



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV
612 EAST LAMAR BLVD, SUITE 400
ARLINGTON, TEXAS 76011-4125

November 13, 2009

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 STATION NRC INTEGRATED INSPECTION REPORT
05000285/2009004 and 072000054/2009001

Dear Mr. Bannister:

On September 30, 2009, 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 October 7, 2009, with Jeff 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 one NRC-identified finding, and two self-revealing findings of very low safety significance (Green), and one NRC-identified Severity Level IV violation. Three of these findings were determined to involve violations of NRC requirements. If you contest these 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 Fort Calhoun. 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/

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

Docket: 50-285
License: DPR-40

Enclosure:
NRC Inspection Report 05000285/200904 and 072000054/2009001
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 50-285

License: DPR-40

Report: 05000285/2009004 and 072000054/2009001

Licensee: Omaha Public Power District

Facility: Fort Calhoun Station

Location: Fort Calhoun Station FC-2-4 Adm.
P.O. Box 399, Highway 75 - North of Fort Calhoun
Fort Calhoun, Nebraska

Dates: July 1 through September 30, 2009

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Approved By: Jeff A. Clark, Chief, Project Branch E
Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000285/2009004 and 072000054/2009001; 07/01/2009 – 09/30/2009; Fort Calhoun Station, Integrated Resident and Regional Report, and Emergency Plan Biennial Exercise Evaluation.

The report covered a three-month period of inspection by resident inspectors and an announced baseline inspections by a regional based inspectors. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 0609, "Significance Determination Process." 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. A self-revealing, Green noncited violation of Technical Specification 5.8.1.a (Procedures) was identified for failure to provide an adequate maintenance work instruction. While performing maintenance on the motor, the HPSI Header - Charging Header Crosstie Valve, HCV-308, the maintenance work instruction failed to ensure that the HPSI Alternate Header Isolation Valve, HCV-2987, was closed, resulting in unexpected pressurization of the Number 2 HPSI Header.

The failure to provide an adequate maintenance work instruction was a performance deficiency. This finding was greater than minor because the finding was associated with the Mitigating Systems Cornerstone objective (procedure quality attribute) to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," Phase 1 screening worksheet, the inspectors determined that the finding was of very low safety significance (Green) because it was not: (1) a design or qualification deficiency; (2) a loss of system safety function; (3) an actual loss of safety function for greater than its technical specification allowed outage time; (4) a loss of safety function of a nontechnical specification train; or (5) a seismic, flooding or severe weather related finding. There is no crosscutting aspect associated with this finding since the root cause of the performance deficiency was not indicative of current plant performance. (Section 4OA2)

- Severity Level IV. The NRC identified a Severity Level IV noncited violation of 10 CFR Part 21.21(a), "Notification of failure to comply or existence of a defect and its evaluation" for the licensee's failure to adopt appropriate procedures to evaluate deviations and failures to comply associated with substantial safety hazards. Specifically, the procedure fails to adequately assess the extent of deviations, which are discovered, and the potential impact on other components

either installed in the plant or stored in the warehouse. Additionally, the procedure failed to adequately evaluate defects in components, which have never been installed or used in the nuclear plant.

The inspectors determined that the failure to adopt appropriate procedures to evaluate deviations and failures to comply associated with substantial safety hazards was a performance deficiency. This finding was more than minor because if the procedure were left uncorrected it could become a more serious safety concern. Specifically, failure to notify the vendor upon discovery of a deviation does not allow for adequate evaluation of other components that could be subject to the deviation. Additionally, components with deviations could be located in the licensee's warehouse and subsequently installed in the plant without the licensee's knowledge, potentially creating a substantial safety hazard. Because this issue affected a potential reporting requirement and NRC's ability to perform its regulatory function, it was evaluated with the traditional enforcement process. Consistent with the guidance in Section IV.A.3 and Supplement VII paragraph D.4 of the NRC Enforcement Policy, this violation was categorized at Severity Level IV noncited violation. There is no crosscutting aspect associated with this finding because it is not indicative of current performance in that the procedure is many years old. (Section 40A3)

Cornerstone: Barrier Integrity

- Green. The inspectors identified a finding of having very low safety significance (Green) for failure to perform checks at the beginning of each shift on the main hoist limit switches of the refueling area crane (HE – 2) in the spent fuel pool area as specified in ANSI B30.2 – 1976, "Overhead and Gantry Cranes", section 2-2.1.2 Frequent Inspections a.2, prior to using the crane to perform dry fuel storage activities on June 29, 2009.

The failure to perform checks on the main hoist limit switches at the beginning of each work shift is a performance deficiency because the dry cask personnel used the crane to perform dry cask storage operations to lift items over the spent fuel pool without performing the required checks per shift change. The inspectors determined that the performance deficiency was more than minor in accordance with Inspection Manual Chapter 0612, Appendix B, "Issue Screening", minor question 2 because if left uncorrected the performance deficiency could lead to a more significant safety issue. Specifically, the main hoist limit switches are installed to limit the main hoist travel and to prevent a two blocking event. Preventing two blocking events ensures safe load handling of heavy loads over the spent fuel pool. Using the NRC Manual Chapter 0609, Phase 1 screening worksheet under the Barrier Cornerstone for spent fuel pool issues, the finding screened as having very low safety significance because it did not result in loss of cooling to the spent fuel pool, did not cause damage to the fuel cladding or result in dropped fuel assembly or result in a loss of spent fuel pool volume of greater than 10 percent. The finding had a crosscutting aspect in human performance because the licensee failed to provide a complete and accurate procedure to assure nuclear safety [H.2 (c)]. (Section 1R15)

- Green. A self-revealing Green noncited violation (NCV) of 10 CFR 50, Appendix B, Criterion V, was identified for the failure of personnel to follow an auxiliary building crane operating procedure. This resulted in the crane contacting the fuel handling bridge and moving it approximately eight feet.

The failure to follow the prerequisites of the auxiliary building crane operating procedure is a performance deficiency. The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that a collision with the fuel handling bridge could cause damage such that pieces of the mast could fall into the spent fuel pool and damage the spent fuel. Using the NRC Manual Chapter 0609, Phase 1 screening worksheet under the Barrier Integrity Cornerstone for spent fuel pool issues, the finding screened as having very low safety significance because it did not result in loss of cooling to the spent fuel pool, did not cause damage to the fuel cladding or result in dropped fuel assembly or result in a loss of spent fuel pool volume of greater than 10 percent. This finding has a crosscutting aspect in the area of human performance associated with work practices because personnel failed to use human error prevention techniques commensurate with the risk of the assigned task, such that work activities were performed safely [H.4.(a)]. (Section 4OA2)

B. Licensee-Identified Violations

None

REPORT DETAILS

Summary of Plant Status

The unit began this inspection period in Mode 1 at full rated thermal power and operated at approximately 100 percent until July 24, 2009, when reactor power was reduced to 98 percent for Moderator Temperature Coefficient Testing. Reactor power was returned to 100 percent power on July 27, 2009, where it remained for the remainder of the inspection period.

1. REACTOR SAFETY

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

1R01 Adverse Weather Protection (71111.01)

.1 Summer Readiness for Offsite and Alternate AC Power

a. Inspection Scope

The inspectors performed a review of the licensee's preparations for summer weather for selected systems, including conditions that could lead to loss-of-offsite power and conditions that could result from high temperatures. The inspectors reviewed the licensee's procedures affecting these areas and the communications protocols between the transmission system operator and the plant to verify that the appropriate information was being exchanged when issues arose that could affect the offsite power system. Examples of aspects that were considered in the inspectors' review included:

- The coordination between the transmission system operator and the plant during off-normal or emergency events
- The explanations for the events
- The estimates of when the offsite power system would be returned to a normal state
- The notifications from the transmission system operator to the plant when the offsite power system was returned to normal

During the inspection, the inspectors focused on plant-specific design features and the licensee's procedures used to mitigate or respond to adverse weather conditions. Additionally, the inspectors reviewed the Updated Safety Analysis Report and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant-specific procedures. Specific documents reviewed during this inspection are listed in the attachment. The inspectors also reviewed corrective action program items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their

corrective action program in accordance with station corrective action procedures. The inspectors' reviews focused specifically on the following plant systems:

- Raw Water System
- Auxiliary Feedwater System

These activities constitute completion of one readiness for summer weather affect on offsite and alternate ac power sample as defined in Inspection Procedure 71111.01-05.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignments (71111.04)

.1 Partial Walkdown

a. Inspection Scope

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

- August 10, 2009, Shutdown Cooling Heat Exchangers
- August 26, 2009, Auxiliary Feedwater System associated with the Turbine-Driven Auxiliary Feedwater Pump, FW-10
- September 21, 2009, Compressed Air and Instrument Air Systems

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, Updated Final Safety Analysis Report, 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 walked down accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program with the appropriate significance characterization. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of three partial system walkdown samples as defined in Inspection Procedure 71111.04-05.

b. Findings

No findings of significance were identified.

