UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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ARLINGTON, TEXAS 76011-4005

February 3, 2005

R. T. Ridenoure
Vice President
Omaha Public Power District
Fort Calhoun Station FC-2-4 Adm.
P.O. Box 550
Fort Calhoun, NE 68023-0550

SUBJECT: FORT CALHOUN STATION - NRC INTEGRATED INSPECTION REPORT 05000285/2004005

Dear Mr. Ridenoure:

On December 31, 2004, 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 January 13, 2004, with Mr. David Bannister, Plant Manager, 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 three NRC-identified findings that were evaluated under the risk significance determination process as having very low safety significance (Green). The NRC has also determined that three violations are associated with these issues. These violations are being treated as noncited violations (NCVs), consistent with Section VI.A of the Enforcement Policy. The NCVs are described in the subject inspection report. If you contest the violations or significance of the NCV's, 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, DC 20555-0001, with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011-4005; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Fort Calhoun Station facility.

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).

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

/RA/
Michael C. Hay, Chief
Project Branch C
Division of Reactor Projects

Docket: 50-285
License: DPR-40

Enclosure:
NRC Inspection Report 05000285/2004005
w/attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	50-285
License:	DPR-40
Report:	05000285/2004005
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:	October 1 through December 31, 2004
Inspectors:	J. Hanna, Senior Resident Inspector L. Willoughby, Resident Inspector R. Lantz, Senior Emergency Preparedness Inspector T. Stetka, Senior Operations Engineer M. Haire, Operations Engineer B. Baca, Health Physicist
Approved By:	Michael C. Hay, Chief, Project Branch C Division of Reactor Projects

Enclosure

CONTENTS

SUMMARY OF FINDINGS

IR 05000285/2004005; 10/01/2004 - 12/31/2004; Fort Calhoun Station, Integrated Resident and Regional Report, Licensed Operator Requalification, and Occupational Radiation Safety.

The report covered a 3-month period of inspection by resident inspectors and an announced inspection by a regional emergency preparedness inspector, health physicist inspector, and operations engineers. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified Findings and Self-Revealing Findings

Cornerstone: Mitigating Systems

- Green. The inspectors identified a noncited violation of 10 CFR 55.49 because the simulator was left connected to the local area network-based emergency response facility while scenario requalification examinations were being conducted. This resulted in the potential that the integrity of the scenario requailfication examinations could be compromised.

  This finding is greater than minor because a compromise of the integrity of the annual requalification examinations could lead to operators (who would normally have failed the examination) with deficient knowledge and skills to remain on shift. Allowing operators with deficient knowledge and skills to remain on shift increases the likelihood that a human performance error could initiate a reactor safety event or inhibit the appropriate mitigating response to such an event. The finding is of very low safety significance because the potential for examination compromise was extremely low (Section 1R11).

Cornerstone: Occupational Radiation Safety

- Green. The inspectors reviewed a self-revealing, noncited violation of Technical Specification 5.8.1.a in which a radiation worker failed to follow radiation protection procedures. Specifically, on September 16, 2004, a radiation worker failed to contact radiation protection personnel when a dose rate alarm was received. This occurrence was entered into the licensee's corrective action program.

  The failure to follow radiation protection procedures is a performance deficiency. This finding is greater than minor because it is associated with the occupational radiation safety program and process attribute and affected the cornerstone objective, which is to ensure adequate protection of the worker's health and safety from exposure to radiation. Using the occupational radiation safety significance determination process, the inspectors determined that the finding was of very low safety significance because it did not involve: (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. In addition, this finding had crosscutting aspects associated with human performance (Section 2OS1).

Green. The inspectors identified that ineffective corrective actions led to four examples of a noncited violation of Technical Specification 5.8.1.a. Specifically, on April 21, 2003, and January 5, February 1, and August 19, 2004, security personnel failed to log onto an appropriate radiation work permit and obtain a thermoluminescent dosimeter and an electronic alarming dosimeter before entering a posted radiologically controlled area. These occurrences were entered into the licensee's corrective action program.

The failure to follow radiation protection procedural and radiation work permit requirements is a performance deficiency. This finding is greater than minor because it is associated with the occupational radiation safety program and process attribute and affected the cornerstone objective, which is to ensure adequate protection of the worker's health and safety from exposure to radiation. Using the occupational radiation safety significance determination process, the inspectors determined that the finding was of very low safety significance because it did not involve: (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. In addition, this finding had crosscutting aspects associated with human performance and problem identification and resolution (Section 4OA5).

B. Licensee-Identified Violations

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

REPORT DETAILS

Summary of Plant Status

The plant operated at full power throughout this inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

a. Inspection Scope

The inspectors reviewed Procedure OI-EW-1, "Extreme Weather," Revision 8, and Procedure AOP-01, "Acts of Nature," Revision 15, for responding to extreme weather, specifically cold weather preparations (one inspection sample). The inspectors evaluated the design features and implementation of the procedures to protect structures, systems, and components from the effects of adverse weather.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignments (71111.04)

.1 Partial Equipment Walkdowns

a. Inspection Scope

The inspectors performed two partial walkdowns (two inspection samples) of the following trains of equipment during outages, operation, or testing of redundant trains. The inspectors verified that the following systems were properly aligned in accordance with system piping and instrumentation drawings and plant procedures:

- Diesel Generator 1 fuel oil system while Diesel Generator 2 was inoperable for testing on December 8, 2004

- Channel B of engineered safeguard controls while testing Channel A safety injection, containment spray and recirculation actuation signals on December 9, 2004

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope

The inspectors performed routine fire inspection tours (six inspection samples) and reviewed relevant records for plant areas important to reactor safety. The inspectors observed the material condition of plant fire protection equipment, the control of transient combustibles, and the operational status of barriers. The inspectors compared in-plant observations with commitments in the licensee's Updated Fire Hazards Analysis Report. The following fire areas were inspected:

- Fire Area 10 - Charging Pump Area (Room 6)
- Fire Area 13 - Mechanical Penetration Area (Room 13)
- Fire Area 34B.2 - Quality Assurance Records File Area (Room 57)
- Fire Area 32 - Compressor Area (Room 19)
- Fire Area 2 - Safety Injection and Containment Spray Pump Area (Room 22)
- Fire Area 23 - Pipe Penetration Area (Room 59)

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

The inspectors reviewed the Updated Safety Analysis Report; Probability Risk Assessment Summary Notebook; Procedure AOP-01, "Acts of Nature," Revision 16; Design Basis Document SDBD-AC-RW-101, "Raw Water," Revision 26; Procedure PE-RR-AE-1001, "Floodgate Installation and Removal," Revision 0; Procedure GM-RR-AE-1002, "Flood Control Preparedness for Sandbagging," Revision 6; and Condition Report 200404130. The inspectors conducted walkdowns of areas susceptible to external flooding to verify that risk-significant equipment was adequately protected by flood mitigation equipment. The inspectors verified that the licensee's flood mitigation plans and equipment were consistent with design requirements.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

.1 Examination Security

a. Inspection Scope

The examiners reviewed examination security during the onsite examination administration week for compliance with NUREG-1021 requirements. Plans for simulator security and licensed operator control were reviewed.

b. Findings

Introduction. The NRC identified a noncited violation of 10 CFR 55.49 where the simulator was left connected to the local area network based emergency response facility while scenario requalification examinations were being conducted.

