



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

April 30, 2009

Mr. Dennis R. Madison
Vice President
Southern Nuclear Operating Company, Inc.
Edwin I. Hatch Nuclear Plant
11028 Hatch Parkway North
Baxley, GA 31513

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT - NRC INTEGRATED INSPECTION
REPORT 05000321/2009002, 05000366/2009002

Dear Mr. Madison:

On March 31, 2009, U. S. Nuclear Regulatory Commission (NRC) completed an inspection at your Edwin I. Hatch Nuclear Plant, Units 1 and 2. The enclosed integrated inspection report documents the inspection results, which were discussed on April 14, 2009, with yourself and other members of your staff.

The 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.

The enclosed inspection report documents two NRC-identified findings and one self-revealing finding all of which were determined to involve violations of NRC requirements. Additionally, licensee-identified violations which were determined to be of very low safety significance are listed in this report. However, the NRC is treating these violations as non-cited violations (NCVs) consistent with Section VI.A.1 of the NRC Enforcement Policy because of the very low safety significance of the violations and because they are entered into your corrective action program. If you contest any of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis of your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington DC 20555-0001; and the NRC Resident Inspector at the Hatch Nuclear Plant. In addition, if you disagree with the characterization of any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region II, and the NRC Resident Inspector at the Hatch Nuclear Plant. The information you provide will be considered in accordance with Inspection Manual Chapter 0305.

SNC

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

Sincerely,

/RA/

Scott M. Shaeffer, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Docket Nos.: 50-321, 50-366
License Nos.: DPR-57 and NPF-5

Enclosures: Inspection Report 05000321/2009002, 05000366/2009002
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

SNC

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Letter to Dennis R. Madison from Scott M. Shaeffer dated April 30, 2009

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT - NRC INTEGRATED INSPECTION
REPORT 05000321/2009002, 05000366/2009002

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.: 50-321, 50-366

License Nos.: DPR-57 and NPF-5

Report Nos.: 05000321/2009002, 05000366/2009002

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Edwin I. Hatch Nuclear Plant

Location: Baxley, Georgia 31513

Dates: January 1 - March 31, 2009

Inspectors: J. Hickey, Senior (Sr.) Resident Inspector
P. Niebaum, Resident Inspector
C. Rapp, Sr. Project Engineer
L. Lake, Sr. Reactor Inspector (Section 1R08)
A. Nielsen, Health Physicist (Sections 2OS2, 2OS3, 4OA1)
G. Kuzo, Sr. Health Physicist (Section 2PS2)
D. Forbes, Health Physicist (Section 2OS1)

Accompanying Personnel: J. Foster, Health Physicist

Approved by: Scott M. Shaeffer, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000321/2009-002, 05000366/2009-002; 01/01/2009-03/31/2009; Edwin I. Hatch Nuclear Plant, Units 1 and 2, Plant Modifications, Surveillance Testing, Radiation Monitoring Instrumentation

The report covered a three-month period of inspection by resident inspectors, a senior project engineer, a reactor inspector, and three health physics inspectors. Three Green non-cited violations were identified. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 0609, Significance Determination Process (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, Reactor Oversight Process (ROP), Revision 4, dated December 2006.

Cornerstone: Mitigating Systems

- Green. An NRC-identified NCV of 10 CFR Part 50 Appendix B, Criterion XI, Test Control was identified for preconditioning of the Turbine Building Plant Service Water (PSW) Isolation Valves. A maintenance work order stoked the valves several times prior to performing the documented stroke time testing.

This finding is more than minor because if left uncorrected the finding had the potential to lead to a more significant safety concern in that other safety-related valve performance deficiencies could have been masked. In accordance with NRC Inspection Manual Chapter 0609, Significant Determination Process, the inspectors performed a Phase 1 analysis and determined the finding was of very low safety significance (Green) because the finding did not result in a loss of safety function. The finding has an associated cross-cutting aspect in the area of Problem Identification & Resolution. Specifically as it relates to implementation of Operating Experience (OE) because the licensee has reviewed prior OE describing unacceptable preconditioning, but failed to recognize preconditioning and prevent it prior to performing work associated with the maintenance work order [P.2.b]. (Section 1R22)

Cornerstone: Barrier Integrity

- Green. A self-revealing NCV of 10 CFR Part 50 Appendix B, Criterion V, Instructions, Procedures, and Drawings, was identified because workers did not properly follow the work instructions during a core drilling activity which resulted in a breach of secondary containment. A maintenance worker missed the containment box designed to maintain secondary containment integrity during core drilling to support a plant modification.

The finding is more than minor because it adversely impacted the Configuration Control Attribute of the Barrier Integrity Cornerstone. The improper core drill caused secondary containment to become inoperable. In accordance with NRC Inspection

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Manual Chapter 0609, Significant Determination Process, the inspectors performed a Phase 1 analysis and determined the finding was of very low safety significance (Green) because the finding only affected secondary containment. The finding has an associated cross-cutting aspect in the area of Human Performance. Specifically, work practices as it relates to use of human error prevention techniques commensurate with the risk of the assigned task. The workers mistakenly measured the drill location from two different reference points above and below the floor [H.4.a]. (Section 1R18)

Cornerstone: Occupational Radiation Safety

- Green. The inspectors identified a Green non-cited violation (NCV) of TS 5.4, Procedures, for failure to provide training to users of Powered Air-purifying Respirator (PAPR) type respiratory protection devices as required by procedure 10AC-MGR-026-0, Respiratory Protection Program, revision 1.0. The licensee has entered this issue into the Corrective Action Program as Condition Report 2009102825.

This finding is greater than minor because it is associated with the Occupational Radiation Safety Cornerstone attribute of Human Performance (Training) and adversely affects the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. The finding was evaluated using the Occupational Radiation Safety SDP and determined to be of very low safety significance (Green). The finding was not related to ALARA planning, nor did it involve an overexposure or substantial potential for overexposure, and the ability to assess dose was not compromised. This finding involved the cross-cutting aspect of Human Performance, Resources [H.2.b] because there was no formal training program provided to users of PAPR type respiratory protection devices. (Section 2OS3)

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 actions are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Unit 1 operated at or near 100% Rated Thermal Power (RTP) for the entire inspection period.

Unit 2 began the inspection period at 100% RTP and entered a refueling outage on February 9, 2009 which continued at the end of the inspection period.

1. **REACTOR SAFETY**

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather

a. Inspection Scope

Seasonal Readiness Review. The inspectors performed a seasonal review of licensee cold weather preparations. The inspectors reviewed licensee procedure DI-OPS-36-0989, Cold Weather Checks, and walked down the completed portions of the procedure. In addition, the inspectors reviewed the Technical Specifications (TS), Final Safety Analysis Report (FSAR) and drawings D-11001 and H-21033 to verify the following four systems would remain operable during cold weather. The inspectors reviewed CR: 2009100471 to verify the licensee was identifying and correcting problems.

