



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

November 3, 2008

Mr. Michael W. Rencheck
Senior Vice President and
Chief Nuclear Officer
Indiana Michigan Power Company
Nuclear Generation Group
One Cook Place
Bridgman, MI 49106

SUBJECT: D. C. COOK NUCLEAR POWER PLANT, UNITS 1 AND 2, NRC INTEGRATED
INSPECTION REPORT 05000315/2008004; 05000316/2008004

Dear Mr. Rencheck:

On September 30, 2008, the U. S. Nuclear Regulatory Commission (NRC) completed an inspection at your D. C. Cook Nuclear Power Plant, Units 1 and 2. The enclosed report documents the inspection results, which were discussed on October 15, 2008, with Mr. L. Weber and other members of your staff.

This inspection 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.

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

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 (PARS) component of NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Jamnes L. Cameron, Chief
Projects Branch 6
Division of Reactor Projects

Docket Nos. 50-315; 50-316
License Nos. DPR-58; DPR-74

Enclosure: Inspection Report No. 05000315/2008004; 05000316/2008004
w/Attachment: Supplemental Information

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SUBJECT: D. C. COOK NUCLEAR POWER PLANT, UNITS 1 AND 2 NRC INTEGRATED
INSPECTION REPORT 05000315/2008004; 05000316/2008004

cc w/encl: L. Weber, Site Vice President
J. Gebbie, Plant Manager
G. White, Michigan Public Service Commission
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T. Strong, State Liaison Officer

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-315; 50-316
License Nos: DPR-58; DPR-74

Report Nos. 05000315/2008004; 05000316/2008004

Licensee: Indiana Michigan Power Company

Facility: D. C. Cook Nuclear Power Plant, Units 1 and 2

Location: Bridgman, MI

Dates: July 1, 2008 through September 30, 2008

Inspectors: J. Lennartz, Senior Resident Inspector
P. LaFlamme, Resident Inspector
M. Holmberg, Reactor Inspector
M. Munir, Reactor Inspector
M. Phalen, Health Physicist
F. Tran, Reactor Engineer

Approved by: J. Cameron, Chief
Branch 6
Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

IR 05000315/2008004; 05000316/2008004; 07/01/2008 – 09/30/2008; D.C. Cook Nuclear Power Plant, Units 1 & 2; Routine Integrated Inspection Report.

This report covers a three-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. 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 and Self-Revealed Findings

Cornerstone: Initiating Events

No violations of significance were identified.

B. Licensee-Identified Violations

One violation of very low safety significance was identified by the licensee and has been reviewed by inspectors. Corrective actions planned or taken by the licensee have been entered into the licensee's corrective action program. This violation and corrective action tracking numbers are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Unit 1 operated at or near full power during the inspection period until September 20, 2008, when operators manually tripped the unit due to high vibrations on the main turbine and a resultant fire in the main generator. Unit 1 entered Mode 5, Cold Shutdown, on September 22, 2008, and remained in that condition through the end of the inspection period.

Unit 2 operated at or near full power during the inspection period with one exception. On August 16, 2008, Unit 2 entered Mode 2 (Startup) when operators reduced power to 9 percent and tripped the main turbine for planned maintenance on the non-safety-related main turbine control valves. On August 17, operators manually tripped the reactor and the Unit entered Mode 3 (Hot Standby) to facilitate expanded maintenance activities on the main turbine control valves and associated control system. Following the maintenance, operators returned the Unit to full power and synchronized the main generator to the grid on August 21, 2008.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment (71111.04)

.1 Quarterly Partial System Walkdowns

a. Inspection Scope

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

- Unit 2 East Motor Driven Auxiliary Feed Water Train
- Unit 1 AB Emergency Diesel Generator
- Unit 1 and Unit 2 Fire Protection Ring Header And Electric Driven Fire Pump

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 impact the function of the system and therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, Updated Final Safety Analysis Report (UFSAR), Technical Specification (TS) requirements, outstanding work orders, action requests, 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. Documents reviewed are listed in the Attachment.

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

b. Findings

No findings of significance were identified.

.2 Semi-Annual Complete System Walkdown

a. Inspection Scope

In July of 2008, the inspectors performed a complete system alignment inspection of the Unit 2 safety injection system to verify the functional capability of the system. This system was selected 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, 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. A review of a sample of past and outstanding work orders was performed 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. Documents reviewed are listed in the Attachment.

These activities constituted 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 Routine Resident Inspector Tours (71111.05Q)

a. Inspection Scope

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

- Fire Zone 12, Unit 1 Quadrant 2 Piping Tunnel
- Fire Zone 61, Unit 1 and Unit 2 Spray Additive Tank Room
- Fire Zone 63A, 63B, 63C Unit 2 Charging Pump Rooms
- Fire Zone 114 and 115, Unit 1 and Unit 2 Essential Service Water Pipe Tunnel
- Fire Zone 1A and 1B, Unit 1 Containment Spray Pump Rooms
- Fire Zone 40A and 40B, Unit 1 4KV AB and CD Switchgear Rooms

The inspectors reviewed areas to assess if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capability, and maintained passive fire protection features in good material condition. The inspectors selected fire areas based on their potential to impact equipment which could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. 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 fire protection problems were entered into the licensee's corrective action program with the appropriate characterization. Documents reviewed are listed in the Attachment.

These activities constitute six quarterly fire protection inspection samples as defined in Inspection Procedure 71111.05-05.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Regualification Program (71111.11)

.1 Resident Inspector Quarterly Review (71111.11Q)

a. Inspection Scope

On July 29, 2008, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator requalification training 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;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms;
- correct use and implementation of abnormal and emergency procedures;
- control board manipulations;
- oversight and direction from supervisors; and
- ability to identify and implement appropriate TS actions.

The crew's performance in these areas was compared to pre-established operator action expectations and successful critical task completion requirements. Documents reviewed are listed in the Attachment.

This inspection constitutes 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)

.1 Routine Quarterly Evaluations (71111.12Q)

a. Inspection Scope

The inspectors verified that equipment performance and identified problems were appropriately addressed within the scope of the maintenance rule for the following risk significant systems:

- Containment Lower Ventilation Units
- Unit 1 Emergency Diesel Generators
- Unit 2 Emergency Diesel Generators

The inspectors 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) of the maintenance rule;
- characterizing system reliability issues for performance;
- charging unavailability for performance;
- trending key parameters for condition monitoring;
- ensuring 10 CFR 50.65(a)(1) or (a)(2) classification or re-classification; and
- verifying appropriate performance criteria for structures, systems, and components (SSCs)/functions classified as (a)(2) or appropriate and adequate goals and corrective actions for systems classified as (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. For the emergency diesel generator samples, the inspectors used Operating Experience Smart Sample: (OpESS) FY2008-01, Negative Trend and Recurring Events Involving Emergency Diesel Generators, as additional guidance in conducting the inspection. Documents reviewed are listed in the Attachment.

This inspection constitutes three 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 the licensee's evaluation and management of plant risk for planned and emergent maintenance activities affecting risk-significant and safety-related equipment. The inspectors verified that appropriate risk assessments were performed prior to removing equipment from service for the following maintenance activities:

- Planned maintenance during the week of July 21 on Unit 1 AB emergency diesel generator, Unit 2 west containment spray train and reserve feed auxiliary transformer 4
- Planned maintenance, July 30 through 31, on Unit 2 turbine driven auxiliary feedwater pump
- Planned maintenance during the week of September 8 on Unit 2 west motor driven auxiliary feedwater pump, Unit 1 south safety injection pump, and emergent maintenance on Unit 1 AB emergency diesel generator supply ventilation fan

These activities were selected based on their potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that risk assessments were performed as required by 10 CFR 50.65(a)(4) and were accurate and complete. When emergent work was performed, the inspectors verified that the plant risk was promptly reassessed and managed. The inspectors reviewed the scope of maintenance work and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed TS requirements and walked down portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met. Documents reviewed are listed in the Attachment.

These activities constituted three 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:

- AR 00825531, Component Cooling Water (CCW) Piping Does Not Meet The Design Basis Requirement
- AR 00827570, Iodine Samples Indicate Possible Problem With 1-VRS-1500
- AR 00820866, Faulty Pressurizer Heaters
- AR 00835406, Environmental Qualification of Lubricant/Grease for Fan Motor(s) and Bearing(s)
- AR 00838435, Water Leaking From Insulation on Essential Service Water Return Line for 1AB Emergency Diesel Generator

- AR 00821718, Unit 2 East Centrifugal Charging Pump Inboard Seal Leakage
- AR 00808577, Unit 1 Nuclear Instrument Channel 44 Bistables Out of Specification

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 TSs and UFSAR 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 were properly controlled. The inspectors also verified that identified problems associated with operability evaluations were being entered into the corrective action program with the appropriate significance characterization and that associated corrective actions were reasonable. Documents reviewed are listed in the Attachment.

