluated for traditional enforcement only in accordance with the NRC Enforcement Policy. This is a Severity Level IV noncited violation consistent with Section IV.A.3 and Supplement I, Paragraph D.4, of the NRC Enforcement Policy (Section 4OA2).

B. Licensee-Identified Violations

Violations of very low safety significance, which were identified by the licensee, have been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. These violations and corrective action tracking numbers (condition report numbers) are listed in Section 4OA7.

REPORT DETAILS

Summary of Plant Status

The unit began the inspection period operating at 100 percent power. On April 8, 2010, the unit shut down to repair motor control center MCC-3A1. The plant started up on April 12, 2010, and returned to 100 percent power on April 14, where it remained through the end of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness

1R01 Adverse Weather Protection (71111.01)

.1 Readiness for Impending Adverse Weather Conditions

a. Inspection Scope

Since thunderstorms with potential tornados and high winds were forecast in the vicinity of the facility for June 1, 2010, the inspectors reviewed the plant personnel's overall preparations/protection for the expected weather conditions. On June 1, 2010, the inspectors walked down the protected area, intake structure, and room 81 because their safety-related functions could be affected, or required, as a result of high winds or tornado-generated missiles or the loss of offsite power. The inspectors evaluated the plant staff's preparations against the site's procedures and determined that 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 Updated Safety Analysis Report (USAR) and performance requirements for the systems selected for inspection, and verified that operator actions were appropriate as specified by plant-specific procedures. The inspectors also reviewed a sample of corrective action program items to verify that the licensee-identified adverse weather issues at an appropriate threshold and dispositioned them through the corrective action program in accordance with station corrective action procedures. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one (1) readiness for impending adverse weather condition sample as defined in Inspection Procedure 71111.01-05.

b. Findings

No findings were identified.

.2 Readiness to Cope with External Flooding

a. Inspection Scope

The inspectors evaluated the design, material condition, and procedures for coping with the design basis probable maximum flood. The evaluation included a review to check for deviations from the descriptions provided in the USAR for features intended to mitigate the potential for flooding from external factors. As part of this evaluation, the inspectors checked for obstructions that could prevent draining, checked that the roofs did not contain obvious loose items that could clog drains in the event of heavy precipitation, and determined that barriers required to mitigate the flood were in place and operable. Additionally, the inspectors performed an inspection of the protected area to identify any modification to the site that would inhibit site drainage during a probable maximum precipitation event or allow water ingress past a barrier. The inspectors also reviewed the abnormal operating procedure for mitigating the design basis flood to ensure it could be implemented as written. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one (1) external flooding sample as defined in Inspection Procedure 71111.01-05.

b. Findings

Introduction. The inspectors identified a Green noncited violation of 10 CFR 50.36(c)(2)(ii)(B) for the failure to include an adequate limiting condition for operation in the technical specification. Specifically, the reactor cannot be placed in a cold shutdown condition using normal operating procedures when the river level exceeds 1009 feet mean sea level (MSL) as required by Technical Specification 2.16.

Description. While reviewing the licensee's response to an external flooding event, the inspectors reviewed Chapter 2.7 of the USAR, "Hydrology." This chapter describes the license basis for an external flooding event at the Fort Calhoun Station. Of relevance, is a probable maximum flood level of 1009.3 feet MSL which was established in the Final Safety Analysis Report in 1973. The Final Safety Analysis Report described the following actions regarding high river water levels: "For higher flood levels up to the maximum probable flood of 1009.3 feet MSL, protection is provided by steel flood gates permanently mounted above openings in structures containing equipment required for a safe and orderly plant shutdown. In the event of high water levels, these flood gates can be slid down channels equipped with seals and provide protection to a level of 1009.5 feet mean sea level."

In 2002, the USAR was revised to clarify that in the intake structure, sandbagging would be required to protect the intake structure for river levels between 1007.5 and 1009.5 feet mean sea level. The current revision of the USAR states: "In the Intake Structure, protection to 1009.5 feet MSL is accomplished with flood gates and sandbagging. The plant can be protected by sandbags, temporary earth levees and other methods to allow a safe shutdown with a flood elevation of 1013 feet mean sea level."

The change in described actions recognized that sandbagging was required in the intake structure for river levels above 1007.5 feet mean sea level. Protection of the intake structure provides protection for the raw water pumps, which are essential for placing the plant in cold shutdown.

Fort Calhoun Technical Specification 2.16, "River Level," includes the following limiting condition for operation: "If the Missouri River level exceeds 1009 feet MSL the reactor will be placed in a cold shutdown condition using normal operating procedures."

Fort Calhoun inspection report 05000285/2010007 identified that at flooding levels above 1008 feet MSL, the site would experience a loss of offsite power and loss of intake structure due to flooding. With the loss of the intake structure, and thus the raw water pumps, the plant would be incapable of reaching cold shutdown, which is counter to the technical specification requirements.

Analysis. The inspectors determined that the licensee's failure to include an adequate limiting condition for operation in the technical specification was a performance deficiency. This finding is more than minor because it affected the protection against external events attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, in that the reactor cannot be placed in a cold shutdown condition using normal operating procedures when the river level exceeds 1009 feet mean sea level. Because this finding occurred while the unit was operating at full power, the inspectors used Inspection Manual Chapter 0609, Appendix A, to determine its significance. Using Attachment 1 of that appendix, the inspectors determined that this finding had very low risk significance (Green) because the finding did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event, using the criteria included in Exhibit 1 of Inspection Manual Chapter 0609 Attachment 4. Since the finding is not indicative of current licensee performance, there is no crosscutting area assigned to this finding.

Enforcement. Title 10 Part 50.36(c)(2)(ii)(B) of the Code of Federal Regulations requires, in part, that a "technical specification limiting condition for operation of a nuclear reactor must be established for a process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier." Contrary to the above, the limiting condition for operation involving high river levels is not an adequate representation of an initial condition of a transient. Specifically, the reactor cannot be placed in a cold shutdown condition using normal operating procedures when the river level exceeds 1009 feet MSL, as described in Technical Specification 2.16, "River Level." Because this violation was of very low safety significance and it was entered into the licensee's corrective action program, this violation is being treated as a noncited violation, consistent with the enforcement policy: NCV 05000285/2010003-01, "Failure to Provide Adequate Limiting Condition for Operation for High River Level."

1R04 Equipment Alignments (71111.04)

.1 Partial Walkdown

a. Inspection Scope

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

- June 1, 2010, Portions of the raw water system while raw water pump AC-10A was out of service and A circulating water cell was isolated
- June 9, 2010, Portions of diesel generator 2 while turbine-driven auxiliary feedwater pump FW-10 was out of service

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 affect the function of the system, and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, USAR, technical specification requirements, administrative technical specifications, 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 inspected accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program with the appropriate significance characterization. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of two (2) partial system walkdown samples as defined in Inspection Procedure 71111.04-05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Quarterly Fire Inspection Tours

a. Inspection Scope

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

- June 7, 2010, Fire Area 36B/C, West Switchgear Area , Room 36W
- June 7, 2010, Fire Area 20.4, Valve Area III, Room 61
- June 28, 1010, Fire Area 35A, Diesel generator Room 1
- June 28, 1010, Fire Area 35B, Diesel generator Room 2

The inspectors reviewed areas to assess if licensee personnel 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 internal fire risk as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to affect equipment that could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. Using the documents listed in the attachment, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's corrective action program. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of four (4) quarterly fire-protection inspection samples as defined in Inspection Procedure 71111.05-05.

b. Findings

No findings were identified.

.2 Annual Fire Protection Drill Observation (71111.05A)

a. Inspection Scope

On June 5, 2010, the inspectors observed fire brigade activation due to a simulated fire in the seal oil vacuum pump, LO-12C. The observation evaluated the readiness of the plant fire brigade to fight fires. The inspectors verified that the licensee staff identified deficiencies; openly discussed them in a self-critical manner at the drill debrief, and took

appropriate corrective actions. Specific attributes evaluated were (1) proper wearing of turnout gear and self-contained breathing apparatus; (2) proper use and layout of fire hoses; (3) employment of appropriate fire fighting techniques; (4) sufficient firefighting equipment brought to the scene; (5) effectiveness of fire brigade leader communications, command, and control; (6) search for victims and propagation of the fire into other plant areas; (7) smoke removal operations; (8) utilization of preplanned strategies; (9) adherence to the preplanned drill scenario; and (10) drill objectives.

These activities constitute completion of one (1) annual fire-protection inspection sample as defined in Inspection Procedure 71111.05-05.

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

The inspectors reviewed the USAR, the flooding analysis, and plant procedures to assess susceptibilities involving internal flooding; reviewed the corrective action program to determine if licensee personnel identified and corrected flooding problems; inspected underground bunkers/manholes to verify the adequacy of sump pumps, level alarm circuits, cable splices subject to submergence, and drainage for bunkers/manholes; and verified that operator actions for coping with flooding can reasonably achieve the desired outcomes. The inspectors also inspected the areas listed below to verify the adequacy of equipment seals located below the flood line, floor and wall penetration seals, watertight door seals, common drain lines and sumps, sump pumps, level alarms, and control circuits, and temporary or removable flood barriers. Specific documents reviewed during this inspection are listed in the attachment.