- Intake Traveling Water Screens
- Plant Service Water Pumps
- Residual Heat Removal (RHR) Service Water Pumps
- Emergency Diesel Generators (EDG)

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

a. Inspection Scope

Partial System Walkdowns. The inspectors performed partial walkdowns of the following three systems when the opposite trains were removed from service or following maintenance. The inspectors checked system valve positions, electrical breaker positions, and operating switch positions to evaluate the operability of the opposite trains or components by comparing the position listed in the system operating procedure to the actual position. Documents reviewed are listed in the Attachment.

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- Unit 2 'A' EDG while the Unit 2 'C' EDG was out of service for maintenance
- Unit 2 'B' train of Core Spray while the Unit 2 'A' train was out of service for maintenance
- Unit 2 'A' EDG upon return to service following maintenance

Complete System Walkdown. This inspection sample was completed using the guidance listed in Operating Experience Smart Sample FY2009-02. The inspectors performed a complete walkdown of the following system. The inspectors performed a detailed check of valve positions, electrical breaker positions, and operating switch positions to evaluate the operability of the system or components by comparing the required position in the system operating procedure to the actual position. The inspectors also interviewed personnel and reviewed control room logs to verify that alignment and equipment discrepancies were being identified and appropriately resolved. Documents reviewed are listed in the Attachment.

- Unit 1 High Pressure Coolant Injection (HPCI) System

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

Fire Area Tours. The inspectors toured the following four risk significant plant areas to assess the material condition of the fire protection and detection equipment, verify fire protection equipment was not obstructed and that transient combustibles were properly controlled. The inspectors reviewed the Fire Hazards Analysis drawings H-11846 and H-11847 to verify that the necessary fire fighting equipment, such as fire extinguishers, hose stations, ladders, and communications equipment, was in place. Documents reviewed are listed in the Attachment.

- Control Building Gen. Area 112'
- AC Inverter Rooms CB 112'
- East cableways 130'
- Cable Spreading Room 147'

Fire Drill Observation. The inspectors observed a fire drill conducted on January 12. The inspectors reviewed licensee procedure 34AB-X43-001-1, Fire Procedure, and the drill scenario to verify proper response of the on-shift fire brigade to a simulated fire. The inspectors checked proper use of protective clothing, self contained breathing apparatus, fire fighting equipment, fire pre-plans, proper fire fighting strategy including smoke removal and fire propagation checks, communications, command and control, and coordination with offsite fire company support. In addition, the inspectors attended the post-drill critique to assess if the licensee identified performance issues were comparable to those identified by the inspectors.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance

a. Inspection Scope

Annual Resident Review. The inspectors reviewed the results of the licensee inspection of the 2A RHR heat exchanger. The inspectors verified implementation of licensee procedure 52PM-E11-009-0, RHR Heat Exchanger Preventive Maintenance. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R08 Inservice Inspection (ISI) Activities

Non-Destructive Examination (NDE) Activities and Welding Activities. The inspectors observed and reviewed the implementation of the licensee's In-service Inspection (ISI) program for monitoring degradation of the reactor coolant system (RCS) boundary and risk-significant piping boundaries of Hatch Unit 2 during refueling outage 2R20. The inspectors' activities consisted of an on-site review of NDE and welding activities to evaluate compliance with TSs and the applicable edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Sections XI (Code of record: 2001 Edition through the 2003 Addenda), for Class 1, 2, and 3 systems; and to verify that indications and defects (if present) were appropriately evaluated and dispositioned in accordance with the requirements of the Section XI acceptance standards. For Unit 2, this was the second outage of the first period of the fourth interval. The inspectors also reviewed a sample of inspection activities associated with components that are outside the scope of ASME Section XI requirements which are performed in accordance with commitments to follow industry guidance documents, such as the Boiling Water Reactor Vessel and Internals Project (BWRVIP).

The inspectors reviewed NDE activities, specifically including examination procedures, NDE reports, equipment and consumables certification records, personnel qualification records, and calibration reports for compliance to requirements of ASME Section V, ASME Section XI, BWRVIP documents, and other industry standards for the following examinations:

- Phased Array UT examinations of weld 2B31-1RC-28B-1, ASME Class 1, Safe-End to Nozzle weld for RPV nozzle N1B
- Ultrasonic Examination of Weld 2C11-CRD-8s-SDV-1, ASME Class 1, Tee to pipe weld
- Ultrasonic Examination of Weld 2B11-2NIA-IR, ASME Class 1, Shell to Nozzle weld

The inspectors conducted a Unit 2 Torus Room walkdown to assess the general material condition of structures, systems, and components which included leaks from bolted connections, coating integrity, cleanliness, hangers and supports.

The inspectors reviewed the welding activity listed below in order to evaluate compliance with procedures and the ASME Code. The inspectors reviewed the work order, repair and replacement plan, weld data sheets, welding procedures, procedure qualification records, welder qualification records, and NDE reports.

- Welding Package for Work Order #2081711104, Installation of vent valve in RHR System piping above Unit 2 RHR "A" Heat Exchanger.

Reactor Vessel Internal Inspections. The inspectors reviewed the following NDE activities associated with the inspection of Reactor Vessel internal components (Boiling Water Reactors Vessel Internals Project): VT-3 of Jet Pump sensing line clamps. The inspectors also observed activities related to the modifications and installation of new Tie Rods for the RPV Core Shroud to address original tie rod design weaknesses identified during review of stress calculations. The replacement activities included underwater visual examinations and mechanical manipulation of parts.

- EVT-1 of welds and related indications to determine if they are new indications or had increased in size.
- VT-3 of Core Plate holddown bolts
- As Found VT-3 of original Tie Rods (before replacement).

Identification and Resolution of Problems. The inspectors completed a review of ISI-related problems that were identified by the licensee and entered into the corrective action program. The inspectors reviewed these corrective action documents to confirm that the licensee had appropriately described the scope of the problems, and had implemented appropriate corrective actions. The inspectors' review included confirmation that the licensee had an adequate threshold for identifying issues. Through interviews with licensee staff and review of corrective action documents, the inspectors evaluated the licensee's threshold for identifying lessons learned from industry issues related to ASME Section XI. The inspectors performed these reviews to ensure compliance with 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requirements. The corrective action documents reviewed by the inspectors are listed in the report Attachment.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

Resident Quarterly Observation. The inspectors observed the performance of licensee simulator scenario LT-SG-50441-02, which included a plant transient associated with the new Adjustable Speed Drive (ASD) system that replaced the Recirculation Pumps Motor-Generator sets. During the scenario, a runback of the ASD occurred which required the operators to insert control rods and exit the Immediate Exit region and the Region of Potential Instabilities as defined on the Power-to-Flow map. The inspectors reviewed licensee procedures 10AC-MGR-019-0, Procedure Use and Adherence, and DI-OPS-59-0896, Operations Management Expectations, to verify formality of communication, procedure usage, alarm response, control board manipulations, group dynamics, and supervisory oversight. The inspectors attended the post-exercise critique of operator performance to assess if the licensee identified performance issues were comparable to those identified by the inspectors. In addition, the inspectors reviewed the critique results from previous training sessions to assess performance improvement.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the following two samples associated with structures, systems, and components to assess the licensee's implementation of the Maintenance Rule (10 CFR 50.65) with respect to the characterization of failures and the appropriateness of the associated (a) (1) or (a) (2) classification. The inspectors reviewed operator logs, associated CRs, Maintenance Work Orders (MWOs), and the licensee's procedures for implementing the Maintenance Rule to determine if equipment failures were being identified, properly assessed, and corrective actions established to return the equipment to a satisfactory condition. Documents reviewed are listed in the Attachment.