This inspection constitutes seven samples as defined in Inspection Procedure 71111.15-05.

b. Findings

No findings of significance were identified.

1R18 Plant Modifications (71111.18)

.1 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the temporary modification for the Unit 1 and 2 Supplemental Containment Cooling Temporary System. The inspectors compared the temporary configuration changes and associated 10 CFR 50.59 screening and evaluation information against the design basis, the UFSAR, and the TS, as applicable, to verify that the modification did not affect the operability or availability of the affected system. The inspectors, as applicable, performed field verifications to ensure that the modifications were installed as directed; the modifications operated as expected; modification testing adequately demonstrated continued system operability, availability, and reliability; and that operation of the modifications did not impact the operability of any interfacing systems. Lastly, the inspectors discussed the temporary modification with operations, engineering, and training personnel to ensure that the individuals were aware of how extended operation with the temporary modification in place could impact overall plant performance. Documents reviewed are listed in the Attachment.

This inspection constitutes one temporary modification sample as defined in Inspection Procedure 71111.18-05.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

.1 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed the post-maintenance testing for the following activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- replace charcoal bed in engineered safeguards ventilation fan 1-HV-AES-2;
- preventative maintenance on Unit 2 east motor driven auxiliary feedwater pump, breaker and motor operated flow control valves;
- preventive maintenance on Unit 2 west containment spray system;
- preventive maintenance on Unit 2 turbine driven auxiliary feedwater pump; and
- corrective maintenance on the west diesel driven fire pump.

The inspectors reviewed the scope of the work performed and evaluated the adequacy of the specified post-maintenance testing. The inspectors verified that the post-maintenance testing was performed in accordance with approved procedures; that the procedures contained clear acceptance criteria, which demonstrated operational readiness and that the acceptance criteria was met; that appropriate test instrumentation was used; the equipment was returned to its operational status following testing, and test documentation was properly evaluated.

In addition, the inspectors reviewed action requests associated with post-maintenance tests to verify that identified problems were entered into the licensee's corrective action program with the appropriate characterization. Selected action requests were reviewed to verify that the corrective actions were appropriate and implemented as scheduled. Documents reviewed are listed in the Attachment.

This inspection constitutes five samples as defined in Inspection Procedure 71111.19-05.

Findings

No findings of significance were identified.

1R20 Outage Activities (71111.20)

.1 Unit 1 Forced Outage

a. Inspection Scope

On September 20, 2008, Unit 1 commenced a forced outage when the main turbine was manually tripped due to high vibrations and a resultant fire in the main generator. The inspectors began outage inspection activities, which will be completed when Unit 1 is returned to service.

An inspection sample was not completed during this inspection period.

b. Findings

No findings of significance were identified.

.2 Unit 2 Planned Outage to Perform Maintenance on Main Turbine Control Valves

a. Inspection Scope

The inspectors evaluated the conduct of activities during a planned outage from August 17 to August 21, 2008, to perform maintenance on the non-safety-related main turbine control valves and associated control system. The inspectors reviewed activities to ensure that the licensee considered risk in developing, planning, and implementing the outage schedule.

The inspectors also observed and reviewed portions of the reactor shutdown and subsequent startup, outage equipment configuration, electrical lineups, selected clearances, control and monitoring of decay heat removal and reactivity addition rates, and identification and resolution of problems associated with the outage.

This inspection constitutes one other outage sample as defined in Inspection Procedure 71111.20-05.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

.1 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the test results for the following activities to determine whether risk-significant systems and equipment were capable of performing their intended safety function and to verify testing was conducted in accordance with applicable procedural and TS requirements:

- Unit 1 Steam Generator Level Protection Channel Operational Test (routine)
- Unit 1 and Unit 2 Reactor Coolant System Leak Rate Test (RCS)
- Unit 2 Steam Generator Power Operated Relief Valve Operability Test (routine)
- Unit 1 South Safety Injection Pump In-Service Test (IST)

The inspectors observed in plant activities and reviewed procedures and associated records to determine the following:

- did preconditioning occur;
- were the effects of the testing adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- were acceptance criteria clearly stated, demonstrated operational readiness, and consistent with the system design basis;
- plant equipment calibration was correct, accurate, and properly documented;

- as-left setpoints were within required ranges; and the calibration frequency were in accordance with TSs, the USAR, procedures, and applicable commitments;
- measuring and test equipment calibration was current;
- test equipment was used within the required range and accuracy; applicable prerequisites described in the test procedures were satisfied;
- test frequencies met TS requirements to demonstrate operability and reliability;
- tests were performed in accordance with the test procedures and other applicable procedures; jumpers and lifted leads were controlled and restored where used;
- test data and results were accurate, complete, within limits, and valid;
- test equipment was removed after testing;
- where applicable for inservice testing activities, testing was performed in accordance with the applicable version of Section XI, American Society of Mechanical Engineers code, and reference values were consistent with the system design basis;
- where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared inoperable;
- where applicable for safety-related instrument control surveillance tests, reference setting data were accurately incorporated in the test procedure;
- where applicable, actual conditions encountering high resistance electrical contacts were such that the intended safety function could still be accomplished;
- prior procedure changes had not provided an opportunity to identify problems encountered during the performance of the surveillance or calibration test;
- equipment was returned to a position or status required to support the performance of its safety functions; and
- all problems identified during the testing were appropriately documented and dispositioned in the Corrective Action Program.

Documents reviewed are listed in the Attachment to this report.

These inspections constituted four surveillance testing samples, which included: two routine surveillance testing samples; one in-service testing sample; and one reactor coolant system leak detection inspection sample as defined in Inspection Procedure 71111.22-05.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

The inspectors observed a simulator training evolution for licensed operators on July 29, 2008, which required emergency plan implementation. Licensee emergency preparedness personnel had pre-designated that the opportunities for the Shift Manager to classify the event and make required notifications would be evaluated and included in performance indicator data regarding drill and exercise performance.

The inspectors verified that the Shift Manager classified the emergency condition and completed the required notifications to state and local police authorities in an accurate and timely manner as required by the Emergency Plan implementing procedures. The inspectors also observed the post-training critique to verify that licensee evaluators appropriately identified performance deficiencies. Documents reviewed are listed in the Attachment to this report.

This inspection constitutes one sample as defined in Inspection Procedure 71114.06-05.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

2OS3 Radiation Monitoring Instrumentation and Protective Equipment (71121.03)

.1 Inspection Planning

a. Inspection Scope

The inspectors reviewed the D.C. Cook UFSAR to identify applicable radiation monitors associated with transient high and very high radiation areas including those used in remote emergency assessment.

This inspection constitutes one sample as defined in Inspection Procedure 71121.03-5.

The inspectors identified the types of portable radiation detection instrumentation used for job coverage of high radiation area work, other temporary area radiation monitors currently used in the plant, continuous air monitors associated with jobs with the potential for workers to receive 50 mrem committed effective dose equivalent (CEDE), whole body counters, and the types of radiation detection instruments utilized for personnel release from the radiologically controlled area.

This inspection constitutes one sample as defined in Inspection Procedure 71121.03-5.

The inspectors verified calibration, operability, and alarm setpoint of the following four instruments:

- AMS-4 Air Monitor;
- RO7 High Range Radiation Monitor;
- AMP-100 High Range Radiation Monitor; and
- Ludlum Hand-Held Frisker.

The inspectors determined what actions were taken when, during calibration or source checks, an instrument was found significantly out of calibration (>50 percent), determined possible consequences of instrument use since last successful calibration or source check, and determined if the out of calibration result was entered into the corrective action program. The inspectors also reviewed the licensee's 10 CFR Part 61 source term to determine if the calibration sources used were representative of the plant source term.

This inspection constitutes one sample as defined in Inspection Procedure 71121.03-5.

b. Findings

No findings of significance were identified.

.2 Problem Identification and Resolution

a. Inspection Scope

The inspectors reviewed the licensee's self-assessments, audits, Licensee Event Reports, and Special Reports that involved personnel contamination monitor alarms due to personnel internal exposures to verify that identified problems were entered into the corrective action program for resolution. All event reports involving internal exposures >50 mrem CEDE were reviewed to determine if the affected personnel were properly monitored utilizing calibrated equipment and if the data was analyzed and internal exposures properly assessed in accordance with licensee procedures.

This inspection constitutes one sample as defined in Inspection Procedure 71121.03-5.