.2 Complete Walkdown

a. Inspection Scope

On September 11, 2009, the inspectors performed a complete system alignment inspection of diesel generator 1 to verify the functional capability of the system. The inspectors selected this system because it was considered both safety-significant and risk-significant in the licensee's probabilistic risk assessment. The inspectors walked down the system to review mechanical and electrical equipment line ups, electrical power availability, system pressure and temperature indications, as appropriate, component labeling, component lubrication, component and equipment cooling, hangers and supports, operability of support systems, and to ensure that ancillary equipment or debris did not interfere with equipment operation. The inspectors reviewed a sample of past and outstanding work orders to determine whether any deficiencies significantly affected the system function. In addition, the inspectors reviewed the corrective action program database to ensure that system equipment-alignment problems were being identified and appropriately resolved. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one complete system walkdown sample as defined in Inspection Procedure 71111.04-05.

b. Findings

No findings of significance 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:

- July 17, 2009, Fire Area 34A (Electrical Penetration Area Basement, Room 20)
- July 20, 2009, Fire Area 1 (Safety Injection and Containment Spray Pump Area I, Room 21)
- July 20, 2009, Fire Area 2 (Safety Injection and Containment Spray Pump Area II, Room 22)

- July 20, 2009, Fire Area 13 (Mechanical Penetration Area, Room 13)

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 quarterly fire-protection inspection samples as defined in Inspection Procedure 71111.05-05.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

a. Inspection Scope

On September 8, 2009, 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

- Supervisors' oversight and direction
- 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 quarterly licensed-operator requalification program sample as defined in Inspection Procedure 71111.11.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

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

- July 13, 2009, Maintenance Rule function of the security diesel generator and the Technical Support Center
- September 28, 2009, a(1) status of the containment sump outlet strainer SI-12A

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 quarterly maintenance effectiveness samples as defined in Inspection Procedure 71111.12-05.

b. Findings

No findings of significance 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:

- July 22, 2009, Yellow risk condition while replacing Condenser FW-1A Hotwell Level Controller LC-1190 while Containment Spray Pump SI-3B and Air Compressor CA-1C were both out of service for maintenance
- August 10, 2009, Emergent inspection activities in the switchyard by substation personnel
- August 17, 2009, Daily and activity risk associate with shutdown cooling heat exchanger AC-4A being out of service for maintenance
- September 8, 2009, Orange risk activity associated with the Diesel Generator DG-2 mini-overhaul

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 maintenance risk assessments and emergent work control inspection samples as defined in Inspection Procedure 71111.13-05.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the following issues:

- July 24, 2009, Operability of the Auxiliary Building Crane HE-2 following the failure of the upper electrical limit switch and the overweight trip
- August 10, 2009, Operability of the Turbine-Driven Auxiliary Feedwater Pump FW-10 after steam passing by ST-16, requiring ST-16 to be taken offline and ST-15 placed online
- August 15, 2009, Operability on Diesel Generator DG-2 after fuel rack failed to reset
- August 20, 2009, Operability on HCV-506A and B after discovery of non-CQE diaphragms
- September 3, 2009, Operability of HCV-400A following air regulator setpoint being out of specification low

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 Updated Safety Analysis Report to the licensee's evaluations, to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and 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 five operability evaluations inspection samples as defined in Inspection Procedure 71111.15-04

b. Findings

Introduction. The inspectors identified a finding of having very low safety significance (Green) for failure to perform checks at the beginning of each shift on the main hoist limit switches of the refueling area crane (HE – 2) in the spent fuel pool area as specified in ANSI B30.2 – 1976, “Overhead and Gantry Cranes”, section 2-2.1.2 Frequent Inspections a.2, prior to using the crane to perform dry fuel storage activities on June 29, 2009.

Description. On June 29, 2009, during dry fuel storage activities, dry fuel storage personnel attempted to lift the transfer cask from the staging location in room 68 and place it into the spent fuel pool. During the lift, the transfer cask could not be raised enough to clear interferences between the bottom of the transfer cask and the spent fuel pool floor. An investigation determined the hoist was actuating the upper rotary limit switch, which prevents the hoist from rising any higher. It was determined that the upper rotary limit switch had been set too low during a recent replacement of the switch. Condition Report 2009-2997 was written to document the occurrence. The shift manager stopped all dry fuel storage activities in order to correct the problem and dry fuel storage personnel stopped work.

On June 30, 2009, licensee personnel determined that the upper limit rotary switch could be bypassed using an installed bypass switch and that the mechanical limit switch would provide sufficient protection from a two blocking event. During a subsequent crew briefing of dry fuel storage personnel to recommence work, bypassing the upper limit rotary switch was discussed and the licensee emphasized to not inadvertently test the mechanical limit switch.

After the upper rotary limit switch was bypassed, the yoke assembly used to lift the transfer cask was on the hoist and the crane was being positioned to rig to the transfer cask when another problem with the crane occurred and dry fuel storage activities were again stopped. The upper limit rotary switch was subsequently adjusted to the required setting to provide sufficient hook height for dry fuel activities over the spent fuel pool.

During review of the events on the evening of June 29, 2009, the inspectors determined that the once-per-shift checks on the main hoist limit switches had not been performed by either shift, nor was the mechanical limit stop checked with no load on the hook prior to use after the upper rotary limit switch was bypassed in accordance with ANSI B30.2 – 1976.

Analysis. The failure to perform checks on the main hoist limit switches at the beginning of each work shift is a performance deficiency because the dry cask personnel used the crane to perform dry cask storage operations to lift items over the spent fuel pool without

performing the required checks per shift change. The inspectors determined that the performance deficiency was more than minor in accordance with Inspection Manual Chapter 0612, Appendix B, "Issue Screening", minor question 2 because if left uncorrected the performance deficiency could lead to a more significant safety issue. Specifically, the main hoist limit switches are installed to limit the main hoist travel and to prevent a two blocking event. Preventing two blocking events ensures safe load handling of heavy loads over the spent fuel pool. Using the NRC Manual Chapter 0609, Phase 1 screening worksheet under the Barrier Cornerstone for spent fuel pool issues, the finding screened as having very low safety significance because it did not result in loss of cooling to the spent fuel pool, did not cause damage to the fuel cladding or result in dropped fuel assembly or result in a loss of spent fuel pool volume of greater than 10 percent. The finding had a crosscutting aspect in problem identification and resolution because the licensee failed to take appropriate corrective actions to address safety issues [P.1 (d)].

Enforcement. In Section 2-2.1.2 in ANSI B30.2 – 1976, Frequent Inspections, a.2, states, in part, "that all limit switches should be checked, without a load on the hook, at the beginning of each shift." Contrary to the above, on June 29 2009, dry cask personnel did not perform the once-per-shift checks of the limit switches on either shift, nor was a check performed on the mechanical limit switch after the upper rotary limit switch was bypassed.

Enforcement action does not apply because the performance deficiency did not involve a violation of a regulatory requirement. The finding is of very low safety significance and the issue was addressed in the corrective action program as Condition Report CR 2009-3063. This finding will be identified as FIN 05000285/2009004-03, Failure to perform checks at the beginning of each work shift on the main hoist limit switches.

1R18 Plant Modifications (71111.18)

a. Inspection Scope

The inspectors reviewed the following temporary modifications to verify that the safety functions of important safety systems were not degraded:

- August 26, 2009, Patch on 18-inch grid backwash piping (Circulating Water System)

The inspectors reviewed the temporary modification and the associated safety evaluation screening against the system design bases documentation, including the Updated Final Safety Analysis Report and the technical specifications, and verified that the modification did not adversely affect the system availability. The inspectors also verified that the installation and restoration were consistent with the modification documents and that configuration control was adequate. Additionally, the inspectors verified that the temporary modification was identified on control room drawings, appropriate tags were placed on the affected equipment, and licensee personnel evaluated the combined effects on mitigating systems and the integrity of radiological barriers.

These activities constitute completion of one sample for temporary plant modifications as defined in Inspection Procedure 71111.18-05

b. Findings

No findings of significance 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:

- July 16, 2009, Postmaintenance testing of Heat Exchanger Component Cooling Water inlet valve HCV-481 following work on Shutdown Cooling Heat Exchanger AC-4B
- July 28, 2009, Postmaintenance testing of Cooling Coil VA-8B Component Cooling Water inlet valve HCV-403A following flowscan maintenance
- July 31, 2009, Postmaintenance testing of Charging Pump CH-1C following maintenance
- August 6, 2009, Postmaintenance testing of Refueling Area Crane HE-2 following resetting of pressure switch PS-2
- September 4, 2009, Postmaintenance testing of Boric Acid Pump CH-4A following pump replacement

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 Updated Safety Analysis Report, 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 postmaintenance testing inspection samples as defined in Inspection Procedure 71111.19-05.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the Updated Final Safety Analysis Report, procedure requirements, and technical specifications to ensure that the surveillance activities listed below demonstrated that the systems, structures, and 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
- Test data
- Testing frequency and method demonstrated technical specification operability
- Test equipment removal
- Restoration of plant systems
- 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.