- Unit 2 EDGs
- Unit-1 and 2 Standby Liquid Control Systems

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed the following three Plan of the Day (POD) documents listed below to verify that risk assessments were performed prior to components being

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removed from service. The inspectors reviewed the risk assessment and risk management controls implemented for these activities to verify they were completed in accordance with licensee procedure 90AC-OAM-002-0, Scheduling Maintenance, and 10 CFR 50.65 (a)(4). For emergent work, the inspectors assessed whether any increase in risk was promptly assessed and that appropriate risk management actions were implemented.

- January 10 through January 16, Replacement of the 'B' Traveling Water Screen, Denergized 500kV Bus #2 for repairs and 2C EDG out of service for maintenance
- March 14 through March 20, High River level and 1R24-S018A, Low Pressure Coolant Injection (LPCI) Motor Control Center (MCC) on alternate power source
- January 17 through January 23, Unit-1 Scram Outlet Valve Seat Leakage Test, Unit-1 Reactor High Water Level Functional Test and Calibration, Unit-2 2R42S029 Battery Capacity Test

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following eight operability evaluations and compared the evaluations to the system requirements identified in the TS and the FSAR to ensure operability was adequately assessed and the system or component remained available to perform its intended function. Also, the inspectors assessed the adequacy of compensatory measures implemented as a result of the condition. Documents reviewed are listed in the Attachment.

- Unit 1 HPCI High Oil Reservoir Level
- Unit 2 'C' EDG high axial vibration on OB generator bearing
- Unit 2 EDG Loss of Cooling Accident (LOCA) /Loss of Offsite Power (LOSP) Timer Card failures
- Unit 2 Cooldown rate exceeded 100F in an hour during vessel fill up using CS pumps
- Battery Lid Cracking Repair Methodology
- Main Control Room Expansion Joint Leakage
- Unit 2 HPCI low Condensate Storage Tank level switch mounting configuration
- Unit 2 HPCI Suction Line insulation removal

b. Findings

No findings of significance were identified.

1R18 Plant Modificationsa. Inspection Scope

The inspectors reviewed the following two plant modifications to ensure that safety functions of important safety systems have not been affected. Also, the inspectors verified that the design bases, licensing bases and performance capability of risk significant structures, systems and components have not been degraded through modifications. The inspectors verified that any modifications performed during increased risk-significant configurations did not place the plant in an unsafe condition. Documents reviewed are listed in the Attachment.

Permanent Plant Modifications

- DCP 2040048501 Replacement of the Unit-2 Recirculation Pump Motor Generator Sets with Solid State Adjustable Speed Drives
- DCP 2071587001 Non-interruptible Instrument Air Supply to Turbine Building Exhaust

b. Findings

Introduction. A self-revealing NCV of 10 CFR Part 50 Appendix B, Criterion V, Instructions, Procedures, and Drawings, was identified because workers did not properly follow the work instructions during a core drilling activity which resulted in a breach of secondary containment. A maintenance worker missed the containment box designed to maintain secondary containment integrity during core drilling to support a plant modification.

Description. Design Change Package 2071587001, Non-interruptible Instrument Air Supply to Turbine Building Exhaust, provided guidance to drill a four-inch hole between the Reactor Building Ventilation Room floor and the Standby Gas Treatment room. MWO 2071587001 directed the worker to install a temporary containment box below the core drilling location to maintain secondary containment integrity. Work instructions included in the MWO specified two reference points for measurement of the drilling location. However, workers performing the core drill incorrectly measured the drilling location from reference points specified in the MWO. The control room was notified that the core drill had missed the containment box. The control room declared secondary containment inoperable and directed that actions be taken to plug the breach. A plug was installed and a danger tag placed on the plug. Following a successful Secondary Containment Drawdown test in accordance with licensee procedure 34SV-T22-001-0, Secondary Containment Test, the secondary containment was declared operable.

Analysis. The inspectors determined this finding is more than minor because it adversely impacted the Configuration Control Attribute of the Barrier Integrity Cornerstone. The improper core drill caused secondary containment to become inoperable. In accordance with NRC Inspection Manual Chapter 0609, Significant Determination Process, the inspectors performed a Phase 1 analysis and determined the finding was of very low safety significance (Green) because the finding only affected

Enclosure

secondary containment. The finding has an associated cross-cutting aspect in the area of Human Performance. Specifically, work practices as it relates to use of human error prevention techniques (inadequate peer checks) commensurate with the risk of the assigned task [H.4.a]. The workers mistakenly measured the drill location from two different reference points above and below the floor.

Enforcement. 10 CFR Part 50 Appendix B, Criterion V, Instructions, Procedures, and Drawings, states in part that activities affecting quality shall be prescribed by documented instructions appropriate to the circumstances and shall be accomplished in accordance with these instructions. Contrary to this, on February 6, 2009, the workers performing a drilling activity did not properly follow the work instructions for a core drill which resulted in a breach of secondary containment. Because this finding is of very low safety significance and because it was entered in the licensee's corrective program as CR 2009100958, this violation is being treated as an NCV consistent with Section VI.A.1 of the NRC Enforcement Policy: NCV 05000366/2009002-01, Improper Core Drill Location Results in Secondary Containment Inoperability.

1R19 Post Maintenance Testing

a. Inspection Scope

For the following four post maintenance tests, the inspectors reviewed the test scope to verify the test demonstrated the work performed was completed correctly and the affected equipment was functional and operable in accordance with TS requirements. The inspectors also reviewed equipment status and alignment to verify the system or component was available to perform the required safety function. Documents reviewed are listed in the Attachment.

- 2A Plant Service Water (PSW) pump/motor replacement
- 2C EDG coupling replacement
- 1B EDG LOCA /LOSP timer card replacement
- 2T48F326 Outboard Torus Vent Valve Repair

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities

.1 Unit-2 Refueling Outage

a. Inspection Scope

The inspectors reviewed the licensee's shutdown risk monitoring program and the outage schedule to verify the licensee's use of risk management techniques, incorporation of operating experience, and past lessons learned for the refueling outage beginning February 9. Additionally, the inspectors reviewed the shutdown safety

assessment to verify the licensee had contingency plans and these plans included sufficient equipment to maintain a defense-in-depth approach to safety. The inspectors routinely verified the licensee was correctly maintaining required equipment in service in accordance with the overall outage safety assessment. During the refueling outage, the inspectors monitored licensee control over the outage activities listed below. Documents reviewed are listed in the Attachment.