The inspectors reviewed corrective action program reports related to exposure significant radiological incidents that involved radiation monitoring instrument deficiencies since the last inspection in this area. Staff members were interviewed and corrective action documents were reviewed to verify that follow-up activities were being conducted in an effective and timely manner commensurate with their importance to safety and risk based on the following:

- initial problem identification, characterization, and tracking;
- disposition of operability/reportability issues;
- evaluation of safety significance/risk and priority for resolution;
- identification of repetitive problems;
- identification of contributing causes;
- identification and implementation of effective corrective actions;
- resolution of NCVs (Non-Cited Violation) tracked in the corrective action system; and
- implementation/consideration of risk significant operational experience feedback.

The inspectors determined if the licensee's self-assessment activities were identifying and addressing repetitive deficiencies or significant individual deficiencies in problem identification and resolution.

This inspection constitutes one sample as defined in Inspection Procedure 71121.03-5.

b. Findings

No findings of significance were identified.

.3 Radiation Protection Technician Instrument Use

a. Inspection Scope

The inspectors verified the calibration expiration and source response check currency on radiation detection instruments staged for use and observed radiation protection technicians for appropriate instrument selection and self-verification of instrument operability prior to use.

This inspection constitutes one sample as defined in Inspection Procedure 71121.03-5.

b. Findings

No findings of significance were identified.

.4 Self-Contained Breathing Apparatus Maintenance and User Training

a. Inspection Scope

The inspectors reviewed the status and surveillance records of self-contained breathing apparatus (SCBA) staged and ready for use in the plant and inspected the licensee's capability for refilling and transporting SCBA air bottles to and from the control room and operations support center during emergency conditions. The inspectors determined if control room operators and other emergency response and radiation protection personnel were trained and qualified in the use of SCBAs (including personal bottle change-out). The inspectors selected three individuals on each control room shift crew, and three individuals from each designated department currently assigned emergency duties (e.g., onsite search and rescue duties) and verified their SCBA qualifications.

This inspection constitutes one sample as defined in Inspection Procedure 71121.03-5.

The inspectors reviewed the qualification documentation for at least 50 percent of the onsite personnel designated to perform maintenance on the vendor-designated vital components, and reviewed the vital component maintenance records over the past 5 years for three SCBA units currently designated as "ready for service". The inspectors also ensured that the required, periodic air cylinder hydrostatic testing was documented and up to date, and that the Department of Transportation required retest air cylinder markings were in place for these 3 units. The inspectors reviewed the onsite maintenance procedures governing vital component work including those for the low-pressure alarm and pressure-demand air regulator along with licensee procedures and the SCBA manufacturer's recommended practices to determine if there were inconsistencies between them.

This inspection constitutes one sample as defined in Inspection Procedure 71121.03-5.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Reactor Coolant System Leakage

a. Inspection Scope

The inspectors sampled licensee submittals for the Reactor Coolant System (RCS) Leakage performance indicator for both units from the second quarter 2007 through the second quarter 2008. To determine the accuracy of the Performance Indicator (PI) data reported during those periods, PI definitions and guidance contained in the Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, was used. The inspectors reviewed the licensee's operator logs, RCS leakage tracking data, condition reports, event reports and NRC Integrated Inspection reports to validate the accuracy of the submittals. The inspectors also reviewed the licensee's condition report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constitutes two reactor coolant system leakage samples as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.2 Reactor Coolant System Specific Activity

a. Inspection Scope

The inspectors sampled licensee submittals for the RCS Specific Activity Performance PI for both units from the second quarter 2007 through the second quarter 2008. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, was used. The inspectors reviewed the licensee's RCS chemistry samples, TS requirements, condition reports, event reports and NRC Integrated Inspection reports for the period of April 2007 through June 2008, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's condition report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator. None were identified. In addition to record reviews, the inspectors observed a chemistry technician obtain and analyze an RCS sample. Documents reviewed are listed in the Attachment to this report.

This inspection constitutes two reactor coolant system specific activity samples as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.3 Radiological Effluent Technical Specification/Offsite Dose Calculation Manual
Radiological Effluent Occurrences

a. Inspection Scope

The inspectors sampled licensee submittals for the Radiological Effluent Technical Specification (RETS)/Offsite Dose Calculation Manual (ODCM) Radiological Effluent Occurrences PI for the period from the third quarter 2007 through the second quarter 2008. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, was used. The inspectors reviewed the licensee's condition report database and selected individual reports generated since this indicator was last reviewed to identify any potential occurrences such as unmonitored, uncontrolled, or improperly calculated effluent releases that may have impacted offsite dose. The inspectors reviewed gaseous effluent summary data and the results of associated offsite dose calculations for selected dates between July 2007 and June 2008, to determine if indicator results were accurately reported. The inspectors also reviewed the licensee's methods for quantifying gaseous and liquid effluents and determining effluent dose. Additionally, the inspectors reviewed the licensee's historical 10 CFR 50.75(g) file and selectively reviewed the licensee's analysis for discharge pathways resulting from a spill, leak, or unexpected liquid discharge focusing on those incidents which occurred over the last few years. Documents reviewed are listed in the Attachment to this report.

This inspection constitutes one RETS/ODCM radiological effluent occurrences sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

.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. This review was accomplished through inspection of the station's daily condition report packages.

These daily reviews were performed by procedure as part of the inspectors' daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

No findings of significance were identified.

.4 Annual Sample: Review of Operator Workarounds (OWAs)

a. Inspection Scope

The inspectors evaluated the licensee's implementation of their process used to identify, document, track, and resolve operational challenges. Inspection activities included, but were not limited to, a review of the cumulative effects of the OWAs on system availability and the potential for improper operation of the system, for potential impacts on multiple systems, and on the ability of operators to respond to plant transients or accidents.

The inspectors reviewed operator burden reports, which included OWAs, operator challenges, and control room deficiencies, to determine whether the licensee was identifying operator burdens at an appropriate threshold, had entered them into their corrective action program, and proposed or implemented appropriate and timely corrective actions which addressed each issue. Reviews were conducted to determine if any operator burden could increase the possibility of an Initiating Event, if the burden was contrary to training, required a change from long-standing operational practices, or created the potential for inappropriate compensatory actions. Additionally, all temporary modifications were reviewed to identify any potential effect on the functionality of Mitigating Systems, impaired access to equipment, or required equipment uses for which the equipment was not designed. Daily plant logs and contingency/compensatory actions' logs were also assessed to identify any potential sources of unidentified operator workarounds.

The above constitutes completion of one operator workarounds annual inspection sample as defined in IP 71152-05.

b. Findings

No findings of significance were identified.

.5 Selected Issue Follow-Up Inspections: Equipment Apparent Cause Evaluations

a. Scope

The inspectors selected the following action requests for in-depth review:

- Equipment Apparent Cause Evaluation, AR 00825512, Elevated Vibrations on Main Turbine Bearings 5Y and 6Y
- Equipment Apparent Cause Evaluation, AR-00826051, SDG 2 Output Breaker Tripped Open and then Diesel Tripped

The inspectors discussed the evaluations and associated corrective actions with licensee personnel and verified the following attributes during their review of the above apparent cause evaluations and other related documents:

- complete and accurate identification of the problem in a timely manner commensurate with its safety significance and ease of discovery;
- consideration of the extent of condition, generic implications, common cause and previous occurrences;
- evaluation and disposition of operability/reportability issues;

- classification and prioritization of the resolution of the problem, commensurate with safety significance;
- identification of the root and contributing causes of the problem; and
- identification of corrective actions, which were appropriately focused to correct the problem.

The above constitutes completion of two in-depth problem identification and resolution samples as defined in Inspection Procedure 71152-05.

b. Findings

No findings of significance were identified.

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153)

.1 Notice of Unusual Event for Manual Trip of Unit 1 due to High Vibrations on Main Turbine and Resultant Main Generator Fire.

a. Inspection Scope

The inspectors reviewed and monitored actions taken by licensee personnel for a declared Notice of Unusual Event on September 20, 2008. The Notice of Unusual Event was declared at 20:18 after the Unit 1 reactor and main turbine were manually tripped due to high vibrations on the main turbine and resultant main generator fire. The event was terminated at 04:09 on September 21, 2008, after actions directed by plant procedures had been completed.

The inspectors responded to the site after being notified of the event and conducted control room panel walk downs to verify that plant safety systems functioned as expected and that the plant was stable following the trip. The inspectors observed control room operator actions, and reviewed control room logs, plant procedures and the event notification worksheets to verify that the event classification was accurate; the required notifications to NRC and to state and local officials were completed in a timely manner; and the control room operator actions were completed in accordance with plant procedures. The inspectors provided continuous site coverage until Unit 1 was placed in Mode 5 (Cold Shutdown) on September 22 at approximately 04:00.

The inspectors also reviewed action requests to verify that identified problems pertaining to event response were entered into the corrective action program with the appropriate significance characterization.