- August 11, 2009, Diesel Generator DG-2 starting air compressors discharge check valve exercise test
- August 17, 2009, Component Cooling Category B Valve Exercise Test (OP-ST-CCW-3001A)
- August 28, 2009, AC-3C Component Cooling Water Pump Inservice Test
- September 1, 2009, Component Cooling Category A and B Valve Exercise Test (OP-ST-CCW-3005B)

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

These activities constitute completion of four surveillance testing inspection sample(s) as defined in Inspection Procedure 71111.22-05.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP1 Exercise Evaluation (71114.01)

a. Inspection Scope

The inspectors reviewed the objectives and scenario for the 2009 Biennial Emergency Plan Exercise to determine if the exercise would acceptably test major elements of the emergency plan. The scenario simulated a tornado touchdown within the site protected area, an unanticipated closing of main steam isolation valves, failures of automatic and manual systems to shut down the reactor, a small reactor coolant leak in containment, a steam generator tube leak, fission product barrier failures, core damage, a radiological release to the environment via a stuck-open main steam line relief valve, and changes in wind direction vectors, to demonstrate licensee personnel's capability to implement their emergency plan.

The inspectors evaluated exercise performance by focusing on the risk-significant activities of event classification, offsite notification, recognition of offsite dose consequences, development of protective action recommendations in the control room simulator, and the following dedicated emergency response facilities:

- Technical Support Center
- Operations Support Center
- Emergency Operations Facility

The inspectors also assessed recognition of, and response to, abnormal and emergency plant conditions, the transfer of decision-making authority and emergency function

responsibility between emergency response facilities, onsite and offsite communications, protection of emergency workers, emergency repair evaluation and capability, and the overall implementation of the emergency plan to protect public health and safety and the environment. The inspectors reviewed the current revision of the facility emergency plan, emergency plan implementing procedures associated with operation of the licensee's emergency response facilities, procedures for the performance of associated emergency functions, and other documents as listed in the attachment to this report.

The inspectors compared the observed exercise performance with the requirements in the facility emergency plan, 10 CFR 50.47(b), 10 CFR Part 50, Appendix E, and with the guidance in the emergency plan implementing procedures and other federal guidance.

The inspectors attended the post-exercise critiques in each emergency response facility to evaluate the initial licensee self-assessment of exercise performance, and attended a subsequent formal presentation of critique items to plant management. The specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one sample as defined in Inspection Procedure 71114.01-05.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors performed an in-office and on-site reviews of:

- Emergency Plan Implementing Procedure EPIP-OSC-1, "Emergency Classification," Revision 46, issued May 14, 2009
- TBD-EPIP-OSC-1A, "Technical Basis Document," Revision 0, issued May 14, 2009
- Radiological Emergency Response Plan, Section B, "Organizational Control of Emergencies," Revision 29, issued May 14, 2009
- Radiological Emergency Response Plan, Section D, "Emergency Classification System," Revision 14, issued May 14, 2009
- Radiological Emergency Response Plan, Section E, "Notification Methods and Procedures," Revision 25, issued May 14, 2009
- Radiological Emergency Response Plan, Section H, "Emergency Facilities and Equipment," Revision 37, issued May 14, 2009

- Radiological Emergency Response Plan, Section I, "Accident Assessment," Revision 14, issued June 23, 2009

These revisions implemented an emergency action level scheme based on Nuclear Energy Institute (NEI) Report 99-01, "Emergency Action Level Methodology," Revision 5, transferred some oversight responsibilities during medical emergencies from the Shift manager to the medical coordinator, updated emergency response organization titles, and made minor editorial corrections. The licensee's revised emergency action level scheme was approved by the NRC in a safety analysis report dated September 22, 2008, (Agency Document and Management System Accession Numbers ML0826605731 and ML082320484).

These revisions were compared to their previous revisions, 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, to Nuclear Energy Institute Report 99-01, "Emergency Action Level Methodology," Revision 5, and to the standards in 10 CFR 50.47(b) to determine if the revision adequately implemented the requirements of 10 CFR 50.54(q). These reviews were not documented in safety evaluation reports and did not constitute approvals of licensee generated changes; therefore, these revisions are subject to future inspection. The specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of four samples as defined in Inspection Procedure 71114.04-05.

b. Findings

No findings of significance 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 the third quarter 2008, fourth quarter 2008, first quarter 2009, and second quarter 2009 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 of significance were identified.

.2 Safety System Functional Failures (MS05)

a. Inspection Scope

The inspectors sampled licensee submittals for the Safety System Functional Failures performance indicator for the period from the third quarter 2008 through the fourth quarter 2009. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, and NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73" definitions and guidance were used. The inspectors reviewed the licensee's operator narrative logs, operability assessments, maintenance rule records, maintenance work orders, issue reports, event reports and NRC integrated inspection reports for the period of July 1, 2008 through June 30, 2009 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 safety system functional failures sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.3 Mitigating Systems Performance Index - Emergency ac Power System (MS06)

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index - Emergency ac Power System performance indicator for the period from the third quarter 2008 through the fourth quarter 2009. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, was used. The inspectors reviewed the licensee's operator narrative logs, mitigating systems performance index derivation reports, issue reports, event reports and NRC integrated inspection reports for the period of July 1, 2008 through June 30, 2009 to validate the accuracy of the submittals. The inspectors reviewed the mitigating systems performance index component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. 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 mitigating systems performance index emergency ac power system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.4 Mitigating Systems Performance Index - High Pressure Injection Systems (MS07)

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index - High Pressure Injection Systems performance indicator for the period from the third quarter 2008 through the fourth quarter 2009. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, was used. The inspectors reviewed the licensee's operator narrative logs, issue reports, mitigating systems performance index derivation reports, event reports and NRC integrated inspection reports for the period of July 1, 2008 through June 30, 2009 to validate the accuracy of the submittals. The inspectors reviewed the mitigating systems performance index component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. 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 mitigating systems performance index high-pressure injection system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.5 Mitigating Systems Performance Index - Heat Removal System (MS08)

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index - Heat Removal System performance indicator for the period from the third quarter 2008 through the fourth quarter 2009. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, was used. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, mitigating systems performance index derivation reports, and NRC integrated inspection reports for the period of July 1, 2008 through June 30, 2009 to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. 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 mitigating systems performance index heat removal system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.6 Mitigating Systems Performance Index - Residual Heat Removal System (MS09)

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index - Residual Heat Removal System performance indicator for the period from the third quarter 2008 through the fourth quarter 2009. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, was used. The inspectors reviewed the licensee's operator narrative logs, issue reports, mitigating systems performance index derivation reports, event reports and NRC integrated inspection reports for the period of July 1, 2008 through June 30, 2009 to validate the accuracy of the submittals. The inspectors reviewed the mitigating systems performance index component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. 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 mitigating systems performance index residual heat removal system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.7 Mitigating Systems Performance Index - Cooling Water Systems (MS10)

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index - Cooling Water Systems performance indicator for the period from the third quarter 2008 through the fourth quarter 2009. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment

Performance Indicator Guideline,” Revision 5, was used. The inspectors reviewed the licensee’s operator narrative logs, issue reports, mitigating systems performance index derivation reports, event reports and NRC integrated inspection reports for the period of July 1, 2008 through June 30, 2009 to validate the accuracy of the submittals. The inspectors reviewed the mitigating systems performance index component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. 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 mitigating systems performance index cooling water system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.8 Drill and Exercise Performance (EP01)

a. Inspection Scope

The inspectors sampled licensee submittals for the Drill and Exercise Performance, performance indicator for the period from the third quarter 2008 through the fourth quarter 2009. 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 5, 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 and processes including procedural guidance on assessing opportunities for the performance indicator; assessments of performance indicator opportunities during predestinated control room simulator training sessions, and other licensee drills. The specific documents reviewed are described in the attachment to this report.

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

b. Findings

No findings of significance were identified.