- May 5, 2010, Internal flooding potential due to condenser cleaning
- May 17, 2010, Review of rooms 21 and 23, and corridors 4 and 26, while the floor plug to room 21 is removed

These activities constitute completion of two (2) flood protection measures inspection samples as defined in Inspection Procedure 71111.06-05.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11)

Quarterly Review

a. Inspection Scope

On June 2, 2010, the inspectors observed a crew of licensed operators in the plant's simulator 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 inspectors evaluated the following areas:

- Licensed operator performance
- Crew's clarity and formality of communications
- Crew's ability to take timely actions in the conservative direction
- Crew's prioritization, interpretation, and verification of annunciator alarms
- Crew's correct use and implementation of abnormal and emergency procedures
- Control board manipulations
- Oversight and direction from supervisors
- Crew's ability to identify and implement appropriate technical specification actions and emergency plan actions and notifications

The inspectors compared the crew's performance in these areas to pre-established operator action expectations and successful critical task completion requirements. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one (1) quarterly licensed-operator requalification program sample as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

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

- Circulating water system and repetitive failures of pump CW-1A
- Diesel-driven auxiliary feedwater pump FW-54, fuel oil transfer pump FO-37

The inspectors reviewed events such as where ineffective equipment maintenance has resulted in valid or invalid automatic actuations of engineered safeguards systems and independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- Implementing appropriate work practices
- Identifying and addressing common cause failures
- Scoping of systems in accordance with 10 CFR 50.65(b)
- Characterizing system reliability issues for performance
- Charging unavailability for performance
- Trending key parameters for condition monitoring
- Ensuring proper classification in accordance with 10 CFR 50.65(a)(1) or -(a)(2)
- Verifying appropriate performance criteria for structures, systems, and components classified as having an adequate demonstration of performance through preventive maintenance, as described in 10 CFR 50.65(a)(2), or as requiring the establishment of appropriate and adequate goals and corrective actions for systems classified as not having adequate performance, as described in 10 CFR 50.65(a)(1)

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were entered into the corrective action program with the appropriate significance characterization. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of two (2) quarterly maintenance effectiveness samples as defined in Inspection Procedure 71111.12-05.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed licensee personnel's evaluation and management of plant risk for the maintenance and emergent work activities affecting risk-significant and safety-

related equipment listed below to verify that the appropriate risk assessments were performed prior to removing equipment for work:

- April 8, 2010, Review of risk and compensatory measures associated with performance of engineered safety feature testing with a 480 volt ground on bus 1B3A
- April 27, 2010, Review of risk and compensatory measures associated with a west raw water header outage, open pressure boundary in room 19, and the raw water to component cooling water isolation valve HCV-2893 closed
- June 15, 2010, Review of risk and compensatory measures associated with replacement of the M2 contactor
- June 17, 2010, Review of risk and compensatory measures associated with performance of safety injection actuation signal, containment spray actuation signal, and, recirculation actuation signal testing while M2 contactor is out of service

The inspectors selected these activities based on potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that licensee personnel performed risk assessments as required by 10 CFR 50.65(a)(4) and that the assessments were accurate and complete. When licensee personnel performed emergent work, the inspectors verified that the licensee personnel promptly assessed and managed plant risk. 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 the technical specification requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of four (4) maintenance risk assessments and emergent work control inspection samples as defined in Inspection Procedure 71111.13-05.

b. Findings

No findings were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the following issues:

- April 5, 2010, Operability of the power operated relief valves, PCV-102-1 and PCV-102-2 following issues associated with a CR120A relay
- April 8, 2010, Operability of diesel generator 1 following the failure of the voltage regulator HVAC unit
- April 15, 2010, Operability of MCC-3A1 following cable splice
- May 24, 2010, Operability of FE-142, regarding qualification concerns
- June 8, 2010, Operability of component cooling water pump AC-3A following discovery of overheated cables
- June 21, 2010, Operability of AI-3-M2 contactor after replacement

The inspectors selected these 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 technical specification operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the technical specifications and USAR to the licensee personnel'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. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of six (6) operability evaluations inspection samples as defined in Inspection Procedure 71111.15-04

b. Findings

No findings were identified.

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed the following postmaintenance activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- April 11, 2010, Postmaintenance testing following repair of motor control center MCC-3A1
- May 3, 2010, Review of calibration and postmaintenance testing following repair and replacement of FE-142, safety valve acoustic monitor
- June 7, 2010, Postmaintenance testing following replacement of High Pressure Safety Injection to Loop 2A Isolation Valve, HCV-317, breaker
- June 17, 2010, Postmaintenance testing following replacement of clutch power supply trip contactor AI-3-M2
- June 28, 2010, Postmaintenance testing of ion exchanger CH-10 inlet valve, CH-300

The inspectors selected these activities based upon the structure, system, or component's ability to affect risk. The inspectors evaluated these activities for the following (as applicable):

- 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

The inspectors evaluated the activities against the technical specifications, the USAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications 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 postmaintenance tests to determine whether the licensee was identifying problems and entering them in the corrective action program and that the problems were being corrected commensurate with their importance to safety. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of five (5) postmaintenance testing inspection samples as defined in Inspection Procedure 71111.19-05.

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

The inspectors reviewed the outage safety plan and contingency plans for the forced outage, conducted April 8 to April 12, 2010, to confirm that licensee personnel had appropriately considered risk, industry experience, and previous site-specific problems in developing and implementing a plan that assured maintenance of defense in depth. During the refueling outage, the inspectors observed portions of the shutdown and cooldown processes and monitored licensee controls over the outage activities listed below.

- Configuration management, including maintenance of defense in depth, is commensurate with the outage safety plan for key safety functions and compliance with the applicable technical specifications when taking equipment out of service.
- Clearance activities, including confirmation that tags were properly hung and equipment appropriately configured to safely support the work or testing.
- Monitoring of decay heat removal processes, systems, and components.
- Verification that outage work was not impacting the ability of the operators to operate the spent fuel pool cooling system.
- Controls over activities that could affect reactivity.
- Maintenance of secondary containment as required by the technical specifications.
- Startup and ascension to full power operation, tracking of startup prerequisites, walkdown of the drywell (primary containment) to verify that debris had not been left which could block emergency core cooling system suction strainers, and reactor physics testing.
- Licensee identification and resolution of problems related to refueling outage

Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one (1) refueling outage and other outage inspection sample as defined in Inspection Procedure 71111.20-05.

b. Findings

Introduction. The inspectors identified an unresolved item concerning cable splices installed on the power feeder cables for motor control center MCC-3A1. Specifically, the

issue concerns whether the licensee is permitted to install cable splices in this particular location.

Description. On April 9, 2010, the licensee repaired a section of power cable for motor control center MCC-3A1 with cable splices. Approximately 17 feet of 500 MCM cable was removed from each of the three phases for the supply to MCC-3A1 and “Burndy” compression type butt splices were used to splice new cables to the remaining existing cables.

The inspectors reviewed Section 8.5, “Initial Cable Installation Design Criteria” of the USAR.

- USAR 8.5 states, in part: “The Cable and Conduit Schedule Notes, Figure 8.5-1, provides the standard design criteria for cables and conduits. Deviation from the standard criteria is acceptable provided an analysis has been completed which justified the deviation.”
- USAR Figure 8.5-1, Cable and Conduit Schedule Notes, Note 19 states: “Splicing in cable trays is not allowed unless specifically called for on drawings. Exceptions to this requirement shall require the written approval of the engineer.”
- USAR Figure 8.5-1, Note 26 states: “Deviations from the standards stated above is [are] acceptable provided an analysis has been performed to justify the deviation.”
- USAR Section 8.5.4.c states: “Cable splicing in cable trays is used only for connection of incoming and outgoing cables with containment electrical penetration conductors.”

The licensee performed a 50.59 Screen in accordance with the guidance provided in FCSG-23, “10 CFR 50.59 Resource Manual.” The guidance adopts NEI 96-07, Revision 1 “Guidelines for 10 CFR 50.59 Implementation” which includes five screening questions to determine if a complete evaluation of 10 CFR 50.59 is required. The licensee determined that a cable splice was an equivalent replacement for cable, and thus it “screened out” in accordance with NEI-96-07 and no evaluation of 10 CFR 50.59 was required. The inspectors determined that a cable splice is not an equivalent replacement, thus a violation of 10 CFR 50.59 occurred for failure to perform an evaluation of the cable splice against the criteria set forth in 10 CFR 50.59. The violation would be greater than minor only if prior NRC approval was required.