Description. During the review of Condition Report 200400170, dated January 14, 2004, the inspectors noted that, because of modifications to the emergency response facility system in January 2003, the potential existed that when the simulator was connected (plugged in) to the local area network-based emergency response facility system, unauthorized personnel could observe plant parameter changes that occurred during the performance of scenarios. To mitigate this potential, the condition report's corrective actions stated that the simulator be "unplugged" from the local area network-based emergency response facility when NRC initial license examinations were conducted. To implement this corrective action, Training Administrative Procedure-8, Revision 30, was revised to require the unplugging of the simulator from the local area network-based emergency response facility while these initial examinations were being performed. However, this revision did not address the requalification examinations. While observing the performance of the requalification scenarios during this inspection, the inspectors noted that the simulator was plugged into the local area network-based emergency response facility system. Therefore, the potential existed that personnel located in the emergency operations facility, technical support center, or operations support center could have access to an ongoing operating test scenario. When the licensee was informed of this observation, the licensee immediately disconnected the simulator from the emergency response facility. In addition, the licensee issued Condition Report 200403485 which, in part, directed a review to determine if an examination compromise occurred. As the result of this review, the licensee presented the following information to the inspectors to demonstrate that an examination compromise was highly unlikely:

- Examination validation times are limited to training center personnel. Therefore, non-training center personnel would not be aware of examination validation.

- Examination validation scope is limited only to changes made to scenarios in the scenario bank. Therefore, most personnel would not be able to determine that a malfunction or component failure was performed.

- Review of access records for the emergency operations facility indicated that no operators gained access to the emergency operations facility when validations or examinations were performed.

- Review of the technical support center key log indicated that no operator gained access to the technical support center while examinations were being validated or conducted.

- Use of the emergency response facility in the operations support center would require an operator to be seated in the operations support center during normal working hours. This is considered to be unlikely because the operations support center is used for meetings throughout the day and having an operator seated in the operations support center for extended times observing the emergency response facility would be an unusual practice.

- Crews are sequestered by having the nonevaluated crew off site.

- Review of examinations conducted since the emergency response facility modifications were completed do not indicate any elevated examination scores or trends.

Analysis. This resulted in the potential that the integrity of the scenario requailfication examination could be compromised. This finding is greater than minor because a compromise of the integrity of the annual requalification examination could lead to operators (who would normally have failed the examination) with deficient knowledge and skills to remain on shift. Allowing operators with deficient knowledge and skills to remain on shift increases the likelihood that a human performance error could initiate a reactor safety event or inhibit the appropriate mitigating response to such an event. The finding is of very low safety significance because the potential for examination compromise was extremely low.

Enforcement. 10 CFR 55.49 states, in part, “The integrity of a test or examination is considered compromised if any activity, regardless of intent, affected, or, but for detection, would have affected the equitable and consistent administration of the test or examination. This includes activities related to the preparation and certification of license applications and all activities related to the preparation, administration, and grading of the tests and examinations required by this part.”

This finding is greater than minor because a compromise of the integrity of the annual requalification examinations could lead to operators (who would normally have failed the examination) with deficient knowledge and skills to remain on shift. Allowing operators with deficient knowledge and skills to remain on shift increases the likelihood that a human performance error could initiate a reactor safety event or inhibit the appropriate mitigating response to such an event. Contrary to the above, the licensee’s failed to adequately assure that examination security was maintained during the administration of examinations. The finding is of very low safety significance because the potential for

examination compromise was extremely low. The finding has been entered into the corrective action program (Condition Report 902432), this violation is being treated as a noncited violation (NCV), consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000285/2004005-01. Failure to adequately assure that examination was maintained.

.2 Biennial Review

a. Inspection Scope

The inspectors: (1) evaluated examination security measures and procedures for compliance with 10 CFR 55.49; (2) evaluated the licensee's sample plan of the written examinations for compliance with 10 CFR 55.59 and NUREG-1021, as referenced in the facility requalification program procedures; and (3) evaluated maintenance of license conditions for compliance with 10 CFR 55.53 by review of facility records (medical and administrative), procedures, and tracking systems for licensed operator training, qualification, and watchstanding. In addition, the inspectors reviewed remedial training for examination failures for compliance with facility procedures and responsiveness to address failed areas.

Furthermore, the inspectors: (1) interviewed five personnel, including operators, instructors/evaluators, and a training supervisor, regarding the policies and practices for administering requalification examinations; (2) observed the administration of three dynamic simulator scenarios to two requalification crews; and (3) observed four evaluators administer five job performance measures.

The inspectors also reviewed the remediation process and the results of the biennial written examination. The results of the examinations were assessed to determine the licensee's appraisal of operator performance and the feedback of performance analysis to the requalification training program. The inspectors also observed the examination security maintenance for the operating tests during the examination week.

Additionally, the inspectors assessed the Fort Calhoun Station plant-referenced simulator for compliance with 10 CFR 55.46 using Baseline Inspection Procedure 71111.11 (Section 03.11). This assessment included the adequacy of the licensee's simulation facility for use in operator licensing examinations and for satisfying experience requirements as prescribed by 10 CFR 55.46. The inspectors reviewed a sample of simulator performance test records (transient tests, surveillance tests, malfunction tests, and scenario-based tests), simulator discrepancy report records, and processes for ensuring simulator fidelity commensurate with 10 CFR 55.46.

In addition to the operating test reviews, a sampling (at least five questions from each examination) of the written examinations administered during this biennial requalification examination period were reviewed against the criteria of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," for psychometric quality and sufficient coverage of required topics.

b. Findings

No findings of significance were identified.

.3 Requalification Activities Review

a. Inspection Scope

On November 30, 2004, the inspectors observed licensed operator qualification training activities, including the licensed operators' performance and the evaluators' critique (one inspection sample). The inspectors compared performance in the simulator with performance observed in the control room during this inspection period. The focus of the inspection was on high-risk licensed operator actions and previous lessons-learned items. These items were evaluated to ensure that operator performance was consistent with protection of the reactor core.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12)

a. Inspection Scope

The inspectors reviewed the licensee's implementation of the requirements of the Maintenance Rule (10 CFR 50.65) and verified that the licensee conducted appropriate evaluations of equipment functional failures, maintenance preventable functional failures, the unplanned capacity loss factor, system unavailability, and classification. The inspectors discussed the evaluations with licensee personnel. The following maintenance rule items were reviewed (two inspection samples):

- Containment Particulate Radiation Monitor RM-050 and Containment Noble Gas Radiation Monitor RM-051

- Auxiliary Building Room FW-10 Pump Cage Emergency Light BL-17, Auxiliary Building Room 81 Supply Fan Area Emergency Light Bl-40, Auxiliary Building Room 81 Middle-North Platform Emergency Light Bl-43, and Auxiliary Building Room 81 Middle-East Platform Emergency Light BL-45