- Reactor Coolant System cooldown following shutdown
- 5 clearances to verify implementation of the clearance process and the associated equipment was properly configured to support the function of the clearance
- Fuel movement
- TS and licensee procedures to verify mode change requirements were met
- Walkdown of the torus proper and other areas to verify material conditions supported plant operations
- Shutdown Margin determination
- Licensee identification and resolution of problems related to outage activities

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed licensee surveillance test procedures and either witnessed the test or reviewed test records for the following eight surveillances to determine if the scope of the test adequately demonstrated the affected equipment was operable. The inspectors reviewed these activities to assess for preconditioning of equipment, procedure adherence, and equipment alignment following completion of the surveillance. The inspectors reviewed licensee procedure AG-MGR-21-0386, Evolution and Pre-and Post-Job Brief Guidance, and attended selected briefings to determine if procedure requirements were met. Documents reviewed are listed in the Attachment.

Surveillance Tests

- 42SV-R43-018-2S, Diesel Generator 2A Logic System Function Test
- 34SV-SUV-016-2, Unit-2 Cold Shutdown Valve Operability
- 57CP-CAL-013-1, 1P41-N575 River level Instrument Calibration
- 52SV-R42-001-1, Battery Pilot Cell Surveillance
- 34SV-SUV-013-0, Weekly Breaker Alignment Checks

Primary Containment Valve Isolation Test

- 42SV-TET-001-0, Unit-2 Main Steam Isolation Valves Local Leak Rate Tests

Reactor Coolant Leakage Test

- 34SV-SUV-019-2, Unit-2 Drywell Floor-drain Leakage Surveillance Checks

In-Service Test

- 34SV-E41-002-1, Unit 1 HPCI Pump Operability

b. Findings

Introduction. An NRC-identified NCV of 10 CFR Part 50 Appendix B, Criterion XI, Test Control, was identified for preconditioning of the Turbine Building Plant Service Water (PSW) Isolation Valves. A maintenance work order stroked the valves several times prior to performing the documented stroke time testing.

Description. MWO 2050512405 stroked the four Turbine Building PSW Isolation Valves on February 9 prior to verification of the valves being able to satisfy their automatic isolation function per 42SV-R43-016-2 and prior to the documented stroke time testing per surveillance procedure 34SV-SUV-016-2. The MWO description states that Engineering recommends stroking these valves multiple times under flow conditions to remove possible buildup on the valves discs. By cycling these valves as part of the MWO, there was potential to mask an actual as-found condition of the valves and possibly an inability to verify valve operability. The activity to remove the buildup on the valve discs prior to performing the automatic isolation test procedure could make it difficult to determine whether the turbine building PSW isolation valves would perform their isolation function during an event. The inspectors considered the manner in which these valves were cycled multiple times unacceptable preconditioning of the Turbine Building PSW Isolation Valves. NRC Inspection Manual Part 9900 Technical Guidance states that the NRC expects surveillance and testing processes of structures, systems and components (SSCs) to be evaluated in an as-found condition. It also defines preconditioning of SSCs as the alteration, variation, manipulation or adjustment of the physical condition of an SSC before Technical Specification surveillance or ASME Code testing. The Part 9900 Technical Guidance states in part that influencing test outcome by performing valve stroking, preventative maintenance, pump venting or draining, or manipulating SSCs does not meet the intent of the as-found testing expectations.

Analysis. The inspectors determined this finding is more than minor because if left uncorrected the finding has the potential to lead to a more significant safety concern in that other safety-related valve performance deficiencies could have been masked. In accordance with NRC Inspection Manual Chapter 0609, Significant Determination Process, the inspectors performed a Phase 1 analysis and determined the finding was of very low safety significance (Green) because the finding did not result in a loss of safety function. The finding has an associated cross-cutting aspect in the area of Problem Identification & Resolution. Specifically as it relates to implementation of Operating Experience (OE) because the licensee has reviewed prior OE describing unacceptable preconditioning, but failed to recognize preconditioning and prevent it prior to performing work associated with the MWO [P.2.b].

Enforcement. 10 CFR Part 50 Appendix B, Criterion XI, Test Control states in part that a test program shall be established to assure that all testing required to demonstrate that structures, systems and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptable limits contained in applicable design documents. Contrary

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to this, on February 9, the licensee performed work under MWO 2050512405 and failed to establish a test program that assured the testing adequately demonstrated component condition and performance of the Turbine Building PSW Isolation Valves. The maintenance and testing sequence failed to prevent preconditioning of the turbine building PSW isolation valves. Because this finding is of very low safety significance and because it was entered in the licensee's corrective program as CR 2009103950, this violation is being treated as an NCV consistent with Section VI.A.1 of the NRC Enforcement Policy: NCV 05000366/2009002-02, Preconditioning of the Turbine Building Plant Service Water Isolation Valves.

2. RADIATION SAFETY
Cornerstone: Occupational Radiation Safety (OS)

2OS1 Access Control To Radiologically Significant Areas

a. Inspection Scope

Access Controls. The inspectors evaluated licensee performance in controlling worker access to radiologically significant areas and monitoring jobs in-progress associated with the 2R20 outage. The inspectors directly observed implementation of administrative and physical radiological controls; evaluated radiation worker (radworker) and health physics technician (HPT) knowledge of and proficiency in implementing radiation protection requirements; and assessed worker exposures to radiation and radioactive material.

During facility tours, the inspectors directly observed postings and physical controls for radiation areas, high radiation areas (HRAs), and potential airborne radioactivity areas established within the radiation control area (RCA) of the Unit 2 (U2) drywell, Unit 1 (U1) and U2 reactor buildings, U1 and U2 turbine buildings, and radioactive waste (radwaste) processing and storage locations. The inspectors independently measured radiation dose rates or directly observed conduct of licensee radiation surveys for selected RCA areas. Results were compared to current licensee surveys and assessed against established postings and Radiation Work Permit (RWP) controls. Licensee key control and access barrier effectiveness were evaluated for selected U1 and U2 Locked High Radiation Area (LHRA) and Very High Radiation Area (VHRA) locations. Changes to procedural guidance for LHRA and VHRA controls were discussed with health physics (HP) supervisors. Controls and their implementation for storage of irradiated material within the spent fuel pool (SFP) were reviewed and discussed in detail. Established radiological controls were evaluated for selected 2R20 tasks including under-vessel control rod drive Replacement, reactor head lift, tie rod disassembly, main steam isolation valve repair blowdown, and radwaste processing and storage. In addition, licensee controls for areas where dose rates could change significantly as a result of plant shutdown and refueling operations were reviewed and discussed.

For selected tasks, the inspectors attended pre-job briefings and reviewed RWP details to assess communication of radiological control requirements to workers. Occupational workers' adherence to selected RWPs and HPT proficiency in providing job coverage were evaluated through direct observations and interviews with licensee staff. Electronic

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dosimeter (ED) alarm set points and worker stay times were evaluated against area radiation survey results for under-vessel and refueling floor activities.

The inspectors evaluated the effectiveness of radiation exposure controls, including air sampling, barrier integrity, engineering controls, and postings through a review of both internal and external exposure results. Worker exposure as measured by ED and by licensee evaluations of skin doses resulting from discrete radioactive particle or dispersed skin contamination events during current 2R20 activities were reviewed and assessed. For HRA tasks involving significant dose rate gradients, e.g. reactor vessel head removal, the inspectors evaluated the use and placement of whole body and extremity dosimetry to monitor worker exposure. The inspectors also reviewed and discussed selected whole-body count analyses conducted during the 2R20 outage.