In addition to the resident inspectors' activities, a Special Inspection Team (SIT) was assembled and a charter was developed to conduct additional reviews of the events and circumstances surrounding the event. The special inspection was ongoing when the inspection period ended. The details and associated results of the special inspection will be documented in Inspection Report 05000315/2008009.

This inspection constitutes one event response sample as defined in Inspection Procedure 71153-05.

b. Findings

No findings of significance were identified.

.2 (Closed) Licensee Event Report (LER) 315/2008-004-00: Non-Isolable Reactor Coolant System Pressure Boundary Leak

On April 25, 2008, the licensee identified a non-isolable RCS pressure boundary leak on a 3/4 inch instrument line. Specifically, during heat up and pressurization of Unit 1 RCS while in Mode 4 at the end of a refueling outage, and with RCS pressure at 1000 psig, licensee personnel performed a containment walkdown to ensure that there was no RCS leakage. During the walkdown, licensee personnel identified a leak on a 3/4 inch instrument line upstream of 1-NFP-222-V2 isolation valve for the RCS flow elbow tap. Licensee personnel observed steam coming out from a socket weld between the RCS piping and the instrument isolation valve. Based on the leak location, the licensee determined the leak to be non-isolable RCS Pressure Boundary Leakage.

Limiting Condition for Operation (LCO) 3.4.13 limits the RCS to no pressure boundary leakage for a thru wall leak, and is applicable in Modes 1,2, 3, and 4. To comply with the LCO action statements, operators cooled down the unit to Mode 5 (out of the Mode of Applicability) thereby satisfying LCO Action D for Pressure Boundary Leakage.

Based on visual inspection of the failed socket weld, the location of the defect, the configuration of the piping, and the piping material (stainless steel), the licensee performed a comprehensive analysis of the weld failure modes and determined that the apparent cause for the failure was vibratory fatigue. The failure modes considered in the evaluation included faulty weld, primary water stress corrosion cracking, intergranular stress corrosion cracking, high cycle vibratory fatigue, low cycle fatigue, and design inadequacy.

The applicable code requirement to repair this defect was IWA-4000 of the ASME Code 1989 Edition. Compliance with this code requirement would have necessitated removal of the defective weld and replacement of the weld and/or piping. However, the weld and piping was not isolable from the reactor vessel. Because the defect was below the elevation of the bottom of the reactor vessel nozzles, repair of the defect in accordance with the IWA-4000 code requirement would have required draining the reactor vessel to the bottom of the reactor vessel nozzles, and all of the activities associated with that, including removal of the concrete missile shield blocks, removal of the reactor vessel head, and defueling the core. The licensee considered that these activities would have caused significant delay in returning the unit to operation, resulting in hardship and unusual difficulty.

Therefore, the licensee proposed to use an alternative method to repair the leaking weld and applied for a Relief Request from the Code of Record, IWA-4000 of the ASME Code 1989 Edition. The proposed alternative repair method was the application of a weld overlay in accordance with ASME Code Case N-666, Weld Overlay of Class 1, 2, and 3 Socket Welded Connections, Section XI, Division 1. The licensee stated that the use of this Code Case would have restored the structural integrity of the leaking socket weld by deposition of weld overlay on the outside surface of the pipe and weld. The licensee also stated that they would not take any exceptions to the code case requirements. Use of Code Case N-666 for the repair was verbally approved by the Nuclear Regulatory

Commission on April 26, 2008. The formal approval of the Relief Request was provided to the licensee by NRC Safety Evaluation Report dated June 26, 2008.

The inspectors reviewed the licensee's analysis of leaking socket weld, work orders under which the repair was performed, procedures covering visual examination, visual weld and brazing examination, liquid penetrant examination, and the requirements of Code Case N-666. The inspectors also reviewed the vibration test and dimensional checks performed on the completed weld overlay, and verified that the results were within the acceptance criteria of ASME-OMb-S/G-2002, Part 3 and the requirements of Code Case N-666 respectively. The inspectors did not identify any findings and determined that the licensee performed the repair on the leaking socket weld in full compliance with the requirements of Code Case N-666. This LER is closed.

This inspection constitutes one sample as defined in Inspection Procedure 71153-05.

.3 (Closed) LER 05000315/2008-005-00, Containment Isolation Valve Out of Position

Unit 1 TS 3.6.3, Containment Isolation Valves, required each valve to be operable in Modes 1, 2, 3 and 4. On July 15, 2008, during a monthly surveillance of manual containment isolation valves outside containment with Unit 1 in Mode 1, licensee personnel identified that drain valve 1-NSW-426-1 on the Non-Essential Service Water System (NESW) was sealed partially open and capped instead of sealed closed and capped, as required.

Consequently, the valve was inoperable and licensee personnel entered Technical Specification 3.6.3 Condition A regarding one or more penetration flow paths with one containment isolation valve inoperable. The licensee subsequently closed the valve to satisfy the required action to isolate the affected penetration flow path within 4 hours and to restore the valve to an operable condition.

Licensee personnel evaluated the event, as documented in AR 00834856, and determined that the valve was mispositioned during system restoration on April 23, 2008, with Unit 1 in Mode 5 near the end of the Unit 1 refueling outage. After the refueling outage, Unit 1 ascended from Mode 5 to Mode 4 on April 27. Consequently the valve was inoperable from April 27, 2008, until July 15, 2008.

However, with the valve partially open and capped, and the NESW system pressure at approximately 80 psig, there was no leakage from the valve and cap. During a Design Basis Accident (DBA), containment pressure is expected to be less than or equal to 12 psig, which is relatively low compared to the NESW system normal operating pressure. Therefore, there was reasonable assurance that there would be no leakage from the containment through this path during a DBA.

Licensee personnel concluded that this event was caused by non-licensed operators failing to perform adequate human performance self-checking techniques when the valve was initially positioned and independently verified on April 23, 2008. Specifically, the operator who initially closed the valve rotated the handwheel in the closed direction until valve movement stopped. The operator who independently verified the valve position physically checked the valve in the closed direction and the valve did not close any further. However, neither operator used other valve position verification techniques,

such as stem position, and failed to notice that the valve stem was extended approximately one-half inch higher than it would be if the valve were fully closed.

A contributing cause was that the valve was difficult to operate, requiring a valve wrench to fully close the valve. After the valve stem position was questioned during the monthly surveillance on July 15, 2008, a valve wrench was used to check the valve position and the valve handwheel was turned an additional five turns to fully close the valve.

The cause for failing to identify the mispositioned valve during subsequent monthly surveillances was a failure by non-licensed operators to maintain an adequate questioning attitude regarding the valve stem position. A contributing cause was that plant procedures lacked consistent specific guidance for verifying the position of sealed valves. Also, the monthly surveillance only required the operators to verify that the valve seal was intact.

Planned corrective actions were to provide interactive training to non-licensed operators to address verification techniques, self-checking attributes, mindset, complacency and questioning attitude. In addition Work Order 55324235 was generated to repair the valve. Other corrective actions included verifying that all other containment isolation manual valves outside containment were correctly positioned; revising plant procedures to provide consistent specific guidance for performing position checks of sealed components; and revising the containment isolation surveillance procedure to include references to the procedures that provide specific guidance for performing position checks of sealed or locked components. The inspectors concluded that the corrective actions were reasonable.

The licensee reported this as a condition prohibited by the plant's TS in accordance with 10 CFR 50.73(a)(2)(i)(B). The enforcement aspects of this licensee-identified violation of TS 3.6.3 are discussed in Section 4OA7 of this report. No further findings were identified. This LER is closed.

This inspection constitutes one sample as defined in Inspection Procedure 71153-05.

4OA5 Other Activities

.1 Reactor Coolant System Dissimilar Metal Butt Welds (TI 2515/172, Revision 0)

a. Inspection Scope

The inspectors conducted a review of the licensee's activities regarding licensee dissimilar metal butt weld (DMBW) mitigation and inspection implemented in accordance with the industry self-imposed mandatory requirements of Materials Reliability Program (MRP)-139, "Primary System Piping Butt Weld Inspection and Evaluation Guidelines." Temporary Instruction (TI) 2515/172, "Reactor Coolant System Dissimilar Metal Butt Welds" was issued to support NRC review and evaluation of the licensees' implementation of MRP-139.

From September 15, 2008, through September 18, 2008, the inspectors performed a review for Unit 2 DMBWs in accordance with Sections of TI-172 as described below. The review for Unit 1 DMBWs had been previously completed (reference IR 05000315/2008003; 05000316/2008003).

Section 03.01 of TI-172 - Implementation of the Baseline MRP-139 Inspections was previously completed for Unit 1 and Unit 2.