The inspectors are reviewing the technical aspects of this issue to determine if prior NRC approval would have been required. In accordance with the guidance in Inspection Manual Chapter 0612, an unresolved item is warranted if more information is required to determine if the performance deficiency is more than minor, URI 05000285/2010003-06, “Failure to Perform a Proper 50.59 Evaluation”

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the USAR, procedure requirements, and technical specifications to ensure that the surveillance activities listed below demonstrated that the systems, structures, and/or components tested were capable of performing their intended safety functions. The inspectors either witnessed or reviewed test data to verify that the significant surveillance test attributes were adequate to address the following:

- Preconditioning
- Evaluation of testing impact on the plant
- Acceptance criteria
- Test equipment
- Procedures
- Jumper/lifted lead controls
- Test data
- Testing frequency and method demonstrated technical specification operability
- Test equipment removal
- Restoration of plant systems
- Fulfillment of ASME Code requirements
- Updating of performance indicator data
- Engineering evaluations, root causes, and bases for returning tested systems, structures, and components not meeting the test acceptance criteria were correct
- Reference setting data
- Annunciators and alarms setpoints

The inspectors also verified that licensee personnel identified and implemented any needed corrective actions associated with the surveillance testing.

- May 5, 2010, IC-ST-SA-3001A, diesel generator 1 starting air compressors discharge check valve exercise test

- May 12, 2010, OP-ST-RW-3011, raw water pump quarterly in-service test
- June 9, 2010, OP-ST-AFW-3011, auxiliary feedwater pump FW-10, steam isolation, and check valve tests
- June 16, 2010, IC-ST-SA-3001B, diesel generator 2 starting air compressors discharge check valve exercise test
- June 25, 2010, OP-ST-SI-3022, room 22 safety injection/containment spray pumps and valve exercise in-service test

Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of five (5) surveillance testing inspection samples as defined in Inspection Procedure 71111.22-05.

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP2 Alert Notification System Testing (71114.02)

a. Inspection Scope

The inspectors discussed with the licensee staff the operability of primary and backup offsite siren emergency warning systems, to determine the adequacy of the licensee's methods for testing the alert and notification system in accordance with 10 CFR Part 50, Appendix E. The licensee's alert and notification system testing program was compared with criteria in NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1; FEMA Report REP-10, "Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants," and the licensee's current FEMA approved alert and notification system design report. The specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one (1) sample as defined in Inspection Procedure 71114.02-05.

b. Findings

No findings were identified.

1EP3 Emergency Response Organization Augmentation Testing (71114.03)

a. Inspection Scope

The inspectors discussed with licensee staff the operability of primary and backup systems for augmenting the on-shift emergency response staff to determine the adequacy of licensee methods for staffing emergency response facilities in accordance with their emergency plan. The inspectors evaluated the licensee's ability to staff the emergency response facilities in accordance with the licensee's emergency plan and the requirements of 10 CFR Part 50, Appendix E. The specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one (1) sample as defined in Inspection Procedure 71114.03-05.

b. Findings

No findings were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The inspectors reviewed a summary of 64 changes made by the licensee to the Fort Calhoun Station Radiological Emergency Response Plan and emergency plan implementing procedures between October 2008 and March 2010, and selected eight for detailed review. The licensee's changes were compared to the criteria of Procedure EPDM-6, "10 CFR 50.54(q) Review of Procedure Changes," Revision 6, to the criteria of NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1, and to the standards in 10 CFR 50.47(b) to determine if the licensee adequately implemented the requirements of 10 CFR 50.54(q). This review was not documented in a safety evaluation report and did not constitute approval of licensee-generated changes; therefore, these changes are subject to future inspection. The specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one (1) sample as defined in Inspection Procedure 71114.04-05.

b. Findings

No findings were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies (71114.05)

a. Inspection Scope

The inspectors reviewed the licensee's corrective action program requirements in Procedure FCSG-24, "Correction Action Program Guidance," Revision 22. The inspectors reviewed summaries of 180 corrective action program documents (Condition Reports) assigned to the emergency preparedness department and emergency response organization between October 2008 and March 2010, and selected 20 for detailed review against the program requirements. The inspectors evaluated the response to the corrective action requests to determine the licensee's ability to identify, evaluate, and correct problems in accordance with the licensee program requirements, planning standard 10 CFR 50.47(b)(14), and 10 CFR Part 50, Appendix E. The inspectors also reviewed licensee audits, drill evaluation reports, and after-action reports to determine whether the licensee was identifying weaknesses and deficiencies in the emergency preparedness program. The specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one (1) sample as defined in Inspection Procedure 71114.05-05.

b. Findings

.i Inadequate Evaluation of Offsite Interfaces

Introduction. The inspectors identified a Green noncited violation of 10 CFR 50.54(t)(2) for failure to conduct an evaluation of the adequacy of interfaces between the licensee and state and local governments during the February 2010 quality assurance audit of the site emergency preparedness program.

Description. The inspector reviewed the February 2010 quality assurance audit of the site emergency preparedness program (10-QUA-012), reviewed QA Audit Checklist Number 4, element I-2, and reviewed quality observation reports OBSR-2009-0959 and OBSR-2009-2705, to determine whether the licensee met the requirements of 10 CFR 50.54(t)(2) with regards to evaluating site interfaces with offsite emergency response organizations. The inspectors also discussed the audit with the lead auditor responsible for overseeing the audit team and for preparing the audit report.

The inspectors noted that the 2010 audit report did not characterize the quality of emergency preparedness interfaces with offsite authorities. The lead auditor stated the audit team did not contact or interview any offsite agencies during the 2010 audit because the 2009 audit team completed a thorough review of the station's interfaces with offsite authorities. The inspectors noted the audit checklist methodology for Element I-2 required the auditor to review Letters of Agreement, state and local emergency plans,

assess the effect of changes in key offsite personnel, verify the distribution of the previous audit of the adequacy of offsite interfaces to offsite authorities, and conduct interviews with offsite agencies. The inspectors concluded the audit team did not follow the established methodology for conducting audits when they did not interview offsite officials as required by Element I-2 of the audit checklist.

The inspectors verified with the lead auditor that emergency management agency staff in Washington and Pottawattamie counties, the state radiological health agencies in Iowa and Nebraska, and other local first-responder agencies expected to respond to incidents at Fort Calhoun Station were not contacted by the audit team. From a review of OHSR-2009-0959, the inspectors noted that on October 28, 2009, the auditor responsible for Audit Element I-2 attended an emergency alert system drill conducted in Harrison County, Iowa. The auditor engaged in conversations with the Harrison County emergency management agency director and an emergency planner from the Iowa Homeland Security and emergency management agency during and after the drill. These conversations resulted in the auditor receiving unsolicited positive feedback about working relationships between Fort Calhoun Station, Harrison County, and the State of Iowa Emergency Management Agency. The inspectors determined the unsolicited feedback was obtained by happenstance, and did not result from audit activities.

The inspectors concluded the February 2010 audit did not meet the requirements of 10 CFR 50.54(t)(2) because the audit team did not evaluate the adequacy of offsite interfaces. Specifically, auditors did not implement the audit checklist methodology which required interviews with offsite officials, only obtained information from two of five emergency management agencies in the emergency planning zone, and did not obtain information from any radiological health agencies or local first-responders.

Analysis. The failure to conduct an evaluation of the adequacy of interfaces between the licensee and state and local governments during a quality assurance audit of the emergency preparedness program is a performance deficiency reasonably within the licensee's ability to foresee and correct, that should have been prevented. This finding has more than minor safety significance because it affected the offsite emergency preparedness attribute of the Emergency Preparedness Cornerstone objective of ensuring the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The finding had a credible affect on the Emergency Preparedness Cornerstone objective because latent, undiscovered, and uncorrected weaknesses in communications and coordination between a licensee and offsite response organizations can delay recognizing and implementing adequate measures to protect the health and safety of the public. The finding was associated with a violation of NRC requirements. This finding was evaluated using the

emergency preparedness significance determination process and was determined to be of very low safety significance (Green) because it was a failure to comply with an NRC requirement and was not associated with the planning standards of 10 CFR 50.47(b). This finding is associated with the resources component of the human performance crosscutting area; specifically, the licensee did not provide sufficient training to the lead auditor to assure an adequate understanding of the regulatory requirements associated with the emergency preparedness program [H.2(b)].

Enforcement. Section 50.54(t)(2) of Title 10 of the Code of Federal Regulations states, in part, that a licensee shall ensure that all emergency preparedness program elements are reviewed periodically and "...the review must include an evaluation for adequacy of interfaces with state and local governments..." Contrary to the above, during the emergency preparedness program audit conducted February 2010 the licensee failed to review the adequacy of interfaces between the licensee and state and local governments. Specifically, the audit plan did not provide for conducting interviews with offsite authorities to evaluate the adequacy of their interfaces with the site emergency preparedness department. Because this failure is of very low safety significance (Green) and has been entered into the licensee's corrective action system as Condition Report 2010-2078, this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000285/2010003-02, "Failure to conduct an adequate audit of emergency preparedness interfaces with offsite authorities."

.ii Failure to Conduct Adequate Environmental Sampling Drills

Introduction. The inspectors identified a Green noncited violation of 10 CFR 50.47(b)(14), for failure to collect environment samples during environmental monitoring drills conducted in 2008 and 2009.