Radiation protection activities were evaluated against the requirements of Updated Final Safety Analysis Report (UFSAR) Section 12; Technical Specifications (TS) Sections 5.4 and 5.7; 10 Code of Federal Regulations (CFR) Parts 19 and 20; and approved licensee procedures. Records reviewed are listed in Section 2OS1 of the report Attachment. The inspectors completed 21 samples.

Problem Identification and Resolution. Licensee Corrective Action Program (CAP) documents associated with access control to radiologically significant areas were reviewed and assessed. This included review of selected Condition Reports (CRs) related to radworker and HPT performance. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with procedure NPM-GM-002, Corrective Action Program, Version 7.0. The inspectors also evaluated the scope of the licensee's internal audit program and reviewed recent assessment results. Licensee CAP documents reviewed are listed in Section 2OS1 of the report Attachment.

b. Findings

No findings of significance were identified.

2OS2 As Low As Reasonably Achievable (ALARA) Planning and Controls

a. Inspection Scope

The inspectors reviewed ALARA program guidance and its implementation for ongoing 2R20 job tasks. The inspectors evaluated the accuracy of ALARA work planning and dose budgeting, observed implementation of ALARA initiatives and radiation controls for selected jobs in-progress, assessed the effectiveness of source-term reduction efforts, and reviewed historical dose information.

ALARA planning documents and procedural guidance were reviewed and projected manpower and dose estimates were compared to actual expenditures for the following high dose jobs: scaffolding installation/removal; reactor vessel assembly/disassembly; refueling floor activities; control rod drive (CRD) replacement; and in-service inspection (ISI) activities. Differences between budgeted dose and actual exposure received were

discussed with cognizant ALARA staff. Changes to dose budgets relative to changes in radiation source term and/or job scope were also discussed.

The inspectors observed outage job tasks involving work inside the U2 reactor building either directly or via remote video monitoring. For the selected tasks, the inspectors evaluated radworker and HPT job performance, individual and collective dose expenditure, surveys of the work areas, appropriateness of RWP requirements, and adequacy of implemented administrative and physical controls. The inspectors attended pre-job briefings and evaluated the communication of ALARA goals, RWP requirements, and industry lessons-learned to job crew personnel. The inspectors also evaluated the use of temporary shielding and compared the dose expended for installation with the dose reduction benefits received.

Implementation and effectiveness of selected program initiatives with respect to source-term reduction were evaluated. Chemistry program ALARA initiatives and their effect on reactor building and drywell dose rate trends were reviewed.

Plant exposure history for 2005 through 2007 and data reported to the NRC pursuant to 10 CFR 20.2206 were reviewed, as were established goals for reducing collective exposure during the current 2R20 outage. The inspectors reviewed procedural guidance for dosimetry issuance and exposure tracking. The inspectors also examined dose records of declared pregnant workers to evaluate assignment of gestation dose.

ALARA program activities and their implementation were reviewed against 10 CFR Part 20 and approved licensee procedures. In addition, licensee performance was evaluated against guidance contained in Regulatory Guide (RG) 8.8, Information Relevant to Ensuring that Occupational Radiation Exposures at Nuclear Power Stations will be As Low As Reasonably Achievable, and RG 8.13, Instruction Concerning Prenatal Radiation Exposure. Procedures and records reviewed within this inspection area are listed in Section 2OS2 of the report Attachment. The inspectors completed 15 samples.

Problem Identification and Resolution. The inspectors reviewed selected CRs in the area of exposure control. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with NMP-GM-002, Corrective Action Program, Ver. 7.0. The inspectors also evaluated the scope of the licensee's internal audit program and reviewed recent assessment results. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

2OS3 Radiation Monitoring Instrumentation and Protective Equipment

a. Inspection Scope

The inspectors observed the use of Powered Air-purifying Respirators (PAPRs) and evaluated licensee training provided to workers. The inspectors completed 1 sample.

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b. Findings

Introduction. The inspectors identified a Green non-cited violation (NCV) of TS 5.4, Procedures, for failure to provide training to users of Powered Air-purifying Respirator (PAPR) type respiratory protection devices.

Description. Through discussions with plant workers, HP Supervisors, and training coordinators, the inspectors determined that no formal training program has been implemented for the use of PAPR type respiratory protection devices in contaminated areas. Workers using these devices received only brief instruction from HP technicians as they assisted with donning the PAPR hoods immediately prior to use. The inspectors observed instances of this instruction and noted that some of the requirements contained in procedure 62RP-RAD-058-0, Operation of the 3M Air-mate Hood and PAPR Blower Unit, version 1.0, were not discussed with the workers and many of the PAPR hood user checks were not appropriately performed. In addition, on February 11, 2009, a worker wearing a PAPR hood in a contaminated area lost power to the PAPR blower and required HP technician assistance to restart the power supply. The worker had not been trained on appropriate response to equipment malfunctions and was unaware of how to restart the PAPR blower. RG 8.15, Acceptable Programs for Respiratory protection, contains guidance on training for users of respiratory protection devices. This includes training on: limitations and capabilities of the device; how to respond in emergency situations; demonstrated competency in donning, use, and removal of the device; and how to inspect the device prior to use. Licensee procedure 10AC-MGR-026-0, Respiratory Protection Program, revision 1.0, requires formal, hands-on, training for users of respiratory protection devices which includes the elements described in RG 8.15. This procedure requires the training to be provided prior to the worker using the respirator in the workplace.

Analysis. The inspectors determined that the licensee's failure to provide training to users of PAPR type respiratory protection devices is a performance deficiency. This finding is greater than minor because it is associated with the Occupational Radiation Safety Cornerstone attribute of Human Performance (Training) and adversely affects the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. Inappropriate use of PAPR type respirators could result in worker injury (e.g. loss of air) or unintended occupational exposures. The finding was evaluated using the Occupational Radiation Safety Significance Determination Process (SDP) and determined to be of very low safety significance (Green). The finding was not related to ALARA planning, nor did it involve an overexposure or substantial potential for overexposure, and the ability to assess dose was not compromised. This finding involved the cross-cutting aspect of Human Performance, Resources [H.2.b] because there was no formal training program provided to users of PAPR type respiratory protection devices.

Enforcement. TS 5.4, Procedures, requires the licensee to implement the procedures contained in Regulatory Guide 1.33. Regulatory Guide 1.33 requires written procedures for respiratory protection. Licensee procedure 10AC-MGR-026-0, Respiratory Protection Program, revision 1.0 requires training for users of respiratory protection devices prior to

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use in the workplace. Contrary to this, during the week of February 23, 2009, it was observed that no training was provided to users of PAPR type respiratory protection devices prior to use in the workplace. Because the failure to comply with TS 5.4 is of very low safety significance and has been entered into the licensee's CAP (CR 2009102825), this violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000321/366, 2009002-03, Failure to Provide Training to Users of Powered Air-purifying Respirators.