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors reviewed risk assessments by the licensee for equipment outages (four inspection samples) as a result of planned and emergent maintenance to evaluate the licensee's effectiveness in assessing risk for these activities. The inspectors compared the licensee's risk assessment and risk management activities against requirements of 10 CFR 50.65 (a)(4). The inspectors discussed the planned and emergent work activities with planning and maintenance personnel. The inspectors verified that plant personnel were aware of the appropriate licensee-established risk category, according to the risk assessment results and licensee program procedures. The inspectors reviewed the effectiveness of risk assessment and risk management for the following activities:

- Emergent work on Diesel Generator 1 primary air start piping, Circulating Water Screen 2A and 2B overhaul, Boric Acid Pump CH-4A maintenance, and Battery Charger 2 alarm card maintenance on October 28, 2004
- Testing Diesel Generator 2, testing station batteries, and maintenance on Control Room Air Conditioning Unit VA-46A on November 1, 2004
- Testing Diesel Generator 1, emergent work on circulating water discharge elbow performed on November 24, 2004
- Testing of FW-10, steam-driven auxiliary feedwater pump, performed on December 2, 2004

b. Findings

No findings of significance were identified.

1R14 Operator Performance During Nonroutine Evolutions and Events (71111.14)

a. Inspection Scope

The inspectors observed the control room operators' response to multiple annunciator alarms. On November 30, 2004, the "Inverter 'A' Trouble Alarm" and "Instrument Bus 'A' Low Voltage Alarm" were received while routine preventive maintenance was being performed on instrument bus alarm circuits and the reactor protection system. Immediate investigation revealed that the inverter which supplies electrical Bus 40A had transferred to its alternate source. All work was stopped and a normal electrical alignment was established by the licensee. The licensee initially entered Technical Specification 2.0.1 (requiring reactor shutdown within 6 hours) based on an assessment that other Technical Specifications were not applicable. The licensee subsequently considered Technical Specification 2.0.1 not applicable and retroactively entered

Technical Specification 2.7.2 for electrical systems, requiring that the plant be shutdown within 12 hours unless the condition was corrected. The inspectors reviewed the cause of the transient, the operators' reaction, and the Technical Specification Action Statements that were entered when the condition occurred.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed operability evaluations (three inspection samples) to verify that the evaluations provided adequate justification that the affected equipment could still meet its Technical Specification, Updated Safety Analysis Report, and design bases requirements. The inspectors also discussed the evaluations with cognizant licensee personnel. The inspectors reviewed the operability evaluations and cause assessments for the following:

- Split bushing between relief Valve SA-129 and Diesel Generator 1 Primary Starting Air Receiver SA-4B-1 (Condition Report 200403713)
- Failed Channel A wide-range nuclear instrument high voltage power supply (Condition Report 200404173)
- Diesel Generator 2 speed sensing switch and tachometer out of tolerance (Condition Report 200403876)

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (71111.16)

a. Inspection Scope

The inspectors performed a review of operator workarounds, control room deficiencies, and control room burden lists. The inspectors focused on the specific deficient conditions (one inspection sample) potentially effecting the reliability/availability of mitigating systems and the corresponding impact on operators to respond in a correct and timely manner to plant transients and accidents. The inspectors reviewed the deficiencies against the licensee's Procedure OPD-4-17, "Control Room Deficiencies, Operator Burdens, and Operator Workarounds," Revision 11.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications (71111.17)

a. Inspection Scope

The inspectors reviewed Engineering Change 32727 and the associated 10 CFR 50.59 screen and safety evaluation that installed equipment to provide a river water dipstick that would alert operators of the formation of frazil ice. The inspectors performed a walkdown of the installed equipment. The inspectors discussed the modification with operations and engineering personnel.

b. Findings

No findings of significance were identified.

1R19 Postmaintenance Tests (71111.19)

a. Inspection Scope

The inspectors observed and/or reviewed postmaintenance tests (five inspection samples) to verify that the test procedures adequately demonstrated system operability. The inspectors also verified that the tests were adequate for the scope of the maintenance work performed and that the acceptance criteria were clear and consistent with design and licensing basis documents. The following activities were included in the scope of this inspection:

- Work Request 00075728, correct excessive air leakage on Containment VA-8A Cooling Coil Component Cooling Water Outlet Valve HCV-402C, on October 19, 2004
- Work Order 00189500-01, replace cracked bushing between Diesel Generator 1 Primary Starting Receiver SA-4B-1 and Relief Valve SA-129, on October 28, 2004
- Work Order 00190617-01, troubleshoot erratic indication of Component Cooling Water Process Rad Monitor RM-053, on November 9, 2004
- Work Order 00171959-01, lubricate coupling on Component Cooling Water Pump AC-3C, on November 22, 2004
- Work Order 00184475-01, Containment Spray Pump 3A Motor SI-3A-M clean, inspect, megger, and sample lube oil, performed on November 23, 2004

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed and/or reviewed the performance and documentation for the following surveillance tests (four inspection samples) to verify that the structures, systems, and components were capable of performing their intended safety functions and to assess operational readiness:

- Procedure OP-ST-FP-0001C, “Fire Protection System Inspection and Test,” Revision 13
- Procedure OP-ST-CCW-3012, “AC-3B Component Cooling Water Pump Inservice Test,” Revision 14
- Procedure EM-ST-EE-0003, “Quarterly Surveillance Test For Station Battery 1 (EE-8A),” Revision 17
- Procedure OP-ST-DG-0001, "Diesel Generator 1 Check," Revision 45

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed Temporary Modification EC 34812 (one inspection sample) that will install a temporary transformer to be powered from an existing electrical breaker for Condensate Pump A. This transformer would power a variety of equipment during the upcoming spring 2005 outage. The inspectors reviewed the associated 10 CFR 50.59 screening to confirm that the modification had no adverse impact on other permanent plant systems.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP2 Alert Notification System Testing (71114.02)

a. Inspection Scope

The inspectors evaluated the adequacy of licensee methods for testing the alert and notification system in accordance with 10 CFR Part 50, Appendix E. The alert and notification system testing program was evaluated against the criteria contained in NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1, Federal Emergency Management Agency Report REP-10, "Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants," and the licensee's current Federal Emergency Management Agency-approved alert and notification system design report. The inspectors also reviewed the documents described in the attachment to this report. The inspectors completed one sample during this inspection.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization Augmentation Testing (71114.03)

a. Inspection Scope

The inspectors reviewed the results of seven quarterly augmentation/notification drills. The inspectors also interviewed members of the emergency planning staff responsible for training and testing of the emergency response organization. The inspectors evaluated drill performance and training implementation against emergency plan implementation procedures and other documents related to the emergency response organization augmentation system to determine the licensee personnel's ability to staff emergency response facilities in accordance with their emergency plan and the requirements of 10 CFR Part 50, Appendix E. The inspectors completed one sample during this inspection.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors reviewed a summary of all corrective action program documents (condition reports) associated with emergency preparedness generated between October 2002 and September 2004 to determine the licensee's ability to identify and correct problems in accordance with the requirements of 10 CFR 50.47(b)(14) and 10 CFR Part 50, Appendix E. The inspectors also reviewed four exercise reports, one

self-assessment, two quality assurance audits, 45 specific condition reports, and other documents listed in the attachment to this report. Corrective actions were evaluated against the requirements of Procedure SO-R-2, "Condition Reporting and Corrective Action," Revision 27. The inspectors completed one sample during this inspection.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Control to Radiologically Significant Areas (71121.01)

a. Inspection Scope

This area was inspected to assess the licensee's performance in implementing physical and administrative controls for airborne radioactivity areas, radiation areas, high radiation areas, and worker adherence to these controls. The inspectors used the requirements in 10 CFR Part 20, the Technical Specifications, and the licensee's procedures required by Technical Specifications as criteria for determining compliance. During the inspection, the inspectors interviewed the radiation protection manager, radiation protection supervisors, and radiation workers. The inspectors performed independent radiation dose rate measurements and reviewed the following items:

- Performance indicator events and associated documentation packages reported by the licensee in the occupational radiation safety cornerstone
- Controls (surveys, posting, and barricades) of the fuel building, auxiliary building, and radwaste building radiation, high radiation, and airborne radioactivity areas
- Radiation work permit, procedure, engineering controls, and air sampler locations
- Conformity of electronic personal dosimeter alarm setpoints with survey indications and plant policy; workers' knowledge of required actions when their electronic personnel dosimeter noticeably malfunctions or alarms
- Barrier integrity and performance of engineering controls in two potential airborne radioactivity work areas
- Adequacy of the licensee's internal dose assessment for any actual internal exposure greater than 50 millirem committed effective dose equivalent

- Physical and programmatic controls for highly activated or contaminated materials (nonfuel) stored within the spent fuel storage pool.

- Self-assessments and audits related to the access control program since the last inspection

- Corrective action documents related to access controls

- Licensee actions in cases of repetitive deficiencies or significant individual deficiencies

- Radiation work permit briefings and worker instructions

- Adequacy of radiological controls such as required surveys, radiation protection job coverage, and contamination controls during job performance

- Dosimetry placement in high radiation work areas with significant dose rate gradients

- Controls for special areas that have the potential to become very high radiation areas during certain plant operations

- Posting and locking of entrances to all accessible high dose rate - high radiation areas and very high radiation areas

- Radiation worker and radiation protection technician performance with respect to radiation protection work requirements

Either because the conditions did not exist or an event had not occurred, no opportunities were available to review the following items:

- Licensee event reports and special reports related to the access control program since the last inspection

- Changes in licensee procedural controls of high dose rate - high radiation areas and very high radiation areas

The inspectors completed 21 of the required 21 samples.

b. Findings

Introduction. The inspectors reviewed a Green, self-revealing, noncited violation of Technical Specification 5.8.1.a in which a radiation worker did not report an electronic alarming dosimetry alarm to radiation protection personnel.

Description. On September 16, 2003, two workers exited the radiologically controlled area. The electronic dosimeter of the first worker was alarming because the dose setpoint had been exceeded. The workers were in the upper reactor cavity area when the alarm began. When the second worker attempted to log out of the computerized access control system, the computer indicated that a dose rate alarm had been received sometime during the work activity. When interviewed, the individual acknowledged hearing the dose rate alarm without reporting it to radiation protection personnel.

Analysis. The failure to follow radiation protection procedural and radiation work permit requirements is a performance deficiency. This finding is greater than minor because it is associated with the occupational radiation safety program and process attribute and affected the cornerstone objective, which is to ensure adequate protection of worker health and safety from exposure to radiation.

Since this occurrence involved a worker's unplanned, unintended dose or potential for such a dose that could have been significantly greater as a result of a single minor, reasonable alteration of circumstances, this finding was evaluated with the occupational radiation safety significance determination process. Using the occupational radiation safety significance determination process, the inspectors determined that the finding was of very low safety significance because it did not involve: (1) as low as is reasonably achievable (ALARA) planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose.

In addition, this finding had a crosscutting aspect associated with human performance. The failure of licensee personnel to follow a radiation protection procedure directly contributed to the finding.

Enforcement. Technical Specification 5.8.1.a states, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, February 1978, Appendix A. Regulatory Guide 1.33, Appendix A, Section 7.e.(7) recommends procedures for monitoring personnel exposure. Standing Order G-101, Section 5.9.2, states, in part, that radiation workers will notify radiation protection of any electronic alarming dosimeter alarms when experienced.

Because the failure to follow a radiation protection procedure is of very low safety significance and has been entered into the licensee's corrective action program (Condition Report 20033660), this violation is being treated as an NCV consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000285/200405-02, Failure to follow radiation protection procedure in response to an electronic dosimeter alarm.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

a. Inspection Scope

The inspectors reviewed the licensee's performance indicator data to verify its accuracy and completeness for the following two indicators:

- MS01 Emergency AC Power System Unavailability
- MS03 Heat Removal System Unavailability

The inspectors reviewed the performance indicator data for the last quarter of 2003 and the first three quarters of 2004. The inspectors reviewed Nuclear Energy Institute 99-02, "Regulatory Assessment Performance Indicator Guideline," and licensee operating logs. The inspectors discussed the status of the performance indicators and compilation of data with licensee personnel.

b. Findings

No findings of significance were identified.

.2 Cornerstone: Emergency Preparedness

a. Inspection Scope

The inspectors sampled submittals for the performance indicators listed below for the period from April 1, 2003, through September 30, 2004. The definitions and guidance of Nuclear Engineering Institute 99-02, "Regulatory Assessment Indicator Guideline," were used to verify the licensee's basis for reporting each data element in order to verify the accuracy of performance indicator data reported during the assessment period.

- EP01 Drill and Exercise Performance
- EP02 Emergency Response Organization Participation
- EP03 Alert and Notification System Reliability

The inspectors reviewed a 100 percent sample of drill and exercise scenarios, licensed operator simulator training sessions, notification forms, and attendance and critique records associated with training sessions, drills, and exercises conducted during the verification period. The inspectors also reviewed the event reports associated with the September 17, 2003, alert declaration and the September 23, 2003, notice of unusual event declaration. The inspectors reviewed the qualification, training, and drill participation records for a sample of 12 emergency responders. The inspectors reviewed alert and notification system maintenance records and procedures and a

100 percent sample of siren test results. The inspectors also interviewed licensee personnel that were responsible for collecting and evaluating the performance indicator data. The inspectors completed three samples during this inspection.

b. Findings

No findings of significance were identified.

.3 Cornerstone: Occupational Radiation Safety

a. Inspection Scope

The inspectors sampled licensee submittals for the performance indicators listed below for the period from June 2003 through October 2004. To verify the accuracy of the performance indicator data reported during that period, performance indicator definitions and guidance contained in Nuclear Energy Industry 99-02, "Regulatory Assessment Indicator Guideline," Revision 2, were used to verify the basis in reporting for each data element.