Description. The inspectors reviewed Emergency Preparedness Tests EP 08-078 and EP-09-077, 'Environmental Monitoring Drill,' conducted October 16, 2008, and October 8, 2009, respectively. The inspectors noted a completed 'Environmental Sample Record' form was attached to each drill, listing the samples collected by the team, the sampling locations, and collection times. Because the time intervals between samples recorded on the sample record form did not appear to be consistent with the time(s) required to perform sampling and transit to subsequent sampling location(s), the inspectors interviewed the licensee emergency planner who evaluated EP-09-077 to determine how the drill was conducted. The emergency planner stated that the environmental monitoring team that participated in EP 09-077 consisted of personnel from the station's routine Radiological Environmental Monitoring Program. The drill was conducted by having the sampling team drive to each location recorded on the sample record form. Because team members perform environmental sampling as part of their

routine job functions, the team was permitted to verbally describe the sample(s) they would collect at each location, and did not demonstrate sample collection techniques.

The inspectors reviewed the Fort Calhoun Station Radiological Emergency Response Plan, Section N, Step 2.4.2, which states, "Annually a drill is held which involves the collection of a type of environmental sampling media..." The inspectors also reviewed NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1, Planning Standard N, Element 2.d, which states, in part, "Plant environs...drills shall be conducted annually. These drills shall include collection and analysis of all sample media (e.g., water, vegetation, soil and air) and provisions for communications and record keeping..." While the elements of NUREG-0654 are not regulatory requirements, these elements establish review criteria for implementing the emergency planning standards of 10 CFR 50.47(b). The inspectors concluded the environmental monitoring drills conducted on October 16, 2008, and October 8, 2009, did not comply with the requirements of the licensee's emergency plan, which requires sampling media be collected. These drills also did not demonstrate communications, recordkeeping, or the radiation protection skills associated with sampling in a contaminated environment.

The inspectors concluded that environmental drills conducted by the licensee in 2008 and 2009 were not sufficient to maintain key emergency response organization skills in environmental monitoring because environmental samples were not collected during the drills.

Analysis. The failure to collect environmental samples during environmental monitoring drills conducted in 2008 and 2009 is a performance deficiency within the licensee's ability to foresee and correct, that could) have been prevented. This finding is of more than minor safety significance because it affected the training and drills elements of the emergency response organization performance attributes of the Emergency Preparedness Cornerstone objective of ensuring the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The finding affected the cornerstone objective because ineffective radiological sampling may cause protective action recommendations to be delayed or incomplete. The finding was associated with a violation of NRC requirements. This finding was evaluated using the Emergency Preparedness Significance Determination Process and was determined to be of very low safety significance (Green) because it was a failure to comply with NRC requirements, was associated with non-risk significant planning standard 10 CFR 50.47(b)(14), and was not a functional failure of the planning standard. The finding did not constitute a functional failure of 10 CFR 50.47(b)(14) because fewer than three drills required by the emergency plan were not properly conducted. This finding is associated with

the resources component of the human performance crosscutting area; specifically, the licensee did not ensure that complete, accurate and up-to-date procedures were available to assure that a technically adequate drill was performed [H.2(c)].

Enforcement. The planning standard of 10 CFR 50.47(b)(14) requires, in part, that periodic drills are conducted to maintain key emergency response organization skills. Contrary to the above, the licensee did not conduct periodic drills in 2008 and 2009 that maintained key emergency response organization skills in environmental monitoring. Specifically, key environmental monitoring skills were not maintained by environmental monitoring drills conducted in 2008 and 2009 because drill participants did not demonstrate the collection and analysis of environmental samples. Because this failure is of very low safety significance (Green) and has been entered into the licensee's corrective action system (Condition Report 2010-2055), this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000285/2010003-03, "Failure to Conduct Drills to Maintain Environmental Monitoring Skills."

1EP6 Drill Evaluation (71114.06)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine licensee emergency drill on May 21, 2010, to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the control room to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the licensee drill critique to compare any inspector-observed weakness with those identified by the licensee staff in order to evaluate the critique and to verify whether the licensee staff was properly identifying weaknesses and entering them into the corrective action program. As part of the inspection, the inspectors reviewed the drill package and other documents listed in the attachment.

These activities constitute completion of one (1) sample as defined in Inspection Procedure 71114.06-05.

b. Findings

No findings were identified.

.2 Training Observations

a. Inspection Scope

The inspectors observed a simulator training evolution for licensed operators on June 22, 2010, which required emergency plan implementation by a licensee operations crew. This evolution was planned to be evaluated and included in performance indicator data regarding drill and exercise performance. The inspectors observed event classification and notification activities performed by the crew. The inspectors also attended the post-evolution critique for the scenario. The focus of the inspectors' activities was to note any weaknesses and deficiencies in the crew's performance and ensure that the licensee evaluators noted the same issues and entered them into the corrective action program. As part of the inspection, the inspectors reviewed the scenario package and other documents listed in the attachment.

These activities constitute completion of one (1) sample as defined in Inspection Procedure 71114.06-05.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

40A1 Performance Indicator Verification (71151)

.1 Data Submission Issue

a. Inspection Scope

The inspectors performed a review of the performance indicator data submitted by the licensee for first quarter 2010 performance indicators for any obvious inconsistencies prior to its public release in accordance with Inspection Manual Chapter 0608, "Performance Indicator Program."

This review was performed as part of the inspectors' normal plant status activities and, as such, did not constitute a separate inspection sample.

b. Findings

No findings were identified.

.2 Unplanned Scrams per 7000 Critical Hours (IE01)

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned scrams per 7000 critical hour's performance indicator for the period from the second quarter 2009 through the first quarter 2010. To determine the accuracy of the performance indicator data reported

during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC integrated inspection reports for the period of April 1, 2009, through March 31, 2010, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one (1) unplanned scrams per 7000 critical hours sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.3 Unplanned Scrams with Complications (IE02)

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned scrams with complications performance indicator for the period from the second quarter 2009 through the first quarter 2010. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC integrated inspection reports for the period of April 1, 2009, through March 31, 2010, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one (1) unplanned scrams with complications sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.4 Unplanned Power Changes per 7000 Critical Hours (IE03)

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned power changes per 7000 critical hour's performance indicator for the period from the second quarter 2009 through the first quarter 2010. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in

NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, maintenance rule records, event reports, and NRC integrated inspection reports for the period of April 1, 2009, through March 31, 2010, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one (1) unplanned transients per 7000 critical hours sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.5 Drill/Exercise Performance (EP01)

a. Inspection Scope

The inspectors sampled licensee submittals for the drill and exercise performance, performance indicator for the period July 2009 through March 2010. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, was used. The inspectors reviewed the licensee's records associated with the performance indicator to verify that the licensee accurately reported the indicator in accordance with relevant procedures and Nuclear Energy Institute guidance. Specifically, the inspectors reviewed licensee records, processes, and procedural guidance on assessing performance indicator opportunities, licensee assessments of performance indicator opportunities during pre-designated control room simulator training sessions, performance during the 2009 biennial exercise, and performance during other site drills. The specific documents reviewed are described in the attachment to this report.

These activities constitute completion of the one (1) drill/exercise performance sample as defined in Inspection Procedure 71151-05.

b. Findings

Introduction. The inspectors identified a Green noncited violation of 10 CFR 50.47(b)(10) and 50.54(q) for failure to develop and put into place guidelines for the choice of protective actions during an emergency that are consistent with federal guidance.

Description. From a review of the March 16, 2010, post-drill evaluation package the inspectors noted three changes to recommendations for offsite protective actions made after the general emergency classification and initial protective action recommendation.

The initial protective action recommendation was for evacuation of all sectors within two miles and evacuation to five miles in sectors G and H, based on plant conditions. Each subsequent protective action recommendation added an additional sector (F, E, and D) to the area recommended for evacuation to five miles. The inspectors also noted that 13 dose assessments were performed after the general emergency classification, the highest of which projected 0.013 rem integrated total effective dose equivalent and 0.88 rem thyroid committed dose equivalent at two miles downwind; the protective action guides were 1.0 rem and 5.0 rem, respectively.

The inspectors interviewed the manager, emergency planning and health physics, to determine the licensee's process for evaluating the effect of changes in wind vectors and for making changes to existing offsite protective action recommendations. The manager, emergency planning and health physics, stated that protective action recommendations are developed according to Procedure EPIP-EOF-7, "Protective Action Guidelines," Revision 19, dated October 21, 2008, using Attachment 6.1, "Protective Action Recommendations Flowchart based on Plant Conditions and Radiological Data."