Cornerstone: Public Radiation Safety

2PS2 Radioactive Material Processing and Transportation

a. Inspection Scope

Waste Processing and Characterization. Selected liquid and solid radwaste processing system components were inspected for material condition and for configuration compliance with the UFSAR and Process Control Program (PCP) documents. Direct walk-downs were conducted of the Unit 2 waste surge, floor drain, sludge phase separator, and waste sample tanks; associated discharge/mixing pumps, and resin transfer piping; resin dewatering equipment; and abandoned/never used waste processing components. The inspectors discussed equipment/component function, operability, and changes to radwaste processing systems with licensee staff.

Radioactive waste types and quantities detailed in the Effluent and Waste Disposal Reports for calendar year (CY) 2007 and CY 2008 were reviewed. Radionuclide characterizations from January 1, 2007 through December 31, 2008 for selected major waste streams were reviewed and discussed with knowledgeable staff. For the analyses conducted, the inspectors evaluated analyses for hard-to-detect nuclides, reviewed the use of scaling factors, and examined comparison results between gamma emitting radionuclides reported in the licensee waste stream characterizations and the vendor laboratory data. The inspectors also discussed the licensee's process and guidance for monitoring changes in waste stream isotopic mixtures.

Radwaste processing activities were reviewed for compliance with 10 CFR Part 50.59 and consistency with the licensee's current PCP and UFSAR. Waste stream characterization analyses and selected shipping records were reviewed against regulations detailed in 10 CFR Part 20, 10 CFR Part 61, 49 CFR Part 173, and guidance provided in the Branch Technical Position on Waste Classification and Waste Form. Reviewed documents are listed in Section 2PS2 of the report Attachment.

Transportation. The inspectors directly observed preparation and final surveys conducted for two separate shipments of dry active waste (DAW). The inspectors evaluated package bracing, conveyance placards, and interviewed the shipping technicians regarding Department of Transportation (DOT) regulations. The inspectors also reviewed and observed selected dose rate and/or contamination survey data of the shipping containers, packages and vehicle and compared the results to DOT limits.

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Selected shipping records were reviewed for consistency with licensee procedures and compliance with NRC and DOT regulations. The inspectors reviewed emergency response information, DOT shipping package classification, radiation survey results, and evaluated whether receiving licensees were authorized to accept the packages. The licensee's procedures and their implementation for use of selected shipping containers and casks were compared to recommended vendor protocols and Certificate of Compliance requirements, as applicable. In addition, training qualifications for individuals currently involved in preparation of radioactive materials or waste for shipment were reviewed.

Transportation program implementation was reviewed against TS; regulations detailed in 10 CFR Parts 20 and 71, and 49 CFR Parts 172-178. Training activities were assessed against 49 CFR Part 172 Subpart H. Documents reviewed are listed in the Attachment. The inspectors completed six samples.

Problem Identification and Resolution. The inspectors reviewed and discussed with HP supervision selected CRs and audits associated with transportation and radioactive waste processing program activities. The inspectors assessed the licensee's ability to characterize, prioritize, and resolve the identified issues in accordance with licensee procedure NMP-GM-002, Corrective Action Program, Ver. 7.0 and NMP-GM-002-001, Corrective Action Program Instruction, Ver. 11.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

a. Inspection Scope

The inspectors reviewed a sample of the licensee submittals for the performance indicators (PIs) listed below to verify the accuracy of the data reported. The PI definitions and the guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Rev. 2 and licensee procedure 00AC-REG-005-0S, Preparation and Reporting of NRC PI Data, were used to verify procedure and reporting requirements were met.

Cornerstone: Initiating Events

- Unplanned Scrams per 7000 Critical Hours
- Unplanned Scrams with Complications
- Unplanned Transients per 7000 Critical Hours

The inspectors reviewed raw PI data collected from April 2008 to December 2008 for the Initiating Events indicators identified. The inspectors compared graphical representations from the most recent PI report to the raw data to verify the data was included in the report. The inspectors also examined a sampling of operations logs and

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procedures to verify the PI data was appropriately captured for inclusion into the PI report, and the individual PIs were calculated correctly. Applicable license event reports (LERs) issued during the referenced time frame were also reviewed and are listed in the Attachment.

Cornerstone: Occupational Radiation Safety

- Occupational Exposure Control Effectiveness

The inspectors reviewed Performance Indicator (PI) data collected from October 1, 2008, through December 31, 2008. For the reviewed period, the inspectors assessed CAP records to determine whether HRA, VHRA, or unplanned exposures, resulting in TS or 10 CFR 20 non-conformances, had occurred during the review period. In addition, the inspectors reviewed selected personnel contamination event data, internal dose assessment results, and ED alarms for cumulative doses and/or dose rates exceeding established set-points. The reviewed data were assessed against guidance contained in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Indicator Guideline," Rev. 5. Documents reviewed are listed in the Attachment.

Cornerstone: Public Radiation Safety

- Radiological Control Effluent Release Occurrences

The inspectors reviewed the PI results for the period of October 1, 2008, through December 31, 2008. For the assessment period, the inspectors reviewed cumulative doses to the public and selected CRs related to effluent control. The inspectors also reviewed licensee procedural guidance for collecting and documenting PI data. The reviewed data were assessed against guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Rev. 5. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

.1 Daily Screening of Corrective Action Items

As required by Inspection Procedure 71152, Identification and Resolution of Problems, and in order to help identify repetitive equipment failures or 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 by either attending daily screening meetings that briefly discussed major CRs, or accessing the licensee's computerized corrective action database and reviewing each CR that was initiated.

.2 Annual Sample

a. Inspection Scope

The inspectors performed a detailed review of the following CR to verify the full extent of the issue was identified, an appropriate evaluation was performed, and appropriate corrective actions were specified and prioritized. The inspectors evaluated the CR against the licensee's corrective action program as delineated in licensee procedure NMP-GM-002, Corrective Action Program, and 10 CFR 50, Appendix B. Documents reviewed are listed in the Attachment.

- CR 2008110988 Personnel Error results in Unintentional Control Rod Movement during Weekly Control Rod Exercise.

b. Findings

No findings of significance were identified.

4OA3 Event Followup

.1 (Closed) LER 05000366/2008-004 Safety Relief Valves Allowable Test Range Exceeded Due to Setpoint Drift

On July 1, 2008 it was determined that during bench testing two SRVs setpoints had drifted high and one SRV setpoint had drifted low. All three setpoints were outside the requirements of technical specifications. The cause of the high setpoint drift was corrosion induced bonding of the pilot seat and the low setpoint drift was due to a reduction in spring force. This condition was documented in CR 2008107088. Enforcement aspects are discussed in Section 4OA7. No additional findings of significance were identified.

.2 (Closed) LER 05000321/2008-002 Corrosion Induced Bonding Results in Safety Relief Valve Lift Setpoint Drift

On March 29, 2008 it was identified during bench testing that two safety relief valves failed to lift at the required technical specification (TS) setpoint. A total of three of the eleven SRVs did not lift at the required TS setpoint at the conclusion of bench testing. The cause was found to be corrosion induced bonding between the pilot disc and seating surface. All eleven pilot valves have been replaced with refurbished pilot valves. This condition was documented in CR 2008104090. Enforcement aspects are discussed in Section 4OA7. No additional findings of significance were identified.