Section 03.02 of TI-172 – Evaluation of Volumetric Examinations. The inspectors conducted a review under this Section for Unit 2 to determine if ultrasonic examinations (UTs) were completed in accordance with MRP-139. Because the licensee had not performed UT of unmitigated welds at Unit 2, this aspect of the TI review was not applicable. The inspectors reviewed records of the preservice UT for the weld overlay repair of the Unit 2 pressurizer spray nozzle (2-PRZ-21). This review included:

- UT data sheets, procedures, procedure qualifications, personnel certifications;
- UT calibration blocks and equipment;
- disposition of indications identified during the examinations;
- NRC relief request; and
- deficiencies identified in the corrective action program.

Section 03.03 of TI-172 - Weld Overlays. The inspectors conducted a review under this Section for Unit 2 to determine if weld overlays were performed consistent with ASME Code requirements and NRC relief requests. The inspectors reviewed records of the weld overlay repairs on weld 2-PRZ-21. This review included:

- welding procedure specifications, procedure qualifications, welder qualifications;
- NRC relief request; and
- deficiencies identified in the corrective action program.

Section 03.04 of TI-172 - Mechanical Stress Improvement. This section was completed for Unit 1 and 2. The licensee had not implemented mechanical stress improvement for DMBWs and no plans existed to implement this weld remediation technique.

Section 03.05 of TI-172 - Inservice Inspection Program. The inspectors had previously completed this review for Unit 1 and Unit 2.

b. Observations

Summary: DC Cook Unit 2 is a Westinghouse 4 loop design with DMBW's containing 82/182 material on 6 pressurizer nozzle welds. Unlike Unit 1, the Unit 2 RV nozzle welds are stainless steel material and therefore not within the scope of MRP-139. By the end of 2006, the licensee had completed mitigation for each of the Unit 2 pressurizer nozzle DMBWs by installation of a full structural weld overlay that included an Electric Power Research Institute (EPRI) performance demonstration initiative (PDI) qualified UT preservice examination for the required weld volume.

For Unit 2, the inspectors concluded that the licensee activities and plans complied with the MRP-139 inspection or mitigation requirements and applicable Code requirements and relief requests. No deviations from MRP-139 requirements were identified for Unit 2.

In accordance with requirements of TI 2515/172, Revision 0, the inspectors evaluated and answered the following questions:

(1) Licensee's Implementation of the MRP-139 Baseline Inspections

1. Have the baseline inspections been performed or are they scheduled to be performed in accordance with MRP-139 guidance? Were the baseline inspections of the pressurizer temperature DMBW's of the nine plants listed in 03.01.b completed during the spring 2008 outages?

Previously addressed (reference IR 05000315/2008003; 05000316/2008003).

2. Is the licensee planning to take any deviations from the MRP-139 baseline inspection requirements of MRP-139? If so, what deviations are planned, what is the general basis for the deviation, and was the NEI- 03-08 process for filing a deviation followed?

No. The inspectors did not identify any deviations from MRP-139 and the licensee had not planned on any deviations from MRP-139 for either Unit.

(2) For each examination inspected, was the activity:

1. Performed in accordance with the examination guidelines in MRP-139, Section 5.1, for unmitigated welds or mechanical stress improvement welds and consistent with NRC staff relief request authorization for weld overlaid welds?

Yes. For the Unit 2 pressurizer DMBW overlay repairs the licensee had submitted relief request ISIR-20, which provided alternative examination requirements to the American Society of Mechanical Engineers (ASME) Code Section XI, Appendix VIII, Supplement 11, and Appendix Q for these repair welds. The inspectors reviewed the Unit 2 pressurizer spray nozzle post overlay preservice UT records completed in April of 2006. The licensee's contractor used an EPRI PDI qualified procedure 54-ISI-838-06 "Manual Ultrasonic Examination of Weld Overlaid Similar and Dissimilar Metal Welds" to complete these examinations, which was in accordance with the approved relief request. In the examination records, the licensee documented that 100 percent coverage of the required weld overlay and base metal volumes were obtained.

The licensee did not perform an EPRI PDI qualified UT on weld 2-PRZ-21 prior to mitigation by weld overlay; therefore this aspect of TI 2515/172 was not applicable.

2. Performed by qualified personnel? (Briefly describe the personnel training/qualification process used by the licensee for this activity.)

Yes. The licensee's contractors that performed UT of the weld overlay repair on 2-PRZ-21 were qualified in accordance with the EPRI PDI Program for detection and sizing of flaws in weld overlay repairs.

3. Performed such that deficiencies were identified, dispositioned, and resolved?

Not applicable. No deficiencies or limitations were identified

(3) For each weld overlay inspected, was the activity:

1. Performed in accordance with the ASME Code welding requirements and consistent with NRC staff relief request authorizations? Has the licensee submitted a relief request and obtained NRR staff authorization to install the weld overlays?

Yes. For the preemptive weld overlay repairs to the pressurizer DMBWs, the licensee had submitted relief request ISIR-20, which provided alternatives to Code Cases N-504-2 and N-638-1 for the purpose of installing preemptive weld overlays on the pressurizer nozzle-to-safe end dissimilar metal welds. The inspectors confirmed that the licensee had followed relief request ISIR-20 approved by the NRC on March 1, 2007. Specifically, the inspectors reviewed the weld travelers, welding procedure specifications and weld procedure qualification records to confirm that the overlay repair welds were completed in accordance with the ASME Code Section IX and the approved NRC relief request.

2. Performed by qualified personnel? (Briefly describe the personnel training/qualification process used by the licensee for this activity.)

Yes. For the weld overlay repair of the pressurizer spray nozzle weld (2-PRZ-21), the inspectors reviewed welder performance qualification records to confirm that the welders used for this overlay repair were qualified in accordance with ASME Section IX.

3. Performed such that deficiencies were identified, dispositioned, and resolved?

Yes. The weld related deficiencies identified were dispositioned and resolved in accordance with the welding contractor's nonconformance process.

(4) For each mechanical stress improvement used by the licensee during the outage, was the activity performed in accordance with a documented qualification report for stress improvement processes and in accordance with demonstrated procedures? Specifically:

Not applicable. Previously addressed (reference IR 05000315/2008003; 05000316/2008003).

(5) For the Inservice Inspection Program:

1. Has the licensee prepared an MRP-139 Inservice Inspection Program? If not, briefly summarize the licensee's basis for not having a documented program and when the licensee plans to complete preparation of the program.

Previously addressed (reference IR 05000315/2008003; 05000316/2008003).

2. In the MRP-139 Inservice Inspection Program, are the welds appropriately categorized in accordance with MRP-139? If any welds are not appropriately categorized, briefly explain the discrepancies.

Previously addressed (reference IR 05000315/2008003; 05000316/2008003).

3. In the MRP-139 Inservice Inspection Program, are the inservice inspection frequencies, which may differ between the first and second intervals after the MRP-139 baseline inspection, consistent with the inservice inspections frequencies called for by MRP-139?

Previously addressed (reference IR 05000315/2008003; 05000316/2008003).

4. If any welds are categorized as H or I, briefly explain the licensee's basis of the categorization and the licensee's plans for addressing potential Pressure Water Stress Corrosion Cracking.

Previously addressed (reference IR 05000315/2008003; 05000316/2008003).

5. If the licensee is planning to take deviations from the inservice inspection "requirements" of MRP-139, what are the deviations and what are the general bases for the deviations? Was the NEI 03-08 process for filing deviations followed?

Not applicable. Previously addressed (reference IR 05000315/2008003; 05000316/2008003).

c. Findings

No findings of significance were identified.

.2 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period, the inspectors conducted observations of security force personnel and activities to ensure that the activities were consistent with licensee 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 reviews and inspection activities.

b. Findings

No findings of significance were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On October 15, 2008, the inspectors presented the inspection results to Mr. L. Weber and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

.2 Interim Exit Meetings

Interim exits were conducted for:

- The results of the radiation monitoring instrumentation and protective equipment program inspection with Site Vice President, Mr. L. Weber, on August 01, 2008.
- The results of Temporary Instruction 172 with Site Vice President, Mr. L. Weber on September 18, 2008.

The inspectors confirmed that none of the potential report input discussed was considered proprietary.

4OA7 Licensee-Identified Violations

The following violation of very low significance (Green) was identified by the licensee and is a violation of NRC requirements, which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as an NCV.