The inspectors noted that Attachment 6.1 is constructed so that a protective action recommendation based on plant conditions is determined before considering dose projection results. Additionally, the flowchart only allows a plant-based recommendation to be expanded based on dose projection results, and does not allow it to be reduced based on dose projection results. The plant conditions that result in recommendations to evacuate all sectors within two miles and downwind sectors to five miles (e.g., keyhole evacuation) include core exit thermocouple temperatures greater than 1550°F, containment accident range radiation monitors greater than 20,000 R/h, and a sustained loss of safety injection systems during a loss of reactor coolant system accident. Emergency preparedness management stated the flowchart is designed to result in a keyhole evacuation recommendation when the reactor core is significantly degraded. While the core remains degraded, the flowchart does not allow for less than a keyhole evacuation; therefore, when wind vectors change, the licensee's process always adds the new sector(s) to the area recommended for evacuation. Dose assessment results that are less than protective action guides at two miles are not considered while the core is degraded.

The manager, emergency planning and health physics, stated that protective measures managers are trained that if reactor core conditions improve after having been degraded (e.g., core exit thermocouple temperatures and containment radiation levels decline, or safety injection capability is restored) the flowchart no longer requires a keyhole evacuation recommendation. New sectors are no longer automatically added to the existing protective action recommendation as wind vectors change, because the minimum recommendation determined from the flow chart becomes evacuate all sectors to two miles. In this circumstance, the area two miles and farther downwind could be added to an existing evacuation recommendation based on dose assessment results at or above protective action guides.

The inspectors observed two tabletop exercises on April 29, 2010. These exercises were conducted to determine the response of protective measures managers when presented

with an initially-degraded core that subsequently improved, coupled with a change in wind vector. Two protective measures managers were presented with a scenario requiring an initial keyhole evacuation protective action recommendation, a subsequent change in plant conditions not resulting in changes to the protective action recommendation, improved core conditions that no longer indicated a degraded core, followed by a change in wind vector. The expected outcome was no change to the initial evacuation recommendation (e.g., the new sector would not be added to the area recommended for evacuation). One protective measures manager did not change the existing protective action recommendation, while one protective measures manager added the new sector to the area recommended for evacuation.

The inspectors concluded that the licensee failed to implement guidelines for the choice of protective actions during an emergency that were consistent with federal guidance. Specifically, the licensee's protective action flowchart did not permit a recommendation of no additional protective actions for a newly-affected sector of the emergency planning zone when the core was in a degraded condition. While the reactor core remains degraded the flowchart does not consider plant effluent monitor data, environmental monitoring team reports, or dose assessments that verify protective action guides are not exceeded in the newly-affected area(s). The performance of one protective measures manager during a tabletop scenario indicated that dose projection data may not always be appropriately considered in making protective action recommendations.

Analysis. The failure to develop and put into place guidelines for the choice of protective actions during an emergency that were consistent with federal guidance is a performance deficiency within the licensee's ability to foresee and correct, that could have been prevented. This finding is more than minor because it affected the emergency response organization performance and procedure quality cornerstone attributes (program elements meet 10 CFR 50.47(b) planning standards) of the Emergency Preparedness Cornerstone objective. The finding affected the Emergency Preparedness Cornerstone objective because the licensee may not be capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency if their process for making protective action recommendations can result in a recommendation to unnecessarily evacuate the public (the decision whether to implement the evacuation recommendation is made by the two States and three Counties in the emergency planning zone). The finding was associated with a violation of NRC requirements. This finding was evaluated using the Emergency Preparedness Significance Determination Process and was determined to be of very low safety significance (Green) because it was a failure to comply with NRC requirements, is a finding associated with a risk significant planning standard, and is not a risk significant planning standard functional failure or degraded function. This finding does not represent a degraded function of standard 10 CFR 50.47(b)(10) because the performance deficiency ensures a recommendation is made to evacuate all members of the public who require evacuation, although it allows some members of the public to be unnecessarily evacuated during an emergency. This finding was associated with the Operating Experience component of the problem identification and resolution crosscutting area; specifically, although the licensee was aware of similar findings issued to other power

reactor licensees, they did not systematically evaluate their process for making protective action recommendations to identify the similar programmatic elements [P.2(a)].

Enforcement. Section 50.54(q) of Title 10 of the Code of Federal Regulations states, in part, that a power reactor licensee shall maintain in effect emergency plans which meet the standards in 50.47(b). Section 50.47(b)(10) states, in part, "Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place..." Section IV(B) of Part 50, Appendix E, requires, in part, that a licensee describe the basis for determining when and what type of protective measures should be considered outside the site boundary. Federal guidelines for the choice of protective actions during an emergency are found in EPA-400-R-92-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents," dated May 1992. Section 1.4 of EPA-400-R-92-001 states that protective action guides are the approximate levels at which protective measures are justified. Section 2.3.1 of EPA-400-R-92-001 states that evacuation is seldom justified at projected radiation doses less than one rem of total effective dose equivalent.

Contrary to the above, prior to April 29, 2010, the licensee did not develop and put into place guidelines for the choice of protective actions during an emergency that were consistent with Federal guidance. Specifically, licensee guidelines for expanding an existing keyhole protective action recommendation in response to changing wind vectors allow for a recommendation to evacuate members of the public in areas where radiological risk does not exist, as evidenced by licensee dose assessments that do not exceed Environmental Protection Agency protective action guides. Because this failure is of very low safety significance (Green) and has been entered into the licensee's corrective action system (Condition Report 2010-2174), this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000285/2010003-04, "Protective Action Recommendation processes allow for the unnecessary evacuation of the public."

.6 Emergency Response Organization Drill Participation (EP02)

a. Inspection Scope

The inspectors sampled licensee submittals for the emergency response organization drill participation performance indicator for the period July 2009 through March 2010. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, was used. The inspectors reviewed the licensee's records associated with the performance indicator to verify that the licensee accurately reported the indicator in accordance with relevant procedures and Nuclear Energy Institute guidance. Specifically, the inspectors reviewed licensee records, processes, and procedural guidance on assessing opportunities for the performance indicator, rosters of personnel assigned to key emergency response organization positions, and exercise participation records. The specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one (1) emergency response organization drill participation sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.7 Alert and Notification System (EP03)

a. Inspection Scope

The inspectors sampled licensee submittals for the alert and notification system performance indicator for the period July 2009 through March 2010. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, was used. The inspectors reviewed the licensee's records associated with the performance indicator to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the Nuclear Energy Institute guidance. Specifically, the inspectors reviewed licensee records, processes, and procedural guidance on assessing opportunities for the performance indicator, and the results of periodic alert notification system operability tests. The specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one (1) alert and notification system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

40A2 Identification and Resolution of Problems (71152)

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Physical Protection

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

As part of the various baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that they were being entered into the licensee's corrective action program at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. The inspectors reviewed attributes that included the complete and accurate identification of the problem; the timely correction, commensurate with the safety significance; the

evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent of condition reviews, and previous occurrences reviews; and the classification, prioritization, focus, and timeliness of corrective actions. Minor issues entered into the licensee's corrective action program because of the inspectors' observations are included in the attached list of documents reviewed.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure, they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's corrective action program. The inspectors accomplished this through review of the station's daily corrective action documents.

The inspectors performed these daily reviews as part of their daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

No findings were identified.

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's corrective action program and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors focused their review on repetitive equipment issues, but also considered the results of daily corrective action item screening discussed in Section 4OA2.2, above, licensee trending efforts, and licensee human performance results. The inspectors nominally considered the 6-month period of October 2009, through March 2010, although some examples expanded beyond those dates where the scope of the trend warranted.

The inspectors also included issues documented outside the normal corrective action program in major equipment problem lists, repetitive and/or rework 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 corrective action program trending reports. Corrective actions associated with a sample of the issues identified in the licensee's trending reports were reviewed for adequacy.

These activities constitute completion of one (1) single semi-annual trend inspection samples defined in Inspection Procedure 71152-05.

b. Findings

No findings were identified.

.4 Selected Issue Follow-up Inspection

a. Inspection Scope

During a review of items entered in the licensee's corrective action program, the inspectors recognized a corrective action item documenting the failure of the turbine-driven auxiliary feedwater pump, FW-10 on high discharge pressure in April 2009.

These activities constitute completion of one (1) in-depth problem identification and resolution sample as defined in Inspection Procedure 71152-05.

b. Findings

Introduction. The inspectors identified a Severity Level IV noncited violation for the failure to submit a licensee event report within 60 days of discovery of an event as required by 10 CFR 50.73. Specifically, the turbine-driven auxiliary feedwater pump, FW-10, was inoperable from February 26 until April 6, 2009, which is a reportable condition required by 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by technical specifications. On March 11, 2009, the electric motor-driven auxiliary feedwater pump, FW-6, was inoperable for approximately four hours when diesel generator 1 was inoperable. With both auxiliary feedwater pumps simultaneously inoperable, this was a reportable condition required by 10 CFR 50.73(a)(2)(v) as an event that could have prevented fulfillment of a safety function.