- OR01 Occupational Exposure Control Effectiveness

Licensee records reviewed included corrective action documentation that identified occurrences of locked high radiation areas (as defined in the licensee's Technical Specifications), very high radiation areas (as defined in 10 CFR 20.1003), and unplanned personnel exposures (as defined in Nuclear Energy Institute 99-02). Additional records reviewed included ALARA records and whole body counts of selected individual exposures. The inspectors interviewed licensee personnel that were accountable for collecting and evaluating the performance indicator data. In addition, the inspectors toured plant areas to verify that high radiation, locked high radiation, and very high radiation areas were properly controlled.

b. Findings

No findings of significance were identified.

.4 Cornerstone: Public Radiation Safety

a. Inspection Scope

The inspectors sampled licensee submittals for the performance indicators listed below for the period from June 2003 through October 2004. To verify the accuracy of the performance indicator data reported during that period, performance indicator definitions and guidance contained in Nuclear Energy Institute 99-02, "Regulatory Assessment Indicator Guideline," Revision 2, were used to verify the basis in reporting for each data element.

- PR01 Radiological Effluent Technical Specification/Offsite Dose Calculation Manual Radiological Effluent Occurrences

Licensee records reviewed included corrective action documentation that identified occurrences for liquid or gaseous effluent releases that exceeded performance indicator thresholds and those reported to the NRC. The inspectors interviewed licensee personnel that were accountable for collecting and evaluating the performance indicator data.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

The inspectors chose one issue (one inspection sample) for more in-depth review to verify that the licensee personnel had taken corrective actions commensurate with the significance of the issue. On July 18, 2004, the Diesel Fire Pump Battery Charger FP-1B-BC failed (Condition Report 200402456). The inspectors reviewed the corrective actions associated with this condition. When evaluating the effectiveness of the licensee's corrective actions, the following attributes were considered:

- Complete and accurate identification of the problem in a timely manner commensurate with its significance and ease of discovery
- Evaluation and disposition of operability and reportability issues
- Consideration of extent of condition, generic implications, common cause, and previous occurrences
- Classification and prioritization of the resolution of the problem commensurate with its safety significance
- Identification of corrective actions which are appropriately focused to correct the problem
- Completion of corrective actions in a timely manner commensurate with the safety significance of the issue

b. Findings

No findings of significance were identified.

.2 Semiannual Trend Review

a. Inspection Scope

On August 18, 2004, Emergency Diesel Generator 2 failed to start during a routine surveillance run. The licensee subsequently discovered that the emergency diesel generator had been inoperable for approximately 28 days due to a fuse failure during the previously performed monthly surveillance run on July 21, 2004. The inspectors performed a semiannual assessment of the licensee's corrective action program (e.g., reviewed condition reports, work requests, etc. from the past 5 years) to determine whether an adverse trend existed with respect to fuse failures.

b. Findings and Observations

The inspectors found the following fuse failures had occurred with respect to safety-related equipment.

- On February 13, 2002, a blown fuse in the reactor protection system calibration and indication panel caused three reactor protection system units on Channel A to trip. The cause of the blown fuse was not determined. The fuse was replaced and subsequent trip functions were returned to service. The effect of the blown fuse was to increase the likelihood of a spurious reactor trip due to another channel going into either a valid or invalid alarm state. This condition was documented in Condition Report 200200364.

- On September 20, 2002, a blown fuse in the reactor protection system calibration and indication panel caused five reactor protection system units on Channel D to trip. The cause of the blown fuse was not determined. The fuse was replaced and subsequent trip functions were returned to service. The effect of the blown fuse was to increase the likelihood of a spurious reactor trip due to another channel going into either a valid or invalid alarm state. This condition was documented in Condition Report 200203332.

- On October 4, 2002, a fuse blew as it was being removed during maintenance in the reactor protection system calibration and indication panel. The cause of the blown fuse was attributed to "inrush current," but the licensee did not determine why that condition would cause fuse failures. The fuse was replaced with a larger capacity (1.25 amps vs. 1.0 amp), but this did not correct the problem. The effect of the condition (blown fuse due to being stressed during installation) was to increase the likelihood of a spurious reactor trip due to another channel going into either a valid or invalid alarm state. This condition was documented in Condition Report 200203542.

- On January 19, 2004, Emergency Diesel Generator 1 Local Control Panel Air Conditioning Unit VA-759A was found out of service due to Fuse FNQ2 being blown. Consequently Emergency Diesel Generator 1 was declared inoperable.

The cause of the blown fuse was not determined. The fuse was replaced and the air conditioning unit was re-energized. The effect of the blown fuse was rendering the emergency diesel generator inoperable for approximately 4 hours. (The licensee determined the maximum amount of time this component was out of service to be approximately 6 hours.) This condition was documented in Condition Report 200400227.

- On February 19 and September 30, 2004, the licensee identified that Fuse F13 blew on Emergency Diesel Generator 1. Fuse F13 is in the electrical circuit powering the motor-driven fuel oil pump. The cause of the blown fuses was not determined. The fuse was replaced in both circumstances and the component was returned to service. The effect of the blown fuse was to cause the fuel oil pumping function to be carried by the redundant gear-driven pump, FO-18-1. The emergency diesel generator was not rendered inoperable/nonfunctional by the failure. These conditions were documented in Condition Reports 200400690 and 200403407, respectively.

- On March 25, June 22, and June 27, 2004, fuses blew on circuitry supplying various pressurizer heaters (10 heaters total affected). The cause of the blown fuses could not be definitively determined but were suspected of being age-related failures, though no basis for this conclusion was given. The fuses were replaced in all cases and the components returned to service. The effect of the blown fuses was to render various groups of pressurizer heaters unavailable to warm incoming water in the event of an insurge. The pressurizer heaters are credited for responding to a design basis event (i.e., loss of off-site power in order to maintain natural circulation) and are required by Technical Specification 2.1.7. These conditions were documented in Condition Reports 200401141, 200402186, and 200402400, respectively.

The inspectors also noted that a common aspect to these issues was that the cause of the fuse failures had not been determined and that it appeared the licensee had treated all aforementioned individual components as “Run-to-Failure.” Additionally, the inspectors noted the licensee’s corrective action program had not detected this adverse trend with respect to fuse failures.

The inspectors discussed this concern with the licensee and it was entered into the corrective action program as Condition Report 200500129.

.3 Annual Sample Review for Emergency Preparedness

a. Inspection Scope

The inspectors selected 25 condition reports (corrective action program inputs) for detailed review based on their linkage with event classification, notification of offsite authorities, and processes for providing protective action recommendations. The reports were reviewed to ensure that the full extent of the issues were identified, an

appropriate evaluation was performed, and appropriate corrective actions were specified and prioritized. The inspectors evaluated the condition reports against the requirements of Procedure SO-R-2, Revision 27.

b. Findings

No findings of significance were identified.

.4 Access Control to Radiologically Significant Areas

Section 4OA5 describes four examples of an NCV in which security personnel failed to use proper dosimetry and log onto the appropriate radiation work permit before entering radiologically controlled areas. The inspectors identified a repetitive deficiency and ineffective corrective actions in the four examples.