.9 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 the third quarter 2008 through the fourth quarter 2009. 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 5, 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 and processes including 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 the emergency response organization drill participation sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.10 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 2008 through June 2009. 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 5, 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 and processes including 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 the alert and notification system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance 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 (1) the complete and accurate identification of the problem; (2) the timely correction, commensurate with the safety significance; (3) the evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent of condition reviews, and previous occurrences reviews; and (4) 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 of significance 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 of significance 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 period of January 1, 2009, through August 31, 2009, 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 rework maintenance lists, departmental challenges lists, system health reports, quality assurance audit 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 single semi-annual trend inspection sample as defined in Inspection Procedure 71152-05.

b. Findings

No findings of significance 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 repetitive problems associated with the auxiliary building crane during the spent fuel pool campaign. The inspectors reviewed the individual incidents to ascertain any commonalities to the incidents.

The inspectors reviewed items entered in the licensee's corrective action program; the inspectors recognized a corrective action item documenting an inadequate maintenance work order. The inspectors reviewed the events leading to the discovery of the inadequate work order, a review of their apparent cause analysis, and the proposed corrective actions.

These activities constitute completion of two in-depth problem identification and resolution samples as defined in Inspection Procedure 71152-05.

b. Findings

- i. Introduction. A self-revealing Green noncited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, was identified for the failure of personnel to follow an auxiliary building crane operating procedure. This resulted in the crane contacting the fuel handling bridge and moving it approximately eight feet.

Description. On June 30, 2009, activities were taking place in the fuel building associated with dry fuel storage campaign. Personnel were preparing to move the dry fuel transfer cask from its storage location in Room 68 into the spent fuel pool. This activity required rigging the transfer cask yoke with the Refueling Area Crane (HE-2), attaching the yoke to the transfer cask, then lifting the transfer cask from its storage location and placing it in the spent fuel pool.

The crane is normally operated from the cab control with the crane operator physically inside the cab; but can also be operated by radio control where the crane operator manipulates the crane using a portable radio transmitter. On June 30, 2009, the crane operator was using the radio transmitter to operate the crane. The crane operator lifted the transfer cask yoke, and was in the process of moving the yoke to the storage area of the transfer cask. Since the crane operator was operating the crane with the radio transmitter, he did not have a direct line of sight to the crane's cab. While moving the yoke laterally with the crane, the cab struck the mast of the fuel handling bridge (FH-12), moving the bridge approximately eight feet.

The crane was being operated in accordance with operating instruction GM-OI-HE-2, "Auxiliary Building Crane Normal Operation." Both the crane cab and the fuel handling bridge are equipped with proximity detectors. The operating instruction prerequisites require energizing the proximity detectors on the crane cab and on the fuel handling bridge. There is an additional prerequisite to move and park the fuel handling bridge with its mast at the west end of the bridge. Section 6.31 of the precautions and limitations section of the operating instruction states: "During radio controlled operation of HE-2, the Crane Operator may be located in such a way that the FH-12 proximity detector indications are not visible. To avoid the risk of a collision, FH-12 shall be parked with the mast at the west end of the bridge." When the crane struck the fuel handling bridge, the mast was parked on the east end of the bridge, and the proximity detectors were energized neither on the crane nor on the fuel handling bridge.

Analysis. The failure to follow the prerequisites of the auxiliary building crane operating procedure is a performance deficiency. The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that a collision with the fuel handling bridge could cause damage such that pieces of the mast could fall into the spent fuel pool and damage the spent fuel. Using the NRC Manual Chapter 0609, Phase 1 screening worksheet under the Barrier Integrity Cornerstone for spent fuel pool issues, the finding screened as having very low safety significance because it did not result in loss of cooling to the spent fuel pool, did not cause damage to the fuel cladding or result in dropped fuel assembly or result in a loss of spent fuel pool volume of greater than 10 percent. This finding

has a crosscutting aspect in the area of human performance associated with work practices because personnel failed to use human error prevention techniques commensurate with the risk of the assigned task, such that work activities were performed safely [H.4.(a)].

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," require that activities affecting Quality shall be prescribed by documented procedures of a type appropriate to the circumstances and shall be accomplished in accordance with these procedures. Operating Instruction GM-OI-HE-2, "Auxiliary Building Crane Normal Operation" Revision 18, contained the requirements for positioning of the fuel handling bridge mast and energizing the proximity detectors on the cranes cab and the fuel handling bridge. Contrary to the above, on June 30, 2009, personnel failed to park the mast of the fuel handling bridge at the west end of the bridge and failed to energize the proximity detectors in accordance with Operating Instructions GM-OI-HE-2. This failure resulted in the crane colliding with the fuel handling bridge mast. Because the finding is of very low safety significance and has been entered into the licensee's corrective action program as Condition Report CR-2009-3002, this violation is being treated as an NCV consistent with Section VI.A of the Enforcement Policy: NCV 05000285/2009004-04, "Failure to Follow Auxiliary Building Crane Operating Instructions."

- ii. Introduction. A self-revealing, Green noncited violation of Technical Specification 5.8.1.a (Procedures) was identified for failure to provide an adequate maintenance work instruction. While performing maintenance on the motor, the HPSI Header - Charging Header Crosstie Valve, HCV-308, the maintenance work instruction failed to ensure that the HPSI Alternate Header Isolation Valve, HCV-2987, was closed, resulting in unexpected pressurization of the Number 2 HPSI Header.

Description. On July 17, 2009, the licensee was performing Motor Control Center and Fast Fourier Transform testing on the, HPSI Header - Charging Header Crosstie Valve motor of HCV-308. The work instructions consisted of seven sections contained on one page. Section 3.0 "Impact Statement" noted "HCV-308 will be out of service for this work task," and "Valve will be cycled throughout testing." Section 6.0 "Work Instructions" stated "Perform MC2 Diagnostic Testing on HCV-308 per the procedure EM-RR-VX-0406," (MC2 Diagnostic Test Procedure for Motor Operated Valves).

The Motor Control Center diagnostic equipment and data acquisition system were installed on HCV-308. Step 7.3.2 of the diagnostic test procedure then directed "stroke the valve in the desired direction." Though not specifically referenced in the maintenance work instruction, the operator referenced Surveillance Test Procedure OP-ST-SI-3001, "Safety Injection System Category A and B Valve Exercise Test" to open HCV-308. Details on opening this specific valve are included in Attachment 8, Section 5 of the Surveillance Test Procedure.

After opening HCV-308, control room personnel noted a steady increase in the Reactor Coolant Drain Tank level. While investigating the source of water into the tank, the control room noted that the differential pressure across the Number 2

HPSI header injection valves exceeded 1300 psig below the valve seat. Nominally, the differential pressure across these valves is 250 psi above the valve seat. Further investigation determined that the HPSI Alternate Header Isolation Valve, HCV-2987, was open, and provided charging pump discharge pressure to the header injection valves once HCV-308 was opened.

Though the maintenance work instruction did not provide adequate guidance to open HCV-308, the Surveillance Test Procedure should provide the needed guidance. There is a note in Attachment 8 of the surveillance test that states "HCV-2987 should remain closed during stroke testing of HCV-308 ..." However, this note is contained in the section of the procedure to stroke HCV-2987, and could go unnoticed when using the procedure only to stroke HCV-308.

Analysis. The failure to provide an adequate maintenance work instruction was a performance deficiency. This finding was greater than minor because the finding was associated with the Mitigating Systems Cornerstone objective (procedure quality attribute) to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," Phase 1 screening worksheet, the inspectors determined that the finding was of very low safety significance (Green) because it was not: (1) a design or qualification deficiency; (2) a loss of system safety function; (3) an actual loss of safety function for greater than its technical specification allowed outage time; (4) a loss of safety function of a nontechnical specification train; or (5) a seismic, flooding or severe weather related finding. There is no crosscutting aspect associated with this finding since the inadequacy of the surveillance test procedure was a significant contributor to the result, not the performance deficiency.

Enforcement. Fort Calhoun Technical Specification 5.8.1.a states, in part, "Written procedures... shall be established, implemented and maintained covering the following activities... The applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, 1978." Regulatory Guide 1.33, Revision 2, Appendix A, 1978, Section 9(a), recommends, in part, "maintenance that can affect the performance of safety-related equipment should be properly preplanned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances." The licensee performed maintenance on the motor of HCV-308 in accordance with Work Order 00333467-01. Contrary to the above, as of July 17, 2009, the maintenance work instruction for performing motor testing on HCV-308 was not adequate to satisfy this requirement because the instruction failed to provide adequate steps to ensure that HCV-2987 was closed prior to opening HCV-308. Since this finding was of very low safety significance and was documented in the licensee's corrective action program as Condition Report CR2009-3256, this violation is being treated as a noncited violation (NCV), consistent with Section VI.A of the NRC Enforcement Policy (NCV 05000285/2009004-01), Inadequate Valve Motor Maintenance Work Instructions.