Description. On February 26, 2009, a modification was made to the turbine-driven auxiliary feed water pump, FW-10, to increase the turbine governor speed setpoint to increase pump discharge pressure. This modification resulted in increasing the discharge pressure limit from 1210 psig to 1280 psig. The pump will trip on high pump discharge pressure. Prior to the speed modification, the trip setpoint was 1450 psig. The discharge pressure margin to trip therefore decreased from 240 psig to 170 psig. An engineering evaluation determined that the decreased discharge pressure margin to trip was adequate, and the discharge pressure trip setpoint did not need to be increased.

On April 6, 2009, the turbine-driven AFW pump tripped on high pump discharge pressure during performance of a scheduled start of the pump. The trip occurred approximately one minute after it was successfully started. A root cause investigation determined the

cause of the trip to be the reduced discharge pressure margin that was a result of the pump speed modification installed on February 26, 2009, coupled with a transient from an indeterminate source. Since the cause of the failure was directly attributed to the pump speed modification, and a specific transient could not be identified, the pump was inoperable for approximately 39 days, from February 26 until April 6, 2009. Fort Calhoun Station Technical Specification 2.5(1)(B) "states that with one AFW train inoperable restore the AFW train to operable status within 24 hours." Therefore, Fort Calhoun Station was in a condition prohibited by technical specifications for approximately 38 days.

On March 11, 2009, a scheduled surveillance of diesel generator 1 was performed. The diesel generator was inoperable from approximately 10:35 a.m. to 2:45 p.m. Emergency power from diesel generator 1 is supplied to the safety related bus 1A3, which in turn powers the electric-driven AFW pump, FW-6. Fort Calhoun Technical Specification 2.0.1(2) requires that a system, subsystem, or train must be considered inoperable if its associated emergency power source is inoperable and either (1) its normal power source is inoperable, or (2) any redundant systems, subsystems, trains or components are inoperable. Since FW-10 was inoperable during the same time that diesel generator 1 was inoperable, FW-6 would also be inoperable in accordance with Technical Specification 2.0.1(2). This failure resulted in a condition where neither safety-related auxiliary feedwater pump was operable or available.

On June 3, 2010, the inspectors questioned the licensee regarding the reportability of FW-10 during the period from February 26 through April 6, 2009. The licensee completed a reportability evaluation and determined that an licensee event report was required to be submitted within 60 days of April 6, 2009, and had not been submitted.

Analysis. The inspectors determined that the licensee's failure to submit a licensee event report was a performance deficiency. The inspectors reviewed this issue in accordance with NRC Inspection Manual Chapter 0612 and the NRC Enforcement Manual. Through this review, the inspectors determined that traditional enforcement was applicable to this issue because the NRC's regulatory ability was potentially affected. Specifically, the NRC relies on licensees to identify and report conditions or events meeting the criteria specified in regulations in order to perform its regulatory function, and when this is not done the regulatory function is impacted, and is therefore a finding. The inspectors determined that this finding was not suitable for evaluation using the significance determination process, and as such, was evaluated for traditional enforcement only, in accordance with the NRC Enforcement Policy. This is a Severity Level IV noncited violation consistent with Section IV.A.3 and Supplement I, Paragraph D.4, of the NRC Enforcement Policy.

Enforcement. As required by CFR 10.50.73(a)(2)(v), in part, that the licensee shall submit a licensee event report within 60 days of any "event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to ... remove residual heat." Contrary to the above, the licensee failed to submit a licensee event report within 60 days after discovery of a condition that could have prevented the auxiliary feed water system from removing residual heat. The inspectors

identified the failure to submit a licensee event report on June 3, 2010, and the licensee completed a reportability evaluation on June 11, 2010, and determined that the event was reportable. There was no actual or potential safety consequences associated with this violation. This is a Severity Level IV noncited violation consistent with Section 7.10 and Supplement I, Paragraph D.4, of the NRC Enforcement Policy. Because the violation was not considered to be willful nor repetitive, the licensee took action to perform a reportability evaluation, and the violation was entered into the corrective action program as Condition Report 2010-2741, this violation is being treated as a Severity Level IV noncited violation, consistent with the NRC Enforcement Policy: NCV 05000285/2010003-05, "Failure to Submit a Required Licensee Event Report."

4OA3 Event Follow-up (71153)

- .1 (Opened and Closed) Licensee Event Report 05000285/2009-004-01: Containment Integrity Unknowingly Violated During Performance of a Leak Test

Containment integrity was unknowingly violated on October 26, 2003, and November 26, 2006, as a result of opening manual containment isolation valve SI 410 (safety injection tanks fill/drain valve). This occurred during a surveillance test, when containment integrity was required and administrative controls (dedicated operator) were not implemented. This licensee event report was revised by the licensee to include information from the root cause analysis. The licensee event report was reviewed by the inspectors, no findings of significance were identified, and no violation of NRC requirements occurred. This licensee event report is closed.

- .2 (Opened) Licensee Event Report 05000285/2009-005-01, Inoperable Auxiliary Feedwater Train Due to an Inoperable Injection Valve.

On November 1, 2009, Fort Calhoun Station began a refueling outage. The station entered mode 5 (less than 210 degrees Fahrenheit, refueling) on November 2, 2009. On November 6, 2009, during performance of air operated valve diagnostic testing of HCV-1107A (Steam Generator "A" auxiliary feedwater [inlet valve]), the air regulator setting was found to be 23.6 pounds per square inch gauge (psig). The regulator pressure setting of 23.6 psig is contrary to the required nominal setting of 35 psig credited in calculation FC06904, "Category 1 Air-Operated Valve (AOV) Operator Margin Analysis." (HCV-1107A is an air-to-close valve.) This licensee event report was revised by the licensee to include information from the root cause analysis. This licensee event report is under review.

.3 (Opened and Closed) Licensee Event Report 05000285/2010-001-00: Containment Integrity Unknowingly Violated During Performance of a Leak Test

Containment integrity was unknowingly violated on November 1, 2009, as a result of opening manual containment isolation valve SI 410 (Safety injection tanks fill/drain valve). This occurred during a surveillance test, when containment integrity was required and administrative controls (dedicated operator) were not implemented. The licensee event report was reviewed by the inspectors, with one associated licensee identified violation, which is summarized in Section 4OA7 of this report. This licensee event report is closed.

.4 (Opened) Licensee Event Report 05000285/2010-002-00: Failed Feeder Cable Due to Inadequate Procedure Causes Station Shutdown

On April 8, 2010, a ground alarm for 480 Volt Bus 1B3A was indicating intermittently. The process of isolating loads on the motor control center required securing power to main feedwater isolation valve HCV-1385. Technical Specification 2.0.1 was entered at 4:22 p.m. due to HCV-1385 being inoperable. At 5:40 p.m., insulation on the supply feeder cables to MCC-3A1 was found to be degraded, and the phase 2 feeder cable was shorted to ground. A plant shutdown was commenced at 5:40 p.m. per the normal shutdown procedure. At 9:23 p.m., the reactor was manually tripped from 22 percent reactor power per the normal shutdown procedure. All systems functioned properly. At 9:23 p.m., the plant entered Mode 3. At 10:33 p.m., HCV-1385 was manually closed and Technical Specification 2.6.1(1) was exited. This licensee event report is under review.

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period, the inspectors performed observations of security force personnel and activities to ensure that the activities were consistent with Fort Calhoun Station 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 review and inspection activities.

b. Findings

No findings were identified.

40A6 Meetings

Exit Meeting Summary

On April 29, 2010, the inspectors presented the results of the offsite and onsite inspection of the licensee's emergency preparedness program to Mr. D. Bannister, Vice President and Chief Nuclear Officer, and other members of the licensee's staff. The licensee acknowledged the issues presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On June 30, 2010, the inspectors presented the inspection results to Mr. J. Reinhart, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

40A7 Licensee-Identified Violations

The following violations of very low safety significance (Green) were identified by the licensee and are violations of NRC requirements which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as NCVs.