.5 Cross-References to Problem Identification & Resolution Findings Documented Elsewhere

Sections 2OS1 and 4OA5 describe findings which involve human performance aspects. The finding in Section 2OS1 describes an NCV where a worker failed to contact radiation protection personnel when an electronic alarming dosimeter alarmed. The finding in Section 4OA5 describes four examples of an NCV in which security personnel failed to use proper dosimetry and log onto the appropriate radiation work permits before entering radiologically controlled areas.

4OA5 Other Activities

(Open) NOV 05000285/200309-01, Failure to follow radiation protection procedural and radiation work permit requirements

a. Inspection Scope

The inspectors reviewed the licensee's response to the Notice of Violation and condition reports documenting subsequent similar occurrences. The inspectors interviewed cognizant radiation protection and security personnel.

b. Findings

Introduction. The inspectors determined that the licensee's corrective actions were inadequate to prevent recurrence of a Severity Level IV violation. Consequently, the inspectors found that four additional examples of a violation of Technical Specification 5.8.1.a had occurred because security personnel failed to follow radiation protection procedural and radiation work permit requirements.

Description. Inspection Report 05000285/2003009 and the Notice of Violation documented that 30 security officers on 62 occasions willfully did not obtain electronic

alarming dosimeters and did not electronically sign in on the required radiation work permit before entering a radiologically controlled area, in violation of Technical Specification 5.8.1. The examples occurred between April 27 and October 8, 2002. Through a review of condition reports, the inspectors determined that subsequent examples of the violation involving security personnel had occurred, although in these examples, there were no indications of willful noncompliance with regulatory requirements.

The first example occurred on April 21, 2003, and was initially documented in Condition Report 200301418. An officer was at his post for 2 hours before noticing he did not have a thermoluminescent dosimeter or an electronic alarming dosimeter and was not signed onto a radiation work permit. The individual contacted the shift radiation protection technician and reported the occurrence. The immediate corrective actions for this event were to exclude the individual from the radiologically controlled area for a period of time, survey the area to confirm dose rates, and counsel the individual. This event was considered in Condition Report 200301458, which collected other similar events in which security personnel did not appropriately sign in on a radiation work permit. The corrective actions to prevent recurrence were: (1) peer-checking during shift turnovers at the radiologically controlled area boundary and (2) changing the expectation that security personnel can log in and out of the radiologically controlled area at the beginning and end of their shifts instead of each radiologically controlled area entry and exit.

The second example, documented in Condition Report 200400037, occurred on January 5, 2004. This example was discovered during a security self-assessment. The licensee's investigation revealed that the individual assumed their post in the remote radiologically controlled area and that there was no record of the individual obtaining an electronic dosimeter and signing onto a radiation work permit. Corrective actions for this event included: (1) individual counseling, (2) purchase and installation of a motion activated recorded message device, (3) re-evaluation of the implementation of a turnstile.

The third example, documented in Condition Report 200400372, occurred on February 1, 2004. This example involved a security officer entering Room 66, the Hot Chemistry Lab. The officer immediately identified the failure to sign onto a radiation work permit and have the appropriate dosimetry. Then, the individual contacted the security shift supervisor. The corrective actions for this event were to: (1) counsel the individual and (2) convene a meeting with management and other security officers involved in prior occurrences to discuss preventing additional occurrences. Additional emphasis was placed on peer-checking.

The fourth example, documented in Condition Report 200402903, occurred on August 19, 2004. A security officer, upon assuming his post in a remote radiologically controlled area, identified that another officer did not have the appropriate dosimetry. Before this event, additional corrective actions implemented included a rope barrier

across the travel path and additional reminder postings. During the licensee's investigation of this event, the motion sensor with a recorded message was malfunctioning.

In addition, during a tour of the facility, the inspectors found the motion-activated recorded message malfunctioning, again. The licensee wrote Condition Report 200403507 to document the malfunctioning warning message.

Analysis. The failure to follow radiation protection procedural and radiation work permit requirements is a performance deficiency. This finding is greater than minor because it is associated with the occupational radiation safety program and process attribute and affected the cornerstone objective, which is to ensure adequate protection of the worker health and safety from exposure to radiation.

Since these occurrences involve workers' unplanned, unintended dose or potential for such a dose that could have been significantly greater as a result of a single minor, reasonable alteration of circumstances, this finding was evaluated with the occupational radiation safety significance determination process. Using the occupational radiation safety significance determination process, the inspectors determined that the finding was of very low safety significance because it did not involve: (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose.

In addition, this finding had a crosscutting aspect associated with human performance. The failure of licensee personnel to follow radiation protection procedural and radiation work permit requirements directly contributed to the finding.

Further, this issue had a crosscutting aspect associated with problem identification and resolution. The corrective actions associated with the response to Notice of Violation 5000285/200309-01 were ineffective to prevent additional occurrences, as were the corrective actions associated with Condition Reports 200301458, 200400037, and 200400372.

Enforcement. Technical Specification 5.8.1.a states, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, February 1978, Appendix A. Regulatory Guide 1.33, Appendix A, Section 7.e.(1), recommends procedures for a radiation work permit system. Section 2.3.10 of Procedure RPP, "Radiation Protection Plan," Revision 21, states, in part, that each station individual is responsible for obeying the requirements in Standing Order SO-G-101, "Radiation Worker Practices." Section 5.7.1 of Standing Order SO-G-101, Revision 25, states, in part, that radiation work permits are required for entry into any posted radiologically controlled area.

In addition, Section 5.8.2 of SO-G-101 states, in part, that persons entering a radiologically controlled area shall read and understand the information provided and follow the requirements of the appropriate radiation work permit, obtain an electronic

alarming dosimeter, proceed to the electronic alarming dosimeter reader, and log in to the access computer (electronic sign in). However, four examples were identified where security personnel did not read and understand the information provided and follow the requirements of the radiation work permit, did not obtain an electronic alarming dosimeter required when entering a posted radiologically controlled area, and did not electronically sign in on the required radiation work permit.

Because the failure to follow radiation protection procedural and radiation work permit requirements is of very low safety significance and has been entered into the licensee's corrective action program as the condition reports listed above, this violation is being treated separately as an NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 5000285/200405-03, Failure to follow radiation protection procedural and radiation work permit requirements.

4OA6 Meetings

Exit Meeting Summary

.1 On October 8, 2004, the inspectors presented the inspection results to Mr. M. Frans, Assistant Plant Manager, and other members of his staff who acknowledged the findings. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

.2 The inspectors met with licensee representatives on October 8, 2004, to brief these representatives of the of the inspection results. The license was informed that a final exit for the inspection would be conducted after the requalification program was completed and the NRC has reviewed the final results.

On November 3, 2004, a final exit, which described the inspection results, was conducted by the inspectors via telephone with Mr. D. Weaver, Supervisor of Operations Training.

The licensee acknowledged the findings presented in both the briefing and the final exit meeting.

The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

.3 The lead inspectors presented the emergency preparedness program baseline inspection results to Mr. R. Phelps, Division Manager, Nuclear Engineering, and other members of licensee management at the conclusion of the inspection on November 5, 2004. The licensee acknowledged the findings presented. The inspectors verified that no proprietary information was discussed during the inspection.