.5 In-Depth Review of Operator Workarounds

a. Inspection Scope

The inspectors selected this issue for review to verify that licensee personnel were identifying operator workaround problems at an appropriate threshold and entering them in the corrective action program, and has proposed or implemented appropriate corrective actions. The inspectors considered the following, as applicable, during the review of the licensee's actions: (1) complete and accurate identification of the problem in a timely manner; (2) evaluation and disposition of operability/reportability issues; (3) consideration of extent of condition, generic implications, common cause, and previous occurrences; (4) classification and prioritization of the resolution of the problem; (5) identification of root and contributing causes of the problem; (6) identification of corrective actions; and (7) completion of corrective actions in a timely manner.

b. Findings

No findings of significance were identified.

4OA3 Event Follow-up (71153)

.1 (Opened) LER 05000285/2009003-00, Void in Safety Injection Piping During Operation Due to Inadequate Procedural Guidance

On April 30, 2009, a void was discovered on the cooled suction line to High Pressure Safety Injection Pump SI-2B. Based on the period from the end of the 2008 Refueling Outage to the time of the discovery of the void, this made SI-2B inoperable for greater than the Technical Specification allowed 24 hours. Actions were taken to successfully vent the void. Follow-up ultrasonic testing was done to confirm the location was water filled.

.2 (Opened and Closed) LER 05000285/2009002-00, Technical Specification Violation due to Installation of an Unqualified Part in a Radiation Monitor

On November 21, 2008, a non-qualified relay was mistakenly installed in the pump control circuit of a process radiation monitor, rendering it inoperable. The licensee discovered the condition on April 13, 2009. In the intervening 143 days, a stack radiation monitor was inoperable at the same time in Violation of Technical Specification 2.15. The LER was reviewed by the inspectors, no findings of significance were identified, and no violation of NRC requirements occurred. The licensee documented the failed equipment in Condition Report CR 2009-2537. This LER is closed.

.3 (Closed) URI 05000285/2009007-04, Failure to Report a Potential Defect of Breaker Trip Bars per 10 CFR Part 21

a. Inspection Scope.

On July 14, 2009, Inspection Report 05000285/2009007 documented an unresolved

item concerning the extent of a deviation originally discovered in a failed safety-related breaker. An inadequate evaluation of the deviation was performed that could result in an event or condition not being properly reported under 10 CFR Part 21, 10 CFR Part 50.72, 10 CFR Part 50.73 or 10 CFR Part 73.71.

b. Finding

Failure To Adopt Appropriate Procedures To Evaluate Deviations And Failures To Comply With 10 CFR Part 21

Introduction. The NRC identified a Severity Level IV noncited violation of 10 CFR Part 21.21(a), "Notification of failure to comply or existence of a defect and its evaluation" for the licensee's failure to adopt appropriate procedures to evaluate deviations and failures to comply associated with substantial safety hazards. Specifically, the procedure fails to adequately assess the extent of deviations, which are discovered, and the potential impact on other components either installed in the plant or stored in the warehouse. Additionally, the procedure failed to adequately evaluate defects in components, which have never been installed or used in the nuclear plant.

Description. On August 24, 2007, a safety related breaker (MCC-4B1-B01, Pressurizer Backup Heaters Bank 3 Group 8) failed its instantaneous trip setting on one phase. A failure analysis was performed by a third party vendor who determined the failure to be curvature of the trip bar was likely due to a material defect. This failure is a deviation as defined by 10 CFR Part 21 (a departure from the technical requirements included in a procurement document) and the licensee's governing procedure SO-R-1, "Reportability Determinations." The licensee arbitrarily determined the extent of the deviation to be limited to breakers with the same date code as the failed breaker. This determination was made with no engineering basis. In instances where deviations are attributed to the vendor, only the vendor can fully determine the extent of the deviation and its potential effect on similar components. Since procedure SO-R-1 did not direct vendor notification unless the initial deviation is potentially associated with a substantial safety hazard, it is not possible to fully determine whether the deviation occurred in other components.

The licensee determined there were no other breakers with the same date code located anywhere on site, thus the only breaker assumed to have the deviation was the initial breaker that failed. Due to the safety-related function of the particular breaker, there was no substantial safety hazard, and the event was not reportable under 10 CFR 50.72 or 10 CFR 50.73. Thus, the licensee determined that any reporting requirements under 10 CFR Part 21 were satisfied, as described in 10 CFR 21.2(c). The inspectors' noted Step 1.3 in Procedure SO-R-1 which states, in part, "for in-service components, if the event or condition is appropriately evaluated under 10 CFR 50.72, 50.73 or 73.71 (e.g., via the use of Reportability Evaluation Checklist Part 1 and/or Part 6, as appropriate) no additional evaluation is needed with respect to 10 CFR Part 21." In addition, no specific guidance is included in the procedure to address affected components, which may be located in the warehouse.

On July 31, 1991, the NRC published Statements of Consideration in the Federal Register (56 FR 36081) "Criteria and Procedures for the Reporting of Defects and Conditions of Construction Permits." This publication noted, "One category of defects,

which will still be reported by power plant operating license holders under Part 21 rather than Sections 50.72 and 50.73, are those defects discovered by licensees in equipment that has never been installed or used in the nuclear plant.” This category of defects is normally associated with components stored in the licensee's warehouse. Following Step 1.3 in Procedure SO-R-1, conditions could exist where a deviation is evaluated under 10 CFR 50.72 or 10 CFR 50.73 and determined to be not reportable, then no further evaluation would be required, even though the defect may occur in a component or components in the warehouse.

Analysis. The inspectors determined that the failure to adopt appropriate procedures to evaluate deviations and failures to comply associated with substantial safety hazards was a performance deficiency. This finding was more than minor because if the procedure were left uncorrected it could become a more serious safety concern. Specifically, failure to notify the vendor upon discovery of a deviation does not allow for adequate evaluation of other components that could be subject to the deviation. Additionally, components with deviations could be located in the licensee's warehouse and subsequently installed in the plant without the licensee's knowledge, potentially creating a substantial safety hazard. Because this issue affected a potential reporting requirement and NRC's ability to perform its regulatory function, it was evaluated with the traditional enforcement process. Consistent with the guidance in Section IV.A.3 and Supplement VII paragraph D.4 of the NRC Enforcement Policy, this violation was categorized at Severity Level IV noncited violation. There is no crosscutting aspect associated with this finding because it is not indicative of current performance in that the procedure is many years old.

Enforcement. Title 10 CFR Part 21.21(a), “Notification of failure to comply or existence of a defect and its evaluation,” states, in part, “that each individual corporation subject to the regulations in this part shall adopt appropriate procedures to evaluate deviation and failures to comply associated with substantial safety hazards.” Contrary to the above, as of May 15, 2009, the licensee failed to adequately address the evaluation of defects discovered in equipment that has never been installed or used in the nuclear plant. Additionally, there is no guidance to evaluate the extent of the deviation to determine if defective components are located in the warehouse. This is a Severity Level IV violation consistent with Section IV.A.3 and Supplement VII, paragraph D.4, of the NRC Enforcement Policy.

Because this finding was of very low safety significance and has been entered into the corrective action program as Condition Report CR 2009-2276, this violation is being treated as a noncited violation, consistent with section VI.A of the NRC Enforcement Policy: NCV 05000285/2009004-02, "Failure to Adopt Appropriate Procedures to Evaluate Deviations and Failures to Comply with 10 CFR Part 21 Evaluations."

40A5 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's 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 of significance were identified.

.2 Operation of an Independent Spent Fuel Storage Installation at Operating Plants (60855.1); Review of 10 CFR 72.212(b) Evaluations at Operating Plants (60856.1)

a. Inspection Scope

Inspectors reviewed aspects of the station's 10 CFR 72 specific license. At the time of this inspection, Fort Calhoun Station's independent spent fuel storage installation contained five loaded Transnuclear Standardized NUHOMS Horizontal Modular Storage units. The licensee was loading casks in compliance with the requirements contained in Transnuclear Standardized NUHOMS Horizontal Modular Storage System Certificate of Compliance 1004, License Amendment 9, and the Standardized NUHOMS Horizontal Modular Storage System Final Safety Analysis Report, Revision 7, for use during the current cask loading campaign.

Portions of the operations associated with loading of canister 7 were observed. (Note: Canister numbers do not reflect actual loading sequence.) Activities in process included the use of the forced helium to remove the moisture from the dry shielded canister, helium backfill operation, dry shielded canister closure welding, nondestructive testing of weld joints, and the loading of the canister into the Standardized NUHOMS Horizontal Module.

The characteristics of the spent fuel assemblies selected for loading into dry shielded canister 7 were reviewed and found to be in compliance with Certificate of Compliance 1004 technical specification requirements. The fuel assemblies had been selected for loading in accordance with the requirements contained in licensee Procedure RE-AD-0005, "Fuel Selection and DSC Planning for Dry Cask Storage," Revision 2.