- .1 Licensee Event Report 05000285/2009-004 identified that containment closure was violated and it was identified that the condition was reportable in accordance with 10 CFR 50.73(a)(2)(i)(B) on December 16, 2009. The events described in licensee event report 05000285/2009-004 were reported within 60 days of December 16, 2009; however, the containment integrity violation which occurred on November 1, 2009, was not, despite the obvious similarity between the three events. The November 1, 2009, event was not reported until June 4, 2010; 170 days after the event was discovered. This is a Severity Level IV noncited violation of 10 CFR 50.73(a)(2)(i)(B) for failure to submit a required licensee event report within 60 days of a condition prohibited by technical specifications.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

R. Acker, Licensing Engineer
D. Bannister, Vice President and Chief Nuclear Officer
A. Christensen, Supervisor, Operations Engineering
K. Erdman, Supervisor, Engineering Program
H. Faulhaber, Director, Engineering
D. Gage, Assistant Chief, Emergency Medical Service, Fort Calhoun Fire and Rescue
S. Gebers, Manager, Emergency Planning and Health Physics
D. Guinn, Supervisor Regulatory Compliance
W. Hansher, Supervisor, Nuclear Licensing
R. Haug, EOF Protective Measures Manager
J. Herman, Manager, Design Engineering
R. Hodgson, Manager, Radiation Protection
S. Kalra, Supervisor, System Engineering
T. Matthews, Manager, Nuclear Licensing
E. Matzke, Compliance Engineer
T. Nellenbach, Plant Manager
T. Nguyn, Supervisor, Quality Assurance
R. Nilsson, Lead Auditor, Quality Assurance
J. Reinhart, Site Vice President
C. Rennerfeldr, Rescue Captain, Blair Fire and Rescue
C. Simmons, Manager, Facilities Operations and Maintenance (OPPD)
D. Travsch, Assistant Plant Manager
T. Uehling, Manager, Chemistry (EOF Protective Measures Manager)
R. Westcott, Manager, Quality Assurance

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000285/2009-005-01	LER	Inoperable Auxiliary Feedwater Train Due to an Inoperable Injection Valve
05000285/2010-002-00	LER	Failed Feeder Cable Due to Inadequate Procedure Causes Station Shutdown
05000285/2010003-06	URI	Failure to Perform a Proper 50.59 Evaluation

Opened and Closed

05000285/2009-004-01	LER	Containment Integrity Unknowingly Violated During Performance of a Leak Test
05000285/2010-001-00	LER	Containment Integrity Unknowingly Violated During Performance of a Leak Test
05000285/2010003-01	NCV	Failure to Provide Adequate Limiting Condition for Operation for High River Level
05000285/2010003-02	NCV	Failure to conduct an adequate audit of emergency preparedness interfaces with offsite authorities
05000285/2010003-03	NCV	Failure to Conduct Drills to Maintain Environmental Monitoring Skills
05000285/2010003-04	NCV	Protective Action Recommendation processes allow for the unnecessary evacuation of the Public
05000285/2010003-05	NCV	Failure to Submit a Required Licensee Event Report

LIST OF DOCUMENTS REVIEWED

Section 1RO1: Adverse Weather Protection

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
AOP-01	Acts of Nature	23
EPIP-TSC-2	Catastrophic Flooding Preparations	7
GM-RR-AE-1002	Flood Control Preparedness for Sandbagging	10

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
	Fort Calhoun Technical Specification 2.16, River Level	0
	Safety Evaluation Report of the Omaha Public Power District Fort Calhoun Station Unit No. 1, Supplement 1	April 23, 1973
USAR 2.7	Hydrology	8
USAR 9.8	Raw Water System	25

Section 1RO4: Equipment Alignment

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
OI-DG-2	Diesel Generator No. 2	53
OI-RW-1	Raw Water System Normal Operation	92
OP-ST-DG-0002	Diesel Generator No. 2 Check	65

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
11405-M-100	Raw Water Flow Diagram P & ID	97
11405-M-262 Sh 2	Fuel Oil	93
B120F03001 Sh 2	Lube Oil System	162
B120F04002 Sh 2	Jacket Water	164
B120F07001 Sh 2	DG-2 Starting Air System	166
D-4666	DG-2 Generator One Line Diagram	204

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
USAR 8.4	Emergency Power Sources	12
USAR 9.8	Raw Water System	23

Section 1RO5: Fire Protection

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
SO-G-28	Standing Order, Station Fire Plan	78
SO-G-58	Standing Order, Control of Fire Protection System Impairments	36
SO-G-91	Standing Order, Control and Transportation of Combustible Materials	26
GO-G-102	Standing Order, Fire Protection Program Plan	8
SO-G-103	Standing Order, Fire Protection Operability Criteria and Surveillance Requirements	24

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
D-4147 Sheet 1	Ground Floor Plan Elevation 1007'-0" Portable Fire Extinguisher Locations	11

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
EA-FC-97-001	FCS Fire Hazards Analysis Manual	15
FC05814	UFHA Combustible Loading Calculation	9
USAR 9.11	Updated Safety Analysis Report, Fire Protection Systems	20

Section 1RO6: Flood Protection Measures

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
AOP-10	Loss of Circulating Water	2
AOP-11	Loss of Component Cooling Water	15
AOP-18	Loss of Raw Water	7

MISCELLANEOUS DOCUMENTS

<u>TITLE</u>	<u>DATE</u>
Individual Plant Examination Submittal	December, 1993

Section 1R11: Licensed Operator Requalification Program

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
82111w	Simulator Discrepancy Report	N/A
	Simulator Scenario Guide, Turbine Malfunctions	1

Section 1R12: Maintenance Effectiveness

CONDITION REPORTS

2009-6772	2010-0139	2010-0763	2010-0772	2010-0949
2010-1049	2010-1135	2010-2282		

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
PBD-16	Program Basis Document, Maintenance Rule	8
PED-SEI-34	Maintenance Rule Program	8

MISCELLANEOUS DOCUMENTS

<u>TITLE</u>	<u>REVISION / DATE</u>
Functional Scoping Data Sheet for Circulating Water Pumps Status of Equipment in MR Category a(1) or a(1) Review	3a April 21, 2010

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION DATE</u>
ANSI N18.7	Administrative Controls for Nuclear Power Plants	1972
SO-M-100	Standing Order, Conduct of Maintenance	53
SO-M-101	Standing Order, Maintenance Work Control	86

MISCELLANEOUS DOCUMENTS

<u>TITLE</u>	<u>REVISION / DATE</u>
Summary of scheduled activities affecting plant risk	Week of April 4, 2010
Summary of scheduled activities affecting plant risk	Week of April 25, 2010
Summary of scheduled activities affecting plant risk	Week June 13, 2010

Section 1R15: Operability Evaluations

CONDITION REPORTS

2010-2478	2008-6624	2010-1460	2010-2923	2010-1704
2010-1856	2010-2769	2010-1677	2009-4465	

WORK ORDERS

321729	372893	381209	374594
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PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
ARP-AI-30A/A30	Alarm Response Procedure A30 Control Room Annunciator A30, Engineered Safeguards (DG-1)	31

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
IC-ST-RPS-0042	Quarterly Functional Test of RPS Trip Logic	4

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
E-23866-411-003	RPS Functional Diagram	4
E-23866-411-013	RPS Schematic	7

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
	Apparent Cause Analysis Summary Report – Abnormal noise in AI-3 panel.	May 6, 2010
	Letter from General Electric to OPPD, “GE Static Exciter 3S7930SA212A11	July 20, 1990
	Technical Specifications 2.15 Table 2-5	249
EC 49036	Splice Power Cable EA124 for MCC-3A1	0
G080.6170	Catalog for GE Model CR120A Industrial Relays	January 1995

Section 1R19: Postmaintenance Testing

CONDITION REPORTS

2010-1543	2008-3988	200401676	200403065	2010-2923
2010-2478	2008-6624	2010-1460	2010-1856	2010-1748
2010-1859	2010-1734			

WORK ORDERS

376455	356707	321729	372893	381209
374594	292403	359867	373066	

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
EM-PM-EX-0203	Molded Case Circuit Breaker Inspection and Test	21

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
IC-ST-RC-001	Functional Test Of Acoustic Flow Monitors	8
IC-ST-RPS-0042	Quarterly Functional Test of RPS Trip Logic	4

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
E-23866-411-003	RPS Functional Diagram	4
E-23866-411-013	RPS Schematic	7
GE177B2371, Sh 3	Data Sheet for Motor Control Center 3A1	15

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
ANSI/IEEE Std 383	IEEE Standard for Type Test of Class 1E Electric Cables, Field Splices, and Connections for Nuclear Power Generating Stations	1974
USAR-8.5	Initial Cable Installation Design Criteria	10

Section 1R20: Refueling and Other Outage Activities

WORK ORDERS

374594

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
OI-ST-2	Turbine Generator Startup	25
OI-ST-3	Turbine Generator Shutdown	17
OP-2A	Plant Startup	101
OP-3A	Plant Shutdown	81
SO-O-22	Containment Access and Egress	29

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
Technical Specifications	Fort Calhoun Station Unit No. 1 Technical Specifications	265

Section 1R22: Surveillance Testing

WORK ORDERS

0357953 357455 358213 361991

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
IC-ST-SA-3001A	DG-1 Starting Air Compressors Discharge Check Valve Exercise Test	1
IC-ST-SA-3001B	DG-2 Starting Air Compressors Discharge Check Valve Exercise Test	1
OP-ST-AFW-3011	Auxiliary Feedwater Pump FW-10, Steam Isolation Valve, and Check Valve Tests	9
OP-ST-RW-3011	AC-10B Raw Water Pump Quarterly Inservice Test	34
OP-ST-SI-3022	Room 22 Safety Injection/Containment Spray Pumps and Valve Exercise In-Service Test	9

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
B120F07001 SH.2	Starting Air System Schematic DG-2	25

Section 1EP2: Alert Notification System Testing

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
EPIP-EOF-24	EOF Backup Alert Notification System Activation	5
EPT-1	Alert Notification System Silent Test	16
EPT-2	Alert Notification System Growl Test	20
EPT-3	Alert Notification System Complete Cycle Test	15