.4 The results of the resident inspectors' activities were presented to Mr. D. Bannister, Plant Manager, and other members of licensee management on January 13, 2005. The licensee's management acknowledged that no proprietary information was examined.

4OA7 Licensee-Identified Violations

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

- Appendix R of 10 CFR Part 50, requires that fire protection features shall be provided for structures, systems, and components important to safe shutdown. However, the licensee discovered on November 11, 2002, that two pressurizer level transmitter cables in containment did not meet the 10 CFR Part 50, Appendix R, separation criteria. These transmitters provide pressurizer level indication and are used in emergency operating procedures for verifying the reactor coolant system inventory control safety function. This violation of 10 CFR Part 50, Appendix R, was documented in the licensee's corrective action program as Condition Report 200203797. This finding had very low safety significance because alternate indication of reactor coolant system inventory is available and the alternate indication is proceduralized in plant procedures.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

D. Bannister, Plant Manager
T. Byrne, Licensing Engineer
G. Cavanaugh, Supervisor, Nuclear Licensing
M. Christensen, Supervisor, ALARA
A. Clark, Manager, Security and Emergency Planning
R. Clemens, Division Manager, Nuclear Assessments
M. Core, Manager, System Engineering
S. Coufal, Health Physicist, ALARA
P. Cronin, Shift Manager
D. Darrow, Operations Training Instructor
D. Dryden, Station Licensing Engineer
H. Faulhaber, Manager, Work Management
M. Frans, Assistant Plant Manager
B. Fried, Emergency Preparedness
R. Hankins, Emergency Preparedness
B. Hautzenroder, Emergency Preparedness
R. Haug, Manager, Chemistry
J. Herman, Manager, Nuclear Licensing
K. Hyde, Supervisor, Design Engineering, Mechanical
J. Kuzela, Operations Training Instructor
F. Klauzer, Shift Manager
G. Labs, Operations Training Instructor
J. McManis, Manager, Design Engineering
T. Maine, Supervisor, Radiological Operations
E. Matzke, Station Licensing Engineer
R. Meng, Emergency Preparedness
S. Pallas, Operations Training Instructor
R. Phelps, Division Manager, Nuclear Engineering
M. Puckett, Manager, Radiation Protection
C. Ralrick, Operations Training Instructor
M. Reller, Emergency Preparedness
C. Simmons, Supervisor, Emergency Planning
M. Smith, Operations Training Instructor
S. Snow, Shift Operator
M. Tesar, Division Manager, Nuclear Support
D. Weaver, Operations Training Supervisor

NRC

J. Hanna, Senior Resident Inspector
L. Willoughby, Resident Inspector

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000285/2004005-01	NCV	Potential compromise of scenario requalification examinations (Section 1R11)
05000285/2004005-02	NCV	Failure to follow radiation protection procedures in response to an electronic dosimeter alarm (Section 2OS1)
05000285/2004005-03	NCV	Failure to follow radiation protection procedural and radiation work permit requirements (Section 4OA5)

Previous Items Discussed

05000285/2003009-01	NOV	Failure to follow radiation protection procedural and radiation work permit requirements (Section 4OA5)

Closed

05000285/2002003-00	LER	Inadequate Cable Separation Resulting in Noncompliance with 10 CFR Part 50, Appendix R (Section 4OA7)

LIST OF DOCUMENTS REVIEWED

1R11 Licensed Operator Requalification

Training Procedures

LOR TPMP 7.0, Accelerated Requalification Program, Revision 5
LOR TPMP 8.0, Remedial Training, Revision 7
OPD-3-11, Licensee Activation and Watchstation Maintenance, Revision 9
Nuclear Operations Division Training: Simulator Administrative Manual, Revision 66
Training Administrative Procedure-8, Revision 30

Scenarios

SSG 84202c, SGTR, Revision1
SSG 84202b, SGTR, Revision 0
SSG 84203, UHE, Revision 3
SSG 84202, SGTR, Revision 3
SSG 84204, LOAF, Revision 3
SSG 84210, UHE & Station Blackout (SBO), Revision 2
SSG 84206a, Station Blackout (SBO), Revision 2

Job Performance Measures (JPMs)

JPM 0010p, Loss of Component Cooling Water, Revision 3
JPM 0042, Cross Connect Instrument Buses and Remove Inverters from Service, Revision 11
JPM 0101bm, Filling EWST with FW-54 and Local Shutdown of FW-54, Revision 3
JPM 0119, Initiate Charging and Letdown, Revision 14
JPM 0305, Place Battery Charger in Service, Revision 9
JPM 0312, Hot Bus Transfer of 480V Busses, Revision 9
JPM 0312a, Hot Bus Transfer of 480V Busses, Revision 3
JPM 0312af, Hot Bus Transfer of 480V Busses, Revision 1
JPM 0312cf, Hot Bus Transfer of 480V Busses, Revision 1
JPM 0329, Fill Safety Injection Tanks, Revision 10
JPM 0356, Local Manual Start of DG-2, Revision 9
JPM 0369, Reset Containment Spray Actuation Signal (CSAS), Revision 8
JPM 0450, Emergency Start of This [sic] Diesel Fire Pump, Revision 7
JPM 0654, Perform Manual Trip Check, Revision 6
JPM 0654f (faulted), Perform Manual Trip Check, Revision 0
JPM 724a, Operate the Nuclear Detector Well Cooling Units, Revision 8
JPM 0780, Emergency Fill of the EFWST Using the Fire Protection System, Revision 1
JPM 0781, Line Up the Condenser Evacuation to the Aux Building Stack, Revision 0
JPM 0007a, Stop and Throttle HPSI Flow, Revision 0
JPM 0008asp, Emergency Boration from the Control Room, Revision 7
JPM 0780, Emergency Fill of the EFWST Using the Fire Protection System, Revision 1
JPM 0153asp, Emergency Boration From Outside the Control Room, Revision 9
JPM 0654f, Perform Manual Trip Check, Revision 0
JPM 0312A, Hot Bus Transfer of 480V Busses, Revision 3
JPM 0369, Reset Containment Spray Actuation Signal, Revision 8
JPM 0225B, Initiate Air Compressor Backup Cooling, Revision 1
JPM 0225A, Initiate Air Compressor Backup Cooling, Revision 8
JPM 0156, Operate the Containment Hydrogen Analyzer, Revision 9
JPM 0124, Dilution (Normal Flowpath), Revision 6
JPM 0107A, Respond To A Steam Bound Auxiliary Feedwater Pump (FW-10), Revision 5
JPM 0138, Operate CVCS to Make Up to the SIRWT, Revision 6
JPM 0098, Operate Turbine Driven Feed Pump (From AI-179), Revision 11
JPM 0348, Manual Startup and Shutdown of DG-1, Revision 6

Written Examinations

2004 Written Biennial Requalification Examinations for Instructors and Trainee Crews (weeks 1-6)

Condition Reports

200303492, Manually tripped the reactor when negative trending ASI was approaching RPS pretrip setpoints; Action Items 8, 9, 10, and 28; 09/12/03

200303706, Loss of reactor coolant system level while the plant was in Mode 5 and on shutdown cooling; Action Items 10 and 21; 09/17/03