.3 Notice of Unusual Event on January 29, 2009 for Freon leak in Waste Gas Treatment Building

a. Inspection Scope

The inspectors responded to the control room and verified the licensee actions in response to the declaration of an Unusual Event were in accordance with Emergency,
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Abnormal and Normal Operating Procedures. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

40A5 Other

.1 (Opened) Unresolved Item (URI) 05000366/2009002-04, Failures of the Unit-2 EDG LOCA/LOSP Timer Cards

a. Inspection Scope

The inspectors reviewed the failures of Unit 2 EDG LOCA/LOSP timer cards. The licensee's troubleshooting efforts were discussed and short term corrective actions reviewed by the inspectors. Interviews were conducted with site personnel to ascertain the as found condition of the timer cards and any probable causes identified to date. Additionally, the inspectors conducted a review of the licensee's extent of condition evaluation to ensure all potentially affected components were properly identified.

b. Findings

Introduction. A URI was identified for the failures of the LOCA/LOSP timer cards on the Unit 2 EDGs. These timer cards function to actuate load shedding relays and properly sequence the applicable safety-related PSW pumps onto the essential 4160VAC bus after it is re-energized from the EDG following a design basis event

Description. Several failures of the LOCA/LOSP timer cards were identified over the period July 2008 through March 2009. The licensee determined that probable causes for these failures were degraded power supplies to these cards and potential defects identified on the timer cards. These issues were captured in the licensee's corrective action program as CRs 2008107899, 2009101880 and 2009102221. The licensee performed an extent of condition review and all affected timer cards were identified, refurbished and tested satisfactorily prior to returning to them to service. The licensee is performing a root cause investigation for the LOCA/LOSP timer card failures and the contributing causes surrounding these events. The inspectors will review the root cause and determine if a performance deficiency existed and evaluate past operability of these timer cards. This issue is unresolved pending NRC review of the licensee's completed root cause investigation and is designated as URI 05000366/2009002-04, Failures of the Unit-2 EDG LOCA/LOSP Timer Cards.

.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.

.3 (Closed) Temporary Instruction (TI) 2515/176, EDG TS Surveillance Requirements Regarding Endurance and Margin Testing

a. Inspection Scope

Inspection activities for TI 2515/176 were previously completed and documented in inspection report 05000321, 366/2008004, and this TI is considered closed at Hatch Nuclear Plant; however, TI 2515/176 will not expire until August 31, 2009. The information gathered while completing this temporary instruction was forwarded to the Office of Nuclear Reactor Regulation for review and evaluation.

b. Inspection Findings

No findings of significance were identified.

40A6 Meetings, Including Exit

- .1 On April 14, 2009, the inspectors presented the inspection results to Mr. Dennis Madison and the other members of his staff who acknowledged the observations. The inspectors confirmed proprietary information was not provided or examined during the inspection.
- .2 On March 12, 2009 the NRC's Chief of Reactor Projects Branch 2 and Senior Resident Inspector met with Mr. Dennis R. Madison and other members of the licensee staff to discuss the NRC's annual assessment of the Hatch Nuclear Plant safety performance for the period of January 1 through December 31, 2008. The annual assessment results were previously provided to Southern Nuclear via letter dated March 4, 2009.

40A7 Licensee-Identified Violations

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

- TS 3.4.9 required the reactor vessel cooldown rate be limited to 100 degrees Fahrenheit in an hour. Contrary to this, on February 10, the reactor vessel cooldown rate was observed to be 128 degrees Fahrenheit in an hour following reactor vessel flood up in parallel with performing the core spray pump full flow test. This issue was entered into the licensee's corrective action program as CR 2009101108. This

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violation is of very low safety significance because the T.S. pressure-temperature curve limits were not exceeded and an evaluation was performed that shows the reactor vessel integrity was maintained.

- Unit 1 TS 3.4.3 required that 10 of 11 SRV's shall be operable during Modes 1, 2 and 3. Contrary to this, on March 29, 2008, two SRVs failed to lift at the required technical specification (TS) setpoint during bench testing. A total of three of the eleven SRVs did not lift at the required TS setpoint at the conclusion of bench testing. The cause was found to be corrosion induced bonding between the pilot disc and seating surface. This condition was documented in CR 2008104090. This violation is of very low safety significance because a previous evaluation performed by the licensee bounds this condition and RCS pressure would be maintained below the TS safety limit.
- Unit 2 TS 3.4.3 required that 10 of 11 SRV's shall be operable during Modes 1, 2 and 3. Contrary to this, on July 1, 2008 it was determined that during bench testing two SRVs setpoints had drifted high and one SRV setpoint had drifted low. All three setpoints were outside the requirements of technical specifications. The cause of the high setpoint drift was corrosion induced bonding of the pilot seat and the low setpoint drift was due to a reduction in spring force. This condition was documented in CR 2008107088. This violation is of very low safety significance because a previous evaluation performed by the licensee bounds this condition and RCS pressure would be maintained below the TS safety limit.
- TS 5.7, High Radiation Area, required that each HRA with dose rates >100mrem/hr at 30 cm but <1000 mrem/hr at 30 cm be barricaded and conspicuously posted as a HRA. Contrary to this, on March 11, 2009, a ladder installed in the Unit 2 reactor building allowed access to a valve approximately 15' above the floor and was not barricaded and conspicuously posted as a HRA. Dose rates on the valve were 180 mrem/hr at 30 cm. The violation was discovered by an HP technician performing surveys in the RCA. Immediate corrective actions included barricading and posting the area around the ladder. This condition was documented in CR 2009102730. This violation is of very low safety significance because there was no substantial potential for overexposure and the licensee's ability to assess dose was not compromised.

ATTACHMENT: SUPPLEMENTAL INFORMATION

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SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

D. Madison, Hatch Vice President
S. Bargeron, Plant Manager
G. Johnson, Engineering Director
G. Brinson, Operations Manager
J. Dixon, Health Physics Manager
J. Lewis, Site Support Manager
S. Soper, Engineering Support Manager
J. Thompson, Nuclear Security Manager
R. Varnadore, Maintenance Manager
B. Hulett, Engineering Design Manager
G. Fechter, ISI Coordinator
S. Tipps, Licensing
D. Swann, SNC/ISI Supervisor

LIST OF REPORT ITEMS

Opened and Closed

05000366/2009002-01	NCV	Improper Core Drill Location Results in Secondary Containment Inoperability (Section 1R18)
05000366/2009002-02	NCV	Preconditioning of the Turbine Building Plant Service Water Isolation Valves (Section 1R22)
05000321, 366/2009002-03	NCV	Failure to Provide Training to Users of Powered Air-Purifying Respirators (Section 2OS3)

Closed

05000321/2008-002	LER	Corrosion Induced Bonding Results in Safety Relief Valve Setpoint Drift (Section 4OA3)
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05000366/2008-004	LER	Safety Relief Valves Allowable Test Range_Exceeded Due to Setpoint Drift (Section 4OA3)
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Opened

05000366/2009002-04	URI	Failures of the Unit-2 EDG LOCA/LOSP Timer Cards (Section 4OA5)
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Closed

2515/176	TI	EDG TS Surveillance Requirements Regarding Endurance and Margin Testing (Section 4OA5)
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LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