A tour of the independent spent fuel storage installation was performed by the inspectors. The condition of the Standardized NUHOMS Horizontal Modular Storage units and the associated vents were determined to be adequate. Material being stored on the independent spent fuel storage installation pad, and used for supporting independent spent fuel storage operations, met the fire hazard analysis requirements.

The Transnuclear Standardized NUHOMS Horizontal Modular Storage System Technical Specification 1.3 provides the licensee two methods, Technical Specification 1.3.1 or 1.3.2, for monitoring the thermal performance of the horizontal storage modules on a daily basis. The licensee chose Technical Specification 1.3.2 as their thermal performance monitoring method that monitors the inlet and outlet air temperature of each horizontal storage module. The licensee has incorporated the requirements to obtain these daily readings in the plant operations logs.

b. Findings

No findings of significance were identified.

40A6 Meetings

Exit Meeting Summary

On July 24, 2009, the inspectors presented the results of the inspection of the onsite emergency preparedness exercise and the onsite review of licensee changes to the Radiological Emergency Response Plan and emergency plan implementing procedures, to Mr. T. Nellenbach, Division Manager, Nuclear Operations/Plant Manager, and other members of the licensee's staff. The licensee acknowledged the issues presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On August 7, 2009, the inspectors presented the inspection results of the Dry Fuel Storage Campaign inspection activities to Mr. J. Reinhart, Site Vice President, 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.

On October 7, 2009, the inspectors presented the inspection results to Mr. J. Reinhart, Site Vice President, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

SUPPLEMENTAL INFORMATION
KEY POINTS OF CONTACT

Licensee Personnel

R. Acker, Station Licensing Engineering
R. Clemens, Division Manager, Nuclear Engineering
P. Cronin, Manager, Operations
K. Erdman, Supervisor Materials Engineering
H. Faulhaber, Division Manager, Nuclear Asset Management
M. Frans, Manager, System Engineering
J. Gasper, Manager, Design Engineering
S. Gebers, Manager, Emergency Preparedness and Health Physics
D. Guinn, Supervisor Regulatory Compliance
J. Herman, Manager, Engineering Programs
R. Hodgson, Manager, Radiation Protection
T. Hutchinson, Reliability Engineer
T. Matthews, Manager, Nuclear Licensing
E. Matzke, Senior Nuclear Licensing Engineer
T. Nellenbach, Division Manager, Nuclear Operations/Plant Manager
T. Pilmaier, Manager, Performance Improvement
J. Reinhart, Site Vice President
G. Roets, Manager Major Projects
R. Short, Manager, Major Projects
C. Simmons, Supervisor, Emergency Preparedness
M. Tesar, Division Manager, Nuclear Support
T. Uehling, Manager, Chemistry
B. VanSant, Manager, Nuclear Projects

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000285/2009003-00	LER	Void in Safety Injection Piping During Operation Due to Inadequate Procedural Guidance (4OA3)
05000282/2009004-01	NCV	Inadequate Valve Motor Maintenance Work Instructions (4OA2)
05000285/2009004-02	NCV	Failure to Adopt Appropriate Procedures to Evaluate Deviations and Failures to Comply with 10 CFR Part 21 Evaluations (4OA3)
05000285/2009004-03	FIN	Failure to perform checks at the beginning of each work shift on the main hoist limit switches (1R15)
05000285/2009004-04	NCV	Failure to Follow Auxiliary Building Crane Operating Instructions (4OA2)

Opened and Closed

05000282/2009002-00	LER	Technical Specification Violation Due to Installation of an Unqualified Part in a Radiation Monitor (4OA3)
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Closed

05000285/2009007-04 URI Void in Safety Injection Piping During Operation Due to Inadequate Procedural Guidance (4OA3)

LIST OF DOCUMENTS REVIEWED

Section 1RO1: Adverse Weather Protection

DOCUMENT TYPE

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
AOP-31	161 kV Grid Malfunctions	9
NOD-QP-36	Grid Operations and Control of Switchyard at FCS	18
OI-EG-3	EMS Post-FCS-Trip 161 KV Voltage Prediction and Switchyard Status	7

Section 1RO4: Equipment Alignment

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
11405-M-10, Sheet 1	Auxiliary Cooling Component Cooling System Flow Diagram P&ID	66
11405-M-10, Sheet 2	Auxiliary Cooling Component Cooling System Flow Diagram P&ID	17
11405-M-10, Sheet 3	Auxiliary Cooling Component Cooling System Flow Diagram P&ID	24
11405-M-10, Sheet 4	Auxiliary Cooling Component Cooling System Flow Diagram P&ID	11
11405-M-10, Sheet COV	Composite Flow Diagram Auxiliary Cooling Component Cooling System P&ID	29
11405-M-253, Sheet 1	Condensate Flow Diagram Steam Generator Feedwater and Blowdown P&ID	92
11405-M-253, Sheet 2	Condensate Flow Diagram Steam Generator Feedwater and Blowdown P&ID	24
11405-M-253, Sheet 3	Condensate Flow Diagram Steam Generator Feedwater and Blowdown P&ID	16
11405-M-253, Sheet 4	Condensate Flow Diagram Steam Generator Feedwater and Blowdown P&ID	39

Section 1RO4: Equipment Alignment

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
11405-M-253, Sheet COV	Condensate Flow Diagram Steam Generator Feedwater and Blowdown P&ID	46
11405-M-263, Sheet 1	Flow Diagram Compressed Air P&ID	69
11405-M-263, Sheet 2	Flow Diagram Compressed Air P&ID	26
11405-M-263, Sheet COV	Composite Flow Diagram Compressed Air P&ID	41
11405-M-264, Sheet 1	Flow Diagram Instrument Air Diagram Aux Building & Containment P&ID	61
11405-M-264, Sheet COV	Composite Flow Diagram Instrument Air Diagram Aux Building & Containment P&ID	30
B120F04002, Sheet 1	Jacket Water Schematic for DG-1 P&ID	25
B120F07001, Sheet 1	Starting Air System Schematic for DG-1 (Rm 63) P&ID	34
D-4665	DG-1 Diesel Generator One Line Diagram P&ID	6
E-23866-210-130, Sheet 1	Safety Injection and Containment Spray System Flow Diagram P&ID	100
E-23866-210-130, Sheet 2	Safety Injection and Containment Spray System Flow Diagram P&ID	64
E-23866-210-130, Sheet 2A	Safety Injection and Containment Spray System Flow Diagram P&ID	20
E-23866-210-130, Sheet 2B	Safety Injection and Containment Spray System Flow Diagram P&ID	12
E-23866-210-130, Sheet 3	Safety Injection and Containment Spray System Flow Diagram P&ID	18
E-23866-210-130, Sheet COV	Composite Flow Diagram Safety Injection and Containment Spray System P&ID	53

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
OI-AFW-1	Auxiliary Feedwater Actuation System Normal Operation	72
OI-CA-1	Compressed Air Normal Operation	62
OI-CC-1	Operating Instruction, Component Cooling System Normal Operation	65
OI-DG-1	Diesel Generator No. 1	47
OI-SC-1	Operating Instruction, Shutdown Cooling Initiation	48
OI-SI-1	Operating Procedure, Safety Injection - Normal Operation	115
OP-1	Operating Procedure, Master Checklist For Plant Startup	97

Section 1RO5: Fire Protection

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
AOP-6	Fire Emergency	21
EA-FC-97-001	Fire Hazards Analysis Manual	14
SO-G-28	Standing Order, Station Fire Plan	76
SO-G-58	Standing Order, Control of Fire Protection System Impairments	36
SO-G-91	Standing Order, Control and Transportation of Combustible Materials	25
SO-G-102	Standing Order, Fire Protection Program Plan	8
SO-G-103	Standing Order, Fire Protection Operability Criteria And Surveillance Requirements	23
FC05814	UFHA Combustible Loading	8
AOP-6-01	Fire Emergency, Auxiliary Building Radiation Controlled Areas and Containment	1
AOP-6-02	Fire Emergency, Uncontrolled Areas of Auxiliary Building	0
AOP-6-03	Fire Emergency, Miscellaneous Areas	0
USAR 9.11	Updated Safety Analysis Report Fire Protection Systems	19

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
D-4147, Sheet 1	Containment & Auxiliary Building Elevation 1036' Portable Fire Extinguisher Locations	8

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
D-4147, Sheet 1	Containment & Auxiliary Building Roof Elevations Portable Fire Extinguisher Locations	0
D-4147, Sheet 2	Auxiliary Building & Containment Elevation 1025'-0" Portable Fire Extinguisher Locations	6