Section 1EP3: Emergency Response Organization Augmentation Testing

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
EPDM-2	Emergency Preparedness Test Program	18
EPDM-7	Maintenance of the Emergency Response Organization Database	6
EPIP-EOF-1	Activation of the Emergency Operations Facility	18
EPIP-OSC-2	Command and Control Position Actions/Notifications	50
EPIP-OSC-21	Activation of the Operations Support Center	19
EPIP-TSC-1	Activation of the Technical Support Center	31
EPT-08-151	Drill Evaluation Report for the Emergency Response Organization Pager Test conducted October 27, 2009	
EPT-08-153	Drill Evaluation Report for the Emergency Response Organization Pager Test conducted June 23, 2008	
EPT-09-150	Drill Evaluation Report for the Emergency Response Organization Pager Test conducted March 24, 2009	
EPT-09-151	Drill Evaluation Report for the Emergency Response Organization Pager Test conducted June 8, 2009	
EPT-09-152	Drill Evaluation Report for the Emergency Response Organization Off-Hours Exercise conducted September 17, 2009	
EPT-09-153	Drill Evaluation Report for the Emergency Response Organization Pager Test conducted December 14, 2009	
EPT-34	Perform Augmentation or Notification Drills	30
EPT-51	INS System Testing	16
EPT-60	INS Database Verification	1

Section 1EP4: Emergency Action Level and Emergency Plan Changes

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
	10 CFR 50.54(q) Review of Procedure Changes: RERP Section H	January 22, 2008

Section 1EP4: Emergency Action Level and Emergency Plan Changes

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
	10 CFR 50.54(q) Review of Procedure Changes: Warehouse Personnel Decontamination Operations	August 23, 2008
	10 CFR 50.54(q) Review of Procedure Changes: RERP Appendix A	December 4, 2008
	10 CFR 50.54(q) Screening Checklist: OSC Dosimetry Technician Actions	January 6, 2009
	10 CFR 50.54(q) Review of Procedure Changes: RERP Section D	April 11, 2009
	10 CFR 50.54(q) Review of Procedure Changes: EPIP-OSC-1	April 23, 2009
	10 CFR 50.54(q) Review of Procedure Changes: Post Accident Sampling of the Auxiliary Building Exhaust Stack	May 1, 2009
	10 CFR 50.54(q) Review of Procedure Changes: EPIP-OSC-21	September 4, 2009
EPDM-5	Transmittals and Distribution of RERP/EPIP Changes	9
EPDM-6	10 CFR 50.54(q) Review of Procedure Changes	6

Section 1EP5: Correction of Emergency Preparedness Weaknesses

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
	Agenda and Meeting Minutes, Fort Calhoun Quarterly Offsite Agency's Meeting	November 12, 2008
	Agenda and Meeting Minutes, Fort Calhoun Quarterly Offsite Agency's Meeting	February 10, 2010
09-QUA-017	QA Audit Report No. 4, Emergency Preparedness	March 19, 2009
10-QUA-012	QA Audit Report No. 4, Emergency Preparedness	March 12, 2010
CR 2009-0694	Incident Report Summary, Notification of Unusual Event, February 13, 2009	February 14, 2009
DG-001	Quality Desk Guide: Audit Preparation and Performance Field Checklist	23

Section 1EP5: Correction of Emergency Preparedness Weaknesses

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
DG-002	Quality Desk Guide: Quality Department Performance Expectations	20
DG-006	Quality Desk Guide: Periodic Review of Emergency Preparedness Program Chances and Performance Indicators	1
EP-08-078	Environmental Monitoring Drill conducted October 18, 2008	November 24, 2008
EP-08-251	Contaminated Injured Medical Drill conducted November 6, 2008	January 7, 2009
EP-09-044	Evaluation Report for the January 20 and 27, and February 10, 2009, Emergency Preparedness Drills	September 26, 2009
EP-09-070	Evaluation Report for the May 19, 2009, Emergency Preparedness Drill	May 27, 2009
EP-09-074	Radiation Protection Drill conducted May 19, 2009	August 27, 2009
EP-09-075	Radiation Protection Drill conducted July 21, 2009	August 27, 2009
EP-09-077	Environmental Monitoring Drill conducted October 8, 2009	October 9, 2009
EP-09-153	Drill Evaluation Report for the July 21, 2009, Emergency Preparedness Biennial Exercise	July 23, 2009
EP-09-184	Drill Evaluation Report for the September 17, 2009, Off-Hours Exercise	September 17, 2009
EP-09-249	Contaminated Injured Medical Emergency Drill conducted May 19, 2009	August 27, 2009
EP-10-038	Evaluation Report for the February 9, 2010, Emergency Preparedness Drill	February 25, 2010
EPDM-15	Generation of Condition Reports for EP Issues and Equipment Problems	4
EPDM-4	Conduct of Drills	12
EPT-12	Radiation Protection Drill – Simulated	6
EPT-14	Environmental Monitoring Drill	9

Section 1EP5: Correction of Emergency Preparedness Weaknesses

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
EPT-17	Audit of RERP	9
EPT-49	Perform a Contaminated-Injured Medical Emergency Drill	2
EPT-56	Real Event Reports	1
FCSG-24	Corrective Action Program Guidance	22
FCSG-50	Station Trending Program	
NOD-QP-19	Cause Analysis Program	37
QAP-10.1	Audit Program and Audits	16
SO-R-2	Condition Reporting and Corrective Action	January 29, 2010

CONDITION REPORTS

2008-6070	2008-6107	2009-0385	2009-0496	2009-0554
2009-0782	2009-0851	2009-0899	2009-1508	2009-2055
2009-2112	2009-2791	2009-3008	2009-3015	2009-3043
2009-3047	2009-3214	2009-4274	2010-0023	2010-0033
2010-0980	2010-2055	2010-2056	2010-2068	2010-2078
2010-2085	2010-2174			

Section 1EP6: Drill Evaluation**PROCEDURES**

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
TBD-EPIP-OSC-1A	Recognition Category A - Abnormal Rad Levels/Radiological Effluent	1
TBD-EPIP-OSC-1C	Recognition Category C - Cold Shutdown/Refueling System Malfunction	1
TBD-EPIP-OSC-1E	Recognition Category E - Events Related to ISFSI	1
TBD-EPIP-OSC-1F	Recognition Category F - Fission Product Barrier Degradation	1
TBD-EPIP-OSC-1H	Recognition Category H - Hazards and Other Conditions Affecting Plant Safety	1

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
TBD-EPIP-OSC-1S	Recognition Category S - System Malfunction	1

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
	Simulator Discrepancy Report	N/A
82107e	Simulator Scenario Guide, MSLB Inside Containment	2

Section 40A1: Performance Indicator Verification

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
EPDM-14	Emergency Preparedness Performance Indicator Program	11
EPIP-EOF-7	Protective Action Guidelines	19
EPIP-OSC-1	Emergency Classification	46
EPIP-OSC-2	Command and Control Position Actions/Notifications	50
EPT-1	Alert Notification System Silent Test	16
EPT-2	Alert Notification System Growl Test	20
EPT-3	Alert Notification System Complete Cycle Test	15
NOD-PQ-40	NRC Performance Indicator Program	6
NOD-QP-37	Performance Indicators Program	21

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
	Fort Calhoun Radiological Emergency Response Plan	
	Table Top Drill Scenario, Protective Measures	April 29, 2010
	Various Operator Logs	April 1, 2009 to March 31, 2010
NEI-99-02	Regulatory Assessment Indicator Guideline	6

Section 40A2: Identification and Resolution of Problems

CONDITION REPORTS

2009-1611	2010-0039	2010-0075	2010-0086	2010-0125
2010-0187	2010-0258	2010-0282	2010-0284	2010-0296
2010-0297	2010-0319	2010-0359	2010-0360	2010-0371
2010-0416	2010-0448	2010-0479	2010-0504	2010-0519
2010-0636	2010-0661	2010-0749	2010-0763	2010-0813
2010-0850	2010-0875	2010-0944	2010-0949	2010-0970
2010-1049	2010-1135	2010-1174	2010-1201	2010-1313
2010-1375	2010-1407	2010-1429	2010-1446	2010-1447
2010-1452	2010-1462	2010-1478	2010-1479	2010-1510
2010-1544	2010-1621	2010-1624	2010-1661	2010-1667
2010-1715	2010-1743	2010-1745	2010-1781	2010-1807
2010-1812	2010-1890	2010-1981	2010-2008	2010-2079
2010-2100	2010-2128	2010-2167	2010-2206	2010-2217
2010-2257	2010-2296	2010-2297	2010-2323	2010-2325
2010-2367	2010-2385	2010-2393	2010-2449	2010-2452
2010-2454	2010-2455	2010-2459	2010-2465	2010-2487
2010-2491	2010-2536	2010-2624	2010-2635	2010-2636
2010-2660	2010-2700	2010-2733	2010-2741	2010-2755
2010-2783	2010-2883	2010-2908	2010-2939	2010-2957
2010-2961	2010-2962	2010-2990	2010-3002	2010-3004
2010-3101	2010-3208	2010-3244		