200303986, Fuel assembly was ungrappled and resting on the fuel racks and leaning on the south spent fuel pool wall; Action Items 2, 3, and 5; 09/23/03

200402328, When maintenance pulled a fuse to perform a work order, a number of steam generator level and pressure instruments were unexpectedly lost; Action Item 2; 07/06/04

200403212, Track assignments for meeting the due dates specified in the information request for the 2005 INPO plant evaluation of FCS; Action Item 1; 09/14/04

200301687, Non-ERO procedure observations were identified in the April 29, 2003, dress rehearsal; Action Items 1 and 4; 05/09/03

200305744, An excessive amount of water was added to the volume control tank; Action Items 3 and 4; 12/21/03

200401354, During plant startup, main feedwater flow could not be established due to valves left closed as the result of an improper turnover; Action Items 4 and 5; 04/07/04

200202238, There was a lack of knowledge regarding the operation of the ground detection circuit for electrical Bus 1A3; Action Item 6; 06/12/02

200400170, Dealing with Simulator Examination Security vulnerability through the network connection of the emergency response facility system

Simulator-Related Condition Reports

200203099	200301318	200303252	200401035
200203254	200301480	200305106	200401064
200203291	200301527	200305463	200401158
200203472	200301696	200305466	200401834
200203956	200301876	200305500	200402498
200300281	200301999	200400073	200402584
200300470	200302140	200400305	200402688
200300814	200302459	200400433	200403138
200301183	200302503	200400434	200403326
200301184	200302738	200400469	200403045
200301185	200302835	200401000	

Miscellaneous

In-house Examination JPM Briefing

Closed Action Items by Assignee for the period 01/01/2003 to 10/04/2004

Open Action Items by Assignee for the dated 10/04/2004

Licensee Event Report 2003-003, Reactor Trip During Plant Shutdown due to Inadequate Preparation, Revision 0

Remedial Training records for the period of January 4, 2003, to August 16, 2004
Credit for position listings for licensed operator, control room supervisor, and shift managers

FCS Simulator Non-Clear CAEs for CAE 10/6/04

FCS Simulator Non-Clear M&Ms Not Affecting Training, 10/6/04

Simulator Fidelity Items list from Operations Training

Simulator Certification Renewal Submittal, 1999-2002

1EP2 Alert Notification System Testing (71114.02)

Fort Calhoun Station Emergency Plan, July 1, 2004

Emergency Preparedness Test Procedures:

EPT-1, "Alert Notification System Silent Test," Revision 14

EPT-2, "Alert Notification System Growl Test," Revision 18

EPT-3, "Alert Notification Complete Cycle Test," Revision 13

EPT-37, "Verification of Siren Warning Signs," Revision 17

Emergency Planning Department Manual EPDM-02, "Emergency Preparedness Test (EPT) Program," Revision 15

Siren Test results from April 2003 through September 2004

Fort Calhoun Station Alert and Notification System Design Report

Work Request 71486, May 24, 2004

1EP3 Emergency Response Organization Augmentation Testing (71114.03)

Emergency Preparedness Test Procedures:

EPT-34, "Perform Augmentation or Notification Drill," Revision 25

EPT-35, "Perform Training Drill," Revision 14

EPT-42, "Verification of Emergency Response Organization (ERO) Qualification Status," Revision 11

Emergency Planning Department Manual Procedures:

EPDM-07, “Maintenance of the Emergency Response Organization Database,” Revision 4

EPDM-10, “Fort Calhoun Station (FCS) Emergency Response Organization (ERO) Training and Qualification Program,” Revision 13

EPDM-14, “Emergency Preparedness Performance Indicator Program,” Attachment 1, “Performance Indicator Maintenance,” Revision 5

Station Operations Procedure SO-0-1, “Conduct of Operations,” Revision 57

Quarterly Notification Drill Records:

2004-154, March 15, 2004, Notification Test
2004-155, June 1, 2004, Notification Test
2004-156, September 20, 2004, Notification Test

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

Severe Accident Management Guidelines Self-Assessment
Quality Assurance Audit Report 03-QUA-030, April 3, 2003, and 04-QUA-033, March 25, 2004

Condition Reports:

200203466	200300701	200303706	200402496
200203467	200300834	200303986	200402618
200203572	200300866	200305334	200402956
200203954	200301025	200305493	200403081
200204006	200301152	200305696	200403124
200300395	200301243	200305785	200403125
200300638	200301547	200400361	200403137
200300646	200301942	200400362	200403342
200300656	200301993	200400432	200403420
200300665	200302356	200400767	200403622
200300668	200303139	200401098	
200300669	200303154		

2OS1 Access Control to Radiologically Significant Areas

Procedures

RP-201	Radiation Work Permit, Revision 24
RP-201	Radiation Work Permit, Revision 27
RP-204	Radiological Area Controls, Revision 38
RP-608	Dose Calculations from Contaminations, Revision 11

RPI-1 Personnel Monitoring and Decontamination, Revision 11
RPP Radiation Protection Plan, Revision 21
SO-G-101 Radiation Worker Practices, Revision 24
SO-G-101 Radiation Worker Practices, Revision 25
SO-O-47 Spent Fuel Pool Inventory Control, Revision 4
Radiation Protection Department Guide, Occupational Factors for RCA Boundaries, Revision 5

Self-Assessments and Observations

03-QUA-102	2003 Refueling Outage Performance
04-QUA-065	Radiation Protection Operations Functional Area Review
Quality Control	Observations 186, 189, 213, 225, 236, 255, 424, and 425
SA-03-054	Assessment of Personnel and Area Contamination Control During the 2003 Refueling and Maintenance Outage
SA-04-030	Restricted High Radiation Area Controls

Condition Reports

20033270
20033415
20033532
20033679
20034013
20034025
20034104
20034074
20034351
20034353
20034368
20034428
20034656
20034657
20034847
20034905
20034914
20035004
20035582
20040200
20040250
20041202
20041260

Miscellaneous

2003 and 2004 Quarterly Cumulative Dose Contributions from Radioactive Effluents
ALARA Package and Evaluation 03-11
Individual RWP Access Records from September 15, 2003, through October 6, 2004
Radiological Work Permit 03-1502
Radiological Work Permit 04-3004
Radiological Work Permit 04-3008
Radiological Work Permit 04-3509
Root Cause Analysis, Condition Reports 2003-3643 and 2003-4335

4OA1 Performance Indicator (PI) Verification (71151)

Emergency Planning Procedures:

EP-24, “Drill, Exercise, and Actual Events Performance Indicator Opportunity Evaluation,” Revision 4

EP-27, “NRC PI Verification Checklist,” Revision 3

Emergency Preparedness Test Procedures:

EPT-4, "Conduct of Drills," Revision 9

EPT-20, "Exercise Preparation and Control," Revision 20

EPT-56, "Real Event Reports," Revision 0

Abnormal Operating Procedure AOP-22, "Reactor Coolant Leak," Revision 21

Emergency Plan Implementing Procedure EPIP-EOF-7, "Protective Action Guidelines," Revision 15

Emergency Exercise Reports: April, June, and November 2003; January and August 2004