Section 1R11: Licensed Operator Requalification Program

MISCELLANEOUS DOCUMENTS

<u>TITLE</u>	<u>DATE</u>
Class Attendance Records for Simulator Evaluations	September 8, 2008
Current operator license list from Fort Calhoun Station	
Current Simulator Differences List	
Open Simulator Discrepancy Reports (All)	

Section 1R12: Maintenance Effectiveness

CONDITION REPORTS

200604163

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
PBD-16	Program Basis Document, Maintenance Rule	8
PED-SEI-34	Maintenance Rule Program	6

MISCELLANEOUS DOCUMENTS

Maintenance Rule Scoping Data Sheet CNTSMP
Maintenance Rule Scoping Data Sheet TSCBLG
Maintenance Rule Scoping Data Sheet TSCVAC

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

Work Orders

00326453 00335922 00331001

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION DATE</u>
ANSI N18.7	Administrative Controls for Nuclear Power Plants	1972
NOD-QP-36	Grid Operations and Control of Switchyard at Fort Calhoun Station	18
SO-M-100	Standing Order, Conduct of Maintenance	52
SO-M-101	Standing Order, Maintenance Work Control	83

MISCELLANEOUS DOCUMENTS

<u>TITLE</u>	<u>DATE</u>
Summary of scheduled activities affecting plant risk	week of July 20, 2009
Summary of scheduled activities affecting plant risk	week of August 17, 2009
Summary of scheduled activities affecting plant risk	week of Sept 6, 2009

Section 1R15: Operability Evaluations

Condition Reports

200303491	200303522	2009-2997	2009-3113	2009-3661
2009-3702	2009-3792			

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
AOP-12	Loss of Containment Integrity	6
NOD-QP-31	Operability Determination Process (ODP)	40
OP-ST-DG-0001	Diesel Generator 1 Check	65
TDB VIII	Technical Data Book, Equipment Operability Guidance	40

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
11405-M-252, Sheet COV	Composite Flow Diagram Main Steam P&ID	42
11405-M-252, Sheet 1	Flow Diagram Steam P&ID	100
11405-M-252, Sheet 2	Flow Diagram Steam P&ID	14
11405-M-252, Sheet 3	Flow Diagram Steam P&ID	23

MISCELLANEOUS DOCUMENTS

<u>TITLE</u>	<u>REVISION</u>
ANSI B302.2.0-1976, Overhead and Gantry Cranes (Top Running Bridge, Multiple Girder) Updated Safety Analysis Report Section 9.4, Auxiliary Feedwater System Various Control Room Operating Logs	17

Section 1R18: Plant Modifications

<u>MISCELLANEOUS DOCUMENTS</u>	<u>DATE</u>
Temporary Modification Number EC47000, Soft Patch on 18 E Trash Grid Backwash Piping (CW System),	August 24, 2009

Section 1R19: Post Maintenance Testing

WORK ORDERS

00240532	00247270	00286329	00312810	00339628
003348570				

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
IC-RR-VX-0409	Diagnostic Testing of Air Operated Valves	0
IC-ST-CCW-3001	Instrument Air Accumulator Check Valve Operability Test	7
IC-ST-IA-3010B	Accumulator, Check Valve and Trip Valve Testing for Train B "400 Series" Containment Fan Cooler Inlet and Outlet Valves	0
MD-AD-0013	Post Maintenance Testing Selection Instructions	3
MM-RR-CH-001	Inspection and Repair of Charging Pump Hydraulic Section	7
OP-ST-CCW-3001A	Component Cooling Category B Valve Exercise Test	13
OP-ST-CCW-3005A	Component Cooling Category A and B Valve Exercise Test (for the A and B valves)	10
OP-ST-CH-3003	Chemical & Volume Control System Pump/Check Valve Inservice Test	51
OP-ST-VX-3005A	Component Cooling Water System Remote Position Indicator Verification Surveillance Test	4
OP-ST-VX-3007A	Component Cooling Water System Remote Position Indicator Verification Surveillance Test	3

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
PE-RR-VX-0424	Inspection and repair of Dresser industries Hancock Type 7150/7250 Globe valves	4
SO-M-100	Standing Order, Conduct of Maintenance	52
SO-M-101	Standing Order, Maintenance Work Control	84

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
11405-M-10, Sheet 1	Auxiliary Cooling Component Cooling System Flow Diagram P&ID	66
11405-M-10, Sheet 2	Auxiliary Cooling Component Cooling System Flow Diagram P&ID	17
11405-M-10, Sheet 3	Auxiliary Cooling Component Cooling System Flow Diagram P&ID	24
11405-M-10, Sheet 4	Auxiliary Cooling Component Cooling System Flow Diagram P&ID	11
11405-M-10, Sheet COV	Composite Flow Diagram Auxiliary Cooling Component Cooling System P&ID	29
11405-M-40, Sheet 1	Auxiliary Cooling Component Cooling System P&ID	36
11405-M-40, Sheet 2	Auxiliary Cooling Component Cooling System P&ID	34
11405-M-40, Sheet 3	Auxiliary Cooling Component Cooling System P&ID	23
11405-M-40, Sheet COV	Composite Flow Diagram Auxiliary Cooling Component Cooling System P&ID	9
E-23866- 2A210-120, Sheet 2B	Chemical & Volume Control System P&ID	18
E-23866-210-120, Sheet 1	Chemical & Volume Control System P&ID	70
E-23866-210-120, Sheet 1A	Chemical & Volume Control System P&ID	22
E-23866-210-120, Sheet 2A	Chemical & Volume Control System P&ID	13

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
E-23866-210-120, Sheet COV	Composite Flow Diagram Chemical & Volume Control System P&ID	42
E-23866-210-121, Sheet 1	Chemical & Volume Control System P&ID	50
E-23866-210-121, Sheet 2	Chemical & Volume Control System P&ID	13
E-23866-210-121, Sheet COV	Composite Flow Diagram Chemical & Volume Control System P&ID	13

Section 1R22: Surveillance Testing

CONDITION REPORTS

2009-3677	2009-0285	2009-0487	2009-0507	2009-1023
2009-1035	2009-1111	2009-2477	2009-3766	

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
IC-ST-SA-3001B	Starting Air Compressors Discharge Check Valve Exercise Test	0
OI-CC-1	Component Cooling System Normal Operation	65
OP-ST-CCW-3001A	Component Cooling Category B Valve Exercise Test	13
OP-ST-CCW-3005B	Component Cooling Category A And B Valve Exercise Test (for the C and D valves)	15
OP-ST-CCW-3022	AC-3C Component Cooling Water Pump Inservice Test	16
PBD-2	Program Basis Document, Inservice Inspection Program	11
PED-QP-33	Inservice Inspection and Inservice Test Program	7
SO-G-23	Standing Order, Surveillance Test Program	54

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
11405-M-10, Sheet 1	Auxiliary Cooling Component Cooling System Flow Diagram P&ID	66
11405-M-10, Sheet 2	Auxiliary Cooling Component Cooling System Flow Diagram P&ID	17

11405-M-10, Sheet 3	Auxiliary Cooling Component Cooling System Flow Diagram P&ID	24
11405-M-10, Sheet 4	Auxiliary Cooling Component Cooling System Flow Diagram P&ID	11
11405-M-10, Sheet COV	Composite Flow Diagram Auxiliary Cooling Component Cooling System P&ID	29
B120F070001, Sheet 2	DG-2 Starting Air System	25

MISCELLANEOUS DOCUMENTS

<u>TITLE</u>	<u>Revision</u>
Apparent Cause Analysis Report, Air Leak on Positioner for HCV-400C, CCW Outlet Valve, Condition Report 2009-0487	1
Apparent Cause Analysis Report, VA-1A CCW Outlet Valve, HCV-400C, Failed to Close During OP-ST-CCW-3005B, Condition Report 2009-1023	0
Updated Safety Analysis Report Section 4.5, Reactor Coolant System Test and Inspections	14
Updated Safety Analysis Report Section 6.5, Engineered Safeguards Specific References	15
Updated Safety Analysis Report Section 9.7, Component Cooling Water System	15

Section 1EP1: Exercise Evaluation

PROCEDURES/DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION/DATE</u>
	Lesson Plan 1070-011: Exercise Controller and Evaluator Training Student Handbook	5
	Emergency Plan Implementation Refresher (Slide Show)	
EP-08-022	Drill Evaluation Report:	February 5, 2008
EP-08-066	Drill Evaluation Report:	June 24, 2008
EP-08-129	Drill Evaluation Report:	August 26, 2008
EP-08-185	Drill Evaluation Report: Hostile Action Drill	November 6, 2008
EP-09-044	Drill Evaluation Report: First Quarter 2009 Training Drills	January 20, 27, and February 10, 2009