Technical Specification Limiting Condition for Operation (LCO) 3.6.3 requires that each containment isolation valve be operable in Modes 1, 2, 3 and 4 with a required action to isolate the affected penetration within 4 hours for an inoperable valve. Contrary to the above, on July 15, 2008, containment isolation drain valve 1-NSW-426-1 on Unit 1 Non-Essential Service Water System (NESW) was found to be sealed partially open and capped instead of sealed closed and capped as required while the plant was in Mode 1. Subsequent licensee investigation identified that the drain valve was inoperable from April 27, 2008, until it was identified and closed on July 15, 2008, which restored the valve to an operable condition. The licensee entered this violation into its corrective program as AR 00834856. The violation was of very low safety significance because the finding did not represent an actual open pathway in the physical integrity of reactor containment. Specifically, with the drain valve partially open and capped, and the NESW system pressure at approximately 80 psig there was no leakage from the valve and cap. During a Design Basis Accident (DBA), containment pressure is expected to be less than or equal to 12 psig, which is relatively low compared to the NESW system normal operating pressure. Therefore, there was reasonable assurance that there would be no leakage from the containment through this path during a DBA.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

S. Adkins, Regulatory Affairs/Licensing Coordinator
R. Crane, Regulatory Compliance Supervisor
P. Donovan, ISI Engineer
J. Gebbie, Plant Manager
L. Green, Radiation Protection/ALARA Supervisor
W. Hart, Radiation Protection General Supervisor
J. Jensen, Site Support Services Vice President
C. Hutchinson, Emergency Preparedness Manager
C. Lane, Engineering Programs Manager
Q. Lies, Engineering Director
C. Moeller, Radiation Protection Manager
J. Newmiller, Licensing Activities Coordinator
R. Niedzielski, Licensing Activities Coordinator
J. Nimitz, Licensing Activities Coordinator
S. Partin, Acting Plant Manager
R. Pickard, Engineering Programs Supervisor
D. Raye, Radiation Protection Instrumentation/Dosimetry
P. Schoepf, Manager Nuclear Regulatory Compliance
L. Weber, Site Vice President

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

NONE		
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Closed

315/2008-004-00	LER	Non-Isolable Reactor Coolant System Pressure Boundary Leak
315/2008-005-00	LER	Containment Isolation Valve Out of Position

Discussed

NONE		
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LIST OF DOCUMENTS REVIEWED

The following is a partial list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspector reviewed the documents in their entirety, but rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

1R04 Equipment Alignment

- 12-FPP-4030-066-011, Revision 2, February 26, 2008
- 1-OHP-4021-032-008AB, Operating DG1AB Subsystems, Revision 8
- 2-OHP-4021-008-002, Placing Emergency Core Cooling System in Standby Readiness, Revision 21
- 2-OHP-4021-056-001, Filling and Venting Auxiliary Feedwater System, Revision 22, March 7, 2008
- 2-SI-42, Auxiliary Building SI Piping Diagram, Revision 20
- AR 00838836, 12-FP-167 Water Hammering While Testing The Valve
- AR 0801594, Found Incorrect Mechanical Speed Knob Setting for 1AB Emergency Diesel Generator
- AR 08121034, West RHR PP PP-35W Discharge Crosstie (2-IMO-324 Insulation Lugs Inspection and Replacement)
- AR 08259044, 12-FP-167 Water Hammering While Testing The Valve
- AR 08267024, Broken gate on Hydrant #10
- AR 0830380, Contact ESI on Governor Knob Play
- OP-12-5152-13, Flow Diagram, Fire Protection-Water Yard Piping
- OP-12-5152B-15, Flow Diagram, Fire Protection-Water Piping in Pump House Unit 1 and 2
- OP-1-5152B-15, Flow Diagram, Fire Protection-Water Turbine Bldg and Screen House Unit 1
- OP-2-5106A-54, Flow Diagram, Aux Feedwater
- OP-2-5142-43, Flow Diagram, Emergency Core Cooling (SIS)
- Work Request 06357494, Safety Injection Pumps Discharge Crosstie (Dry Boric Acid Buildup)
- Work Request 0654959, Safety Injection Pumps Discharge Crosstie (Oil Sample Ports)

1R05 Fire Protection

- 12-FPP-4030-066-022, Inspection of Fire Doors, Frames and Their Hardware Protecting Safety-Related Areas, Revision 0
- 12-PPP-4030-066-005, Fire Protection Water System Unobstructed Flow Test, Revision 6
- AR 07123059, Fire Protection Valve 12-ZFP-370 Tripped
- AR 08077002, UL Rating on 1-DR-AUX-391 is Unknown
- AR 08088022, Battery Powered Lights out
- Fire Hazards Analysis, Revision 13
- Fire Pre-Plan, Revision 4
- Fire Protection Program Manual, Revision 10, Technical Evaluation 11.5 and 11.28
- Work Order 55295727-01, 12-ZRV-18 Failed to Cycle Closed

1R11 Licensed Operator Requalification Program

- RQ-E-3303A, Cycle 3303 As-found Simulator Evaluation A, Revision 0
- Crew Periodic Simulator Evaluation, July 29, 2008

1R12 Maintenance Effectiveness

- AR 00801033, Lower Containment High Temperature Shutdown July 2006
- AR 00827426, Review Maintenance Rule Evaluation Process to Revise if an Evaluation is Revised

1R13 Maintenance Risk Assessments and Emergent Work Control

- 1-OHP-4030-114-021, Event Initiated Surveillances, Data Sheet 20, Inoperable Power Supply, Revision 11
- AR 00810369, 1-PP-50E, LCO Restoration Delayed
- Control Room logs, July 21 thru 25, July 30 thru 31, September 8 thru 12
- PMP-2291-OLR-001, On-Line Risk Management, Unit 1 and Unit 2 Part 1 Configuration Risk Assessment, July 21 thru 25, July 30 thru 31, September 8 thru 12
- Schedule of Daily Work Activities, July 21 thru 25, July 30 thru 31, September 8 thru 12

1R15 Operability Evaluations

- 12-EHP-5030-001-008, Recirculation Loop Total Leak Rate, Revision 11, April 1, 2008
- 1-IHP-4030-SMP-131, Power Range Nuclear Instrumentation Channel Test and Calibration, Revision 9, November 18, 2006
- 2-OHP-4030-233-038, Leak Rate Test of Liquid Systems, Revision 6
- AR 00806829, Tracking AR to Address Vendor Evaluation of Seals
- AR 00808577, Bistables Out of Specification
- AR 00819382, 2-SI-101 Corrected Leakage of 2.9 ml/min .000766 gpm/min
- AR 00821718, Unit 2 East Centrifugal Charging Pump Inboard Seal Leakage
- AR 00825531, The Piping Does Not Meet The Design Basis Requirement
- AR 00829089, Potential Loss of Environmental Qualification and Configuration due to EC#44742, Unit-2 RHR Crosstie
- AR 08121034, 2-IMO-324, Insulated Lugs Inspection and Replacement
- AR 08273059, West Centrifugal Charging Pump Outboard Mechanical Seal Leaking 1ml/min, April 29, 2008
- Charging System Walkdown Report, August 25, 2008
- DC-12292, PTO Mechanical Seal Drawing, Revision 2, July 10, 2008
- DC-D-01-CCW-03, Piping and Pipe Support Analysis of the 3" and 4" CCW Piping to Several Containment Penetration Coolers, Revision 3, Feb. 27, 2008
- Drawing 1-CCW-806-L1-6, Cooling Water Flow Diagram", Revision 4, December 19, 2007
- Drawing 1-CCW-807-L1-8, Cooling Water Flow Diagram", Revision 4, December 19, 2007
- EDG-Pipe-11, Interim Acceptance Criteria For Safety Related Piping Systems, June 1993
- EQE Report No. 50035.06-R-001, Small Bore Piping Configuration Program Donald C. Cook Nuclear Plant Final Report, September, 1991
- PMP-6010-OSD-001, Off-Site Dose Calculation Manual, Revision 22
- Work Order 55251064, 1-NRI-44A-DWR: Replace, June 14, 2006
- Work Order 55285601, Power Range Nuclear Instrumentation, December 12, 2006
- Work Request 06362847, West Centrifugal Charging Pump Outboard Seal, 05/29/2008
- Work Request 06363214, East Centrifugal Charging Pump, 06/19/2008
- Work Request 06363214, West Centrifugal Charging Pump, 06/19/2008
- Work Request 06364591, East Centrifugal Charging Pump Outboard Seal, 08/25/2008

1R18 Plant Modification

- 12-EHP-5040-MOD-001 Temporary Modification No. 12-TM-08-12-R0, Installation of Supplemental Containment Cooling for Units 1 and 2, Revision 13, April 29, 2008
- AR 00111968, Temporary Modification of East Auxiliary Building Crane
- AR 08232046, Unit 2 Supplemental Containment Cooling Generator Tripped
- AR 00801033, Technical Specification Shutdown For High Containment Air Temperature
- AR 08204018, Loss of Configuration Control, July 22, 2008