PROCEDURES/DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION/DATE</u>
EP-09-070	Drill Evaluation Report:	May 19, 2009
EPIP-EOF-1	Activation of the Emergency Operations Facility	18
EPIP-EOF-21	Potassium Iodide Issuance	8
EPIP-EOF-6	Dose Assessment	38
EPIP-EOF-7	Protective Action Guides	19
EPIP-OSC-1	Emergency Classification	46
EPIP-OSC-15	Communicator Actions	23
EPIP-OSC-2	Command and Control Position Actions and Notifications	50
EPIP-OSC-21	Activation of the Operations Support Center	21
EPIP-OSC-9	Emergency Team Briefings	13
EPIP-RR-11	Technical Support Center Director Actions	17
EPIP-RR-21	Operations Support Center Director Actions	17
EPIP-TSC-1	Activation of the Technical Support Center	31
EPIP-TSC-8	Core Damage Assessment	19
FCSG-32	Work Week Management	18

CORRECTIVE ACTION DOCUMENTS

2009-1454	2009-2537	2009-3308	2009-3320	2009-3324
2009-3330	2009-3403			

Section 40A1: Performance Indicator Verification

PROCEDURE/DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION/DATE</u>
	Condition Report 2009-0687	February 13, 2009
EPDM-14	Emergency Preparedness Performance Indicator Program	11
EPIP-EOF-7	Protective Action Guides	18, 19
EPIP-OSC-1	Emergency Classification	44, 45, 46
EPIP-OSC-2	Command and Control Position Actions and Notifications	50
EPT-1	Alert Notification System Silent Test	15, 16
EPT-2	Alert Notification System Growl Test	19, 20
EPT-3	Alert Notification System Complete Cycle Test	14, 15

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
TDB-IV.7	Technical Data Book, Process Monitor Setpoints	215

CONDITION REPORTS

2008-4506	2008-4516	2008-4517	2008-4518	2008-4551
2008-4626	2008-4659	2008-4662	2008-4707	2008-4711
2008-4716	2008-4765	2008-4767	2008-4800	2008-4943
2008-4973	2008-5030	2008-5048	2008-5064	2008-5065
2008-5086	2008-5087	2008-5104	2008-5155	2008-5160
2008-5172	2008-5186	2008-5201	2008-5218	2008-5224
2008-5238	2008-5256	2008-5272	2008-5281	2008-5381
2008-5382	2008-5383	2008-5384	2008-5386	2008-5387
2008-5388	2008-5475	2008-5477	2008-5497	2008-5529
2008-5558	2008-5607	2008-5623	2008-5641	2008-5667
2008-5674	2008-5695	2008-5741	2008-5793	2008-5797
2008-5833	2008-5848	2008-5986	2008-6022	2008-6065
2008-6112	2008-6135	2008-6143	2008-6326	2008-6335
2008-6350	2008-6429	2008-6439	2008-6460	2008-6470
2008-6503	2008-6548	2008-6550	2008-6590	2008-6649
2008-6753	2008-6763	2008-6770	2008-6781	2008-6794
2008-6800	2008-6833	2008-6836	2008-6838	2008-6924
2008-6941	2008-6966	2008-6985	2008-7010	2008-7060
2008-7075	2008-7083	2008-7085	2008-7086	2008-7111
2008-7251	2008-7257	2009-0031	2009-0089	2009-0092
2009-0102	2009-0109	2009-0135	2009-0209	2009-0250
2009-0329	2009-0339	2009-0409	2009-0413	2009-0424
2009-0470	2009-0475	2009-0480	2009-0536	2009-0540
2009-0541	2009-0550	2009-0552	2009-0559	2009-0596
2009-0608	2009-0639	2009-0724	2009-0729	2009-0760
2009-0763	2009-0791	2009-0833	2009-0871	2009-0872
2009-0882	2009-0902	2009-0903	2009-0905	2009-0947
2009-0948	2009-0984	2009-1001	2009-1080	2009-1082
2009-1179	2009-1272	2009-1378	2009-1406	2009-1413
2009-1461	2009-1471	2009-1476	2009-1477	2009-1478
2009-1493	2009-1503	2009-1603	2009-1611	2009-1611
2009-1622	2009-1625	2009-1656	2009-1683	2009-1686
2009-1690	2009-1706	2009-1713	2009-1717	2009-1729
2009-1750	2009-1802	2009-1812	2009-1817	2009-1818
2009-1821	2009-1865	2009-1873	2009-1891	2009-1899
2009-1900	2009-1922	2009-1935	2009-2005	2009-2017
2009-2023	2009-2024	2009-2025	2009-2029	2009-2037
2009-2069	2009-2111	2009-2123	2009-2165	2009-2194
2009-2205	2009-2219	2009-2238	2009-2247	2009-2265
2009-2275	2009-2278	2009-2283	2009-2298	2009-2304
2009-2438	2009-2465	2009-2466	2009-2468	2009-2537
2009-2601	2009-2613	2009-2614	2009-2615	2009-2617
2009-2677	2009-2690	2009-2803	2009-2866	2009-2867

CONDITION REPORTS

2009-2901	2009-2902	2009-2904	2009-2979	2009-2990
2009-3006	2009-3019			

MISCELLANEOUS DOCUMENTS

<u>TITLE</u>	<u>REVISION/DATE</u>
MSPIBD, Mitigating Systems Performance Index Basis Document for Fort Calhoun Station	1
NEI 99-02, Regulatory Assessment Indicator Guideline	5
Procedure NOD-QP-37, Performance Indicators Program	16
Various Operator logs	July 1, 2008 through June 30, 2009

Section 40A2: Identification and Resolution of Problems

CONDITION REPORTS

2008-5514	2008-6481	2008-6511	2008-6485	2008-7425
2009-0181	2009-0019	2008-6824	2009-1446	2009-2070
2009-2096	2009-2118	2009-2607	2009-2614	2009-2892
2009-2732	2009-2997	2009-3002	2009-3063	2009-3089
2009-3108	2009-3113	2009-3148	2009-3186	2009-3243
2009-3177	2009-3915	2009-2466	2009-2468	2009-4236
2009-3294	2009-3300	2009-3305	2009-3394	2009-3476
2009-3501	2009-3507	2009-3547	2009-3570	2009-3576
2009-3583	2009-3622	2009-3802	2009-3843	2009-4031
2009-4257	2009-4258	2009-4308	2008-4922	2008-4936
2009-4521	2009-3873	200503564	200606023	2008-4865
2009-3964				

WORK ORDERS

00263046	00345039
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PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
FCSG-45	Operator Challenge Program	2
GM-OI-HE-2	Auxiliary Building Crane Normal Operation	18

MISCELLANEOUS DOCUMENTS

<u>TITLE</u>	<u>REVISION/DATE</u>
ANSI B302.2.0-1976, Overhead and Gantry Cranes (Top Running Bridge, Multiple Girder)	

MISCELLANEOUS DOCUMENTS

<u>TITLE</u>	<u>REVISION/DATE</u>
Dry Fuel Storage Recovery Action Plan	July 2, 2009
EC41654, Site Acceptance Test, OPPD Fort Calhoun Aux Building 106 Ton X-SAM Crane Upgrade	0
FC07539, NUHOMS 32PT-S100 Operational Lift Weight Calculation with OS197-3 (OS197H) Cask	0
NUREG 0554, Single-Failure Proof Cranes for Nuclear Power Plants	May, 1979
Operator Challenge List	
Root Cause Analysis Report, HE-2, Auxiliary Building Crane Contacting FH-12, Spent Fuel Handling Machine, Condition Report 2009-3302	0

Section 40A5: Other Activities

CONDITION REPORTS

2007-1082	2007-1525	2008-4253	2008-6668	2009-0569
2009-1039	2009-2269	2009-2363	2009-2625	2009-2888
2009-2988	2009-3062			

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
GM-OI-HE-2	Auxiliary Building Crane Normal Operation	20
OP-12	Fueling Operations	55
RE-AD-0005	Fuel Selection and DSC Planning for Dry Cask Storage	2
RE-RR-DFS-0001	DSC/TC Prep for Fuel Loading Operations	5
RE-RR-DFS-0002	Dry Shielded Canister Sealing Operations	8
RE-RR-DFS-0003	Loaded DSC/TC from Auxiliary building to ISFSI Operations	7
RE-RR-DFS-0004	DSC from TC to HSM Transfer Operations	6

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
	Fort Calhoun Station Independent Spent Fuel Storage Installation 10 CFR 72.212 Evaluation Report, Docket 72-054	1
1004	Certificate of Compliance for Spent Fuel Storage Casks, Docket 72-1004	9
1004 Attachment A	Technical specifications – Transnuclear, Standardized NUHOMS Horizontal Modular Storage System, Docket 72-1004	9
LR 721004-399	10 CFR 72.48 Applicability and 10 CFR 71 Review Form	1