1R19 Post Maintenance Testing

- 12-OHP-4030-066-121FD, Diesel Fire Pump Operability Test, September 21, 2008
- 1-EHP-4030-128-228B, 1-HV-AES-2 Engineered Safety Feature Surveillance, August 27, 2008
- 2-OHP-4030-209-007W, West Containment Spray System Test, Revision 22, July 24, 2008
- 2-OHP-4030-256-017E, East Motor Driven Auxiliary Feedwater System Test, September 3, 2008
- 2-OHP-4030-256-017T, Turbine Driven Auxiliary Feedwater System Test, July 31, 2008
- AR 00126164, VT2 Inspection of Turbine Driven Auxiliary Feedwater System
- AR 00811738, Filter Differential Pressure in ITS Section 5.5.9 (Ventilation Test Program) is Not Consistent with Supporting Calculations
- AR 00835576, Remove Unnecessary Sign-offs in CTS Surveillances
- Model Work Order 55270461, 2-XSO-258 TDAFW Post Maintenance Testing for 2-FRV-258
- Work Order 55227808; Calibrate Protective Relays for Breaker 2-T21D11, September 3, 2008
- Work Order 55234088, Perform Full Preventive Maintenance on 2-FMO-232, September 3, 2008
- Work Order 55234089; Perform Preventive Maintenance on 2-FMO-222, September 3, 2008
- Work Order 55326190, Replace Charcoal Bed in Engineered Safeguards Ventilation Fan 1 - HV-AES-2, August 27, 2008
- Work Order 55328170, West Diesel Driven Fire Pump PP-145W, September 21, 2008

1R20 Outage Activities

- 2-OHP-4021-001-003, Power Reduction, Revision 34
- 2-OHP-4021-050-001, Turbine Generator Normal Startup and Operation, Revision 23
- 2-OHP-4021-056-002, Auxiliary Feed Pump Operation, Revision 18
- 2-OHP-4021-001-002, Reactor Start-Up, Revision 38
- 2-OHP-4021-001-006, Power Escalation, Revision 35
- Work Request 06364335, AL Intercept Valve is Cycling Hard During Turbine Rollup, August 17, 2008
- Work Request 06364336, "C" Right Reheat Stop Valve Moved Too Slow During Reset, August 17, 2008
- Work Request 06364337, Main Turbine Control Valve (2-OME-90-LI) Broke
- Work Request 06364333, U2 W FPT Stop Valves Do Not Stay Open When Resetting, August 16, 2008
- Work Request 06364390, Replace 2 Servo Valves on U2 EMFP Control Valves, August 18, 2008
- Work Request 06364351, Replace Servo Filter and Retain Old For Off-Site Analysis, August 18, 2008
- Work Request 06364495, Unexpected Control Room Alarm, August 20, 2008

- Work Request 06364497, Unit 2 LP Turbine #6 Intercept Valve Failed To Open, August 20, 2008
- AR 08229027, Reheat Stop Valve #5 Position Indication Failure
- AR 08229026, U2 Main Turbine Bearing Vibration 1X Spiked High After Turbine Trip
- AR 08229006, Unexpected Control Room Alarm

1R22 Surveillance Testing

- 1-IHP-4030-SMP-115, Steam Generator Level Protection Set I Channel Operational Test and Calibration, Rev. 6, August 25, 2006
- 1-IHP-4030-SMP-116, Steam Generator Level Protection Set II Channel Operational Test and Calibration, Rev. 6, August 25, 2006
- 1-OHP-4030-102-016, Reactor Coolant System Leak Rate Test, September 18, 2008
- 1-OHP-4030-108-051S, South Safety Injection Pump System Test, Revision 4, September 8, 2008
- 2-OHP-4030-202-016, Reactor Coolant System Leak Rate Test, September 18, 2008
- 2-OHP-4030-214-049, Hot Shutdown Panel Operability Test, Revision 6, July 26, 2006
- AR 00822720, 1-MRV-223 Failed Open
- AR 00829668, Monthly Surveillance on 1-BATT-AB
- AR 00834997, Bistable LB-549A Out of Tolerance
- AR 08200039, Testing Inadequate for Work Scope Change
- AR 08205045, The SG PORV Did Not Show Fully Closed at the HSD Panel
- AR 08205047, Need to Track Surveillances for the Failure of 2-MRV-243
- PMI-5071, In-Service Testing, Revision 3, February 6, 2007
- Work Request 06363895, PORV Will Not Open From the HSD Panel

1EP6 Drill Evaluation

- EMD-32a, Michigan State Police, Nuclear Plant Event Notification, July 29, 2008, Drill
- PMP-2080-EPP-101, Emergency Classification, Revision 12

2OS3 Radiation Monitoring Instrumentation and Protective Equipment

- 12-THP-6010-RPC-810, Eberline Radiation Monitoring System Channel Restoration, Revision 9
- 12-THP-6010-RPC-593, Calibration of the Eberline PM-7 Portal Monitor, Revision 02
- 1-THP-6030-IMP-311, Calibration Record for the High Range Containment Radiation Monitor VRA-1310, August 2006
- 12-THP-6010-RPC-513, Calibration of the Eberline Model RO-7 Survey Meter, Revision 4
- 12-THP-6010-RPC-534, Calibration of the Canberra Fastscan Whole Body Counter, Revision 3
- 12-THP-6010-RPC-555, Calibration of the MGP Model AMP-100 High Range Area Monitor, Revision 0
- 12-THP-6010-RPI-500, Instrument Issue and Operational Testing, Revision 23
- 12-THP-6010-RPI-805, Radiation Monitoring System Setpoint Determination, Revision 24
- 12-THP-6010-RPP-007, Radiation protection Technical Bases for the Establishment of Set-Points for Automated Free Release Monitors for personnel, Equipment and Components, 2006 and 2008
- 12-THP-6010-RPP-211, Operation of the Canberra Fastscan Whole Body Counter, Revision 6
- THG-038 Source Check Guidelines, Revision 9
- MSA Certified CARE Technician Training Certificates for various D.C. Cook staff, 2006 - 2008

- NAVLAP Certificate of Accreditation, Global Dosimetry Solutions, Effective dates 2008 through 2009
- SCBA Bottle Air Compressor Breathing Air Quality Test Data Sheets, various periods in 2006 through 2008
- SCBA Regulator Calibration Data Sheets (ProCheck3 Test Results) for numerous SCBA Units, various periods in 2006 – 2008
- AR 0820758, 12-THP-6010-RPP-701 Response to Dosimeter Use Problems
- AR 0825652, NRC Radiation Monitoring Instrumentation and Protective Equipment Inspection – Self Contained Breathing Apparatus
- AR 0828715, Time Pressure Leads to Inaccurate Report Submittal
- AR 00834459, Respiratory Qualification Card Error
- DC Cook Audit of Global Dosimetry Solutions, Inc., December 2005
- Eberline PM-7 Calibration Data Sheets, January 2008
- Calibration Record for Channels 2-ERS-2301/2401, Unit 1/2 Containment Building Continuous Air Monitor Beta Detectors, 2006/2007
- APTEC PMW-3 Personnel Monitor Calibration Data Sheets, March 2008

4OA1 Performance Indicator Verification

- 12-THP-6020-CHM-101, Reactor Coolant System, Revision 23
- 12-THP-6020-CHM-109, Chemical and Volume Control System, Revision 17
- 12-THP-6020-INS-026, Gamma Spectrometry System, Revision 4
- 1-OHP-4030-114-030, Daily and Shiftly Surveillance Checks, Data Sheet 10 from January 2008 to June 2008
- 2-OHP-4030-214-030, Daily and Shiftly Surveillance Checks, Data Sheet 10 from January 2008 to June 2008
- Basis for RCS DDOSEQ I-131 Determination Values, August 2004
- Nuclear Energy Institute 99-02, Regulatory Assessment Performance Indicator Guideline, Revision 5
- PMP-7110-PIP-001, Data Sheet 11, Reactor Coolant System Leakage for 1st Quarter 2008 and 2nd Quarter 2008 for Units 1 and 2
- PMP-7110-PIP-001, Regulatory Oversight Program Performance Indicators and Monthly Operating Report Data, Reactor Coolant System Specific Activity and RETS/ODCM Radiological Effluent Occurrences, Revision 11
- PMP-7110-PIP-001, Regulatory Oversight Program Performance Indicators and Monthly Operating Report Data, Revision 11
- Reactor Coolant System Identified Leak Rate (RCSL) from October 2006 to December 2007 for Units 1 and 2
- Unit 1 and Unit 2 Control Room Logs, July 1, 2007 through July 30, 2008

4OA2 Problem Identification and Resolution

- AR-00826051, SDG- 2 Output Breaker Tripped Open and Then Diesel Tripped
- Work Order 55314208-01, WR To Replace SDG-1 CT Wiring, February 22, 2008
- Drawing W12, DC Cook Nuclear Power Plant, Generator 52G1-AC Instrumentation 4.16 kV Utility/Generator Paralleling Switchgear, Revision 3.1
- Drawing W13, DC Cook Nuclear Power Plant, Generator 52G1-Controls 4.16 kV Utility/Generator Paralleling Switchgear, Revision 3.1
- Drawing W14, DC Cook Nuclear Power Plant, Generator 52G1- CB Interface 4.16 kV Utility/Generator Paralleling Switchgear, Revision 3.1

- Drawing W16, DC Cook Nuclear Power Plant, Generator 52G1- Protective Controls 4.16 kV Utility/Generator Paralleling Switchgear, Revision 3.1
- AR 00825699, Two NESW pumps auto-started concurrent with NESW Backwash
- WOP 55311015, 1-WRV-970 Needs to be Replaced
- AR 00825512, Elevated Vibrations on Main Turbine bearings 5Y and 6Y
- PMP-4010-TRP-001, Unit One Reactor Trip Review Report, Data Sheet 1, Revision 8
- WOP 55313226-03, Elevated Vibrations on Main Turbine
- AR-00813552, SDG- 2 Output Breaker 12-52-G2 Tripped Open
- Work Order 55296470-04, SDG-2 Output Breaker 12-52-G2 Tripped, May 15, 2007
- Work Order 55313712-09, 12-SDG-2 Output Breaker Tripped, February 11, 2008

40A3 Followup of Events and Notices of Enforcement Discretion

- 10 CFR 50.55a Relief Request No. ISIR-22, Proposed Alternative to the ASME Code, Section XI Repair Requirements April 26, 2008
- 12-QHP-5050-NDE-001, Liquid Penetrant Examination, Revision 6
- 12-QHP-5050-NDE-005, Visual Weld and Brazing Examination, Revision 2
- 12-QHP-5050-NDE-006, Visual Examinations VT-1 and VT-3, Revision 3
- 1-OHP-4021-011-001, At-Power Operation Including Load Swings, Revision 23
- 1-OHP-4021-020-001, Filling and Venting of Non-Essential Service Water System, Revision 17
- 1-OHP-4022-001-006, Rapid Power Reduction Response, Revision 6
- 1-OHP-4024-DCS-MT, DCS Annunciator Response: Main Turbine, Revision 5
- 1-OHP-4030-114-010, Containment Isolation, Revision 4
- 2-OHP-4030-214-010, Containment Isolation, Revision 3
- AE-C-DLA07, Skid Row, Revision 0
- AR 00830610, Thru Wall Leak on Piping Upstream of 1-NFP-222-V2
- AR 00834856, 1-NSW-426-1 Found Out of Normal Position
- ASME Code Case N-666, Weld Overlay of Class 1, 2, and 3 Socket Welded Connections Section XI, Division 1, April 18, 2006
- Control Room Power Log Report, Reactor Coolant System Unit 1, April 25, 2008
- NRC SER for Relief Request No. ISIR-22, Weld Overlay of Socket Weld on Reactor Coolant System Piping, June 26, 2008
- OHI-4000, Conduct of Operations: Standards, Revision 38
- OP-1-5114A-26, Flow Diagram Non-Essential Service Water, Revision 26
- PMP-4043-ICV-001, Independent and Concurrence Verification, Revision 2
- PMP-4043-SLV-001, Sealed/Locked Valves, Revision 21
- PMP-4043-VLU-001, Valve Lineups and Position Control, Revision 5
- Power Log Report from July 14 to 15, 2008

40A5 Other Activities

- PMP-4010-OWA-001, Oversight and Control of Operator Burden, Revision 4
- Unit 1 and Unit 2 Contingency/Compensatory Actions
- AR 00802001, Rising Pressure in Unit 2 Stator Cooling Water Tank
- Work Order 55289149, Repair / Replace Valve 2-SCS-171 Due to Suspected Leak By, September 24, 2007
- Work Order 55289150, Repair / Replace Valve 2-H-159 Due to Suspected Leak By, September 26, 2007
- AR 0027942; Weld Overlay 1-PRZ-23 Not Included
- UT Report 2-PRZ-21-NDE-175-00; 2-PRZ-21 Base Material, dated April 20, 2006

- UT Report 2-PRZ-21-NDE-330-00; 2-PRZ-21 Spray Nozzle Weld Overlay, dated April 19, 2006
- Drawing 02-5073288B; North Anna 6" Pipe Segment Reference Block; Revision 4
- Drawing 6039004B; UT Probe 8" Reference Block; Revision 3
- Drawing 6039007B; UT Probe 14" Contour Reference Block; Revision 3
- Drawing 6039009B; UT Probe 6" Contour Reference Block; Revision 3
- Drawing 8012981D; Spray Nozzle Weld Overlay Repair; Revision 3
- Nonconformance Report 2006-1551, Weld Overlay Heat Input Violation; April 3, 2006
- Nonconformance Report 2006-1621; As-Found Base Material Thickness, April 6, 2006
- Nonconformance Report 2006-1548; As-Found Base Material Thickness, April 7, 2006
- Certified Mill Test Report No 05973601, Lot No. NX4720, March 1, 2006
- NRC Letter (ADAMS ML0704601210), Donald C. Cook Nuclear Plant, Unit 2- Alternative Regarding Use of Preemptive Weld Overlays on Certain Dissimilar Metal Welds, March 1, 2007
- Certified Mill Test Report No 13632, Lot No. NX3609, March 9, 2006
- Procedure 54-ISI-838-06; Manual Ultrasonic Examination of Weld Overlaid Similar and Dissimilar Metal Welds; April 16, 2006
- Weld Procedure Specification, WP3/8/43/F43OLTBSCa3-005; March 17, 2006
- Procedure Qualification Record, PQ5394-01; February 8, 2002
- Welder Certification Record; Welder V9349; September 20, 2002
- Welder Certification Record; Welder W4284, April 17, 2003
- Procedure Qualification Record, PQ7164-03; May 23, 2003
- Weld Procedure Specification, WP43/43/F43AW1-06; May 27, 2003
- Procedure Qualification Record, PQ7072-03; December 5, 2003
- Procedure Qualification Record, PQ7213-00; December 15, 2003
- Welder Certification Record; Welder D4992; April 16, 2004
- Procedure Qualification Record, PQ7183-03; May 8, 2004
- UT Summary 008000, 2-PRZ-21, October 23, 2004
- UT Certification Records, W Holloway, October 5, 2005
- Welder Certification Record; Welder S0524, February 14, 2006
- Welder Certification Record; Welder C0378; March 3, 2006
- Welder Certification Record; Welder L1496, March 3, 2006
- Welder Certification Record; Welder M8652, March 3, 2006
- Weld Traveler 50-9007639; April 10, 2006
- Weld Overlay Repair Profile and Thickness Sheet; April 15, 2006
- Weld Overlay Repair Scan Plan and Data Sheet; April 17, 2006
- UT Calibration Sheet PRZ-21-CS06, April 18, 2006
- UT Calibration Sheet PRZ-21-CS11, April 18, 2006
- UT Calibration Sheet PRZ-21-CS04, April 18, 2006
- UT Calibration Sheet PRZ-21-CS03, April 18, 2006
- UT Calibration Sheet PRZ-21-CS05, April 18, 2006
- UT Certification Records, A. Conti, April 18, 2006
- Welder Certification Record; Welder K0288, April 22, 2006
- UT Report 2-PRZ-21-NDE-330-01, 2-PRZ-21 Nozzle Base Material, dated April 19, 2006
- UT Report 2-PRZ-21-NDE-180-00, 2-PRZ-21 Thickness, dated April 19, 2006
- Unit 1 and Unit 2 Operator Burden Report, September 2, 2008 and August 5, 2008
- Control Room Deficiencies, September 5, 2008

LIST OF ACRONYMS USED

ADAMS	Agency Documents Access and Management System
AR	Action Request
ASME	American Society of Mechanical Engineers
CCW	Component Cooling Water
CEDE	Committed Effective Dose Equivalent
IST	In-Service Test
CFR	Code of Federal Regulations
CR	Condition Report
DBA	Design Basis Accident
DMBW	Dissimilar Metal Butt Welds
EPRI	Electric Power Research Institute
IMC	Inspection Manual Chapter
LCO	Limiting Condition for Operation
LER	Licensee Event Report
MRP	Materials Reliability Program
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NESW	Non-Essential Service Water
NRC	U.S. Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
PARS	Publicly Available Records
PDI	Performance Demonstration Initiative
PI	Performance Indicator
RCS	Reactor Coolant System
RETS	Radiological Effluent Technical Specification
SCBA	Self-Contained Breathing Apparatus
SIT	Special Inspection Team
TI	Temporary Instruction
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
UT	Ultrasonic Examination