Procedures: 34SO-R43-001-2, Diesel Generator Standby AC System
34SO-E21-001-2, Core Spray System
34SO-E41-001-1, High Pressure Coolant Injection (HPCI) System
Drawings: H-21074, H-26018, H-26046, S-25178, H-16332, H-16333

Section 1R05: Fire Protection

Drawings: A-43965 sheets 005, 007, 010, 013, 020, 034, 043 and 044
Procedure: 42SV-FPX-024-0, Fire Hose Stations Appendix B Areas
CR: 2008109655
Fire Drill: A-43966-35A&B 2008-04
Fire Brigade leader qualification status report

Section 1R07: Heat Sink Performance

CR: 2009101567
MWO: 2072235801
Integrated Technologies Report dated 2/17/2009

Section 1R08: In-service Inspection Activities

Procedures

GEH-UT-247, Rev. 1, Procedure for Phased Array Ultrasonic Examination of Dissimilar Metal Welds

GEH-UT-716, Rev. 2, Procedure for the Examination of RPV Welds from the Outside Surface with Microtomo iaw Appendix VIII

GEH-UT-718, Rev. 1, Procedure for Examination of RPV Nozzle Inner Radius Sections from Outside Surface with Microtomo iaw Appendix VIII

NMP-ES-024-206, Rev. 6.0, Visual Examination of the Reactor Pressure Vessel Internals

NMP-ES-024-502, Rev. 2.0, PDI Generic Procedure for Ultrasonic Examination of Ferritic Pipe Welds (Appendix VIII)

NMP-ES-024-503, Rev. 2.0, PDI Generic Procedure for the Manual Ultrasonic Examination of Vessel Welds (Appendix VIII)

GEH-386HA480, Rev. 20, Certification of Nondestructive Test Personnel

GEH-ADM-1025, Rev. 10, Procedure for Training and Qualification of Personnel for GE Energy, Nuclear Specialized NDE Applications

Corrective Action Documents

CR 2009101531, Spherical Bearing displaced on support 2E11-RHR-R298.

CR2007100667, Upper Support peak stress used in Hatch Unit 2 Shroud Tie Rod Repair Operability Evaluation was non-conservative.

CR2009101607, VT-3 Examination of support 2E11-RHR-H42 identified anchor bolts that pulled out of the wall.

CR2009101409, VT3 Examination of support 2E11-RHR-H44 identified a bent U bolt.

CR2009101161, VT-3 Examination of support 2E11-RHR-R82 identified two restraints broken.

CR2009101651, The following observation was noted by the NRC inspector; during review of the Repair/Replacement package WO#2071587703 it was identified that a material test report was not approved by the vendor.

CR2009101649, The following observation was noted by the NRC inspector; during review of the Repair/Replacement package WO#2081711104 the NRC inspector identified the Section b XI Exam Plan was marked "N/A" for post installation NDE.

CR2009101649, The following observation was noted by the NRC inspector; GE Procedure 386HA480 refers to the 2007 Edition of ASME Section XI, which has not been approved in 10CFR50.55a.

Other Documents

Work Order #2081711104, Installation of vent valve in RHR System piping above U2RHR "A" Heat Exchanger

Repair/Replacement Plans for Work Order #2071587703, Replacement of Tie Rods for Unit 2 Core Shroud.

In Vessel Inspection IVVI Exam Checklist, Edwin I. Hatch, Spring 2009 (H2R20) Outage.

VIP-205, November 2008 - Bottom Head Drain Line Inspection and Evaluation Guidelines.

Section 1R11: Licensed Operator Requalification

Procedures: 34GO-OPS-005-2, Power Changes

NMP-OS-001, Reactivity Management Program

NMP-OS-007, Conduct of Operations,

NMP-OS-007-001, Conduct of Operations Standards and Expectations

Section 1R12: Maintenance Effectiveness

Procedure: 40AC-ENG-020-0, Maintenance Rule (10 CFR 50.65) Implementation and Compliance

NMP-GM-002, Corrective Action Program

CRs: 2009102221, 2005103484, 2005103415, 2008104177, 2008104633

MWOs: 2050735901, 2050740901, 2008102976, 2008102115, 2008101719, 2008105829, 2008112098, 2008112406, 2008107063

R43 EDG System Health Report – 4th Qtr 2008

C41 SBLC System Health Report – 4th Qtr 2008

EDG System/Function Maintenance Rule Performance Criteria

SBLC System/Function Maintenance Rule Performance Criteria

Plant Hatch MR Scoping Manual

Main Control Room logs

Required Action Sheet 2-05-037

Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluation

Procedures: NMP-MA-007-010, SNC Rigging and Lifting Program Plant Hatch Specifics
 NMP-MA-007-001, SNC Rigging and Lifting Program Planning and Evaluation
 NMP-MA-007, SNC Rigging and Lifting Program
 NMP-DP-001, Operational Risk Awareness
 Drawing: H-13002
 Engineering Evaluation 1760, Rigging Evaluation for lifting TWS
 Design Calculation SCNH-72-018, Original Plant Design Calculations for Electrical Pull Box & Covers
 Main Control Room Logs

Section 1R15: Operability Evaluations

Procedures: 52IT-E41-001-0, Lubrication Analysis
 53PM-MON-002-0, HPCI Oil Sampling and EGR Testing
 42SV-R43-018-2S, Diesel Generator 2A Logic System Function Test
 34SO-E21-001-2, Core Spray System
 34GO-OPS-013-2, Normal Plant Shutdown
 34GO-OPS-015-5, Maintaining Cold Shutdown or Refuel Condition
 CRs: 2008112508, 2009100676, 2009101237, 2009101880, 2009102221, 2009101108, 2009100410, 2009101257, 2008109689
 MWOs: 1080953601, 1071848001, 2090427401, 2090344301
 Prompt Operability Determination for Unit 2 EDG sequencers
 Prompt Operability Determination for Main Control Room due to water inleakage OD 01-09-01
 2B2-N030B Temperature Gradient curves
 Bounding Pressure-Temperature curves for Hatch Unit 2 dated 3/2/2009.
 Engineering Evaluation Document #1770, #1450
 Correspondence from C&D Technologies regarding lid repair methods dated 1/23/2009
 Seismic Test Report for C&D Batteries P/N LCUN-33 dated 4/23/2007
 Drawings: H-51213, H-51212, H-26839

Section 1R18: Plant Modifications

CRs: 2009102554, 2009103207, 2009103124, 2009103117, 2009103097, 2009103138
 Procedures: 42-SP-02-11-09-OG-1-2, Unit 2 Reactor Recirculation Pump Adjustable Speed Drives Functional Test
 Control room logs
 MWO: 2071587002
 Procedure: 52GM-MME-029-0, Core Drilling Through External Walls
 Drawings: H-26306, H-25505

Section 1R19: Post Maintenance Testing

MWOs: 2070492304, 2072705001, 2072227101, 2062303501, 2090199801, 2081561101, 20722714012090605101
 Procedures: 34SV-P41-001-2, Plant Service Water Pump Operability
 34SV-R43-006-2, Diesel Generator 2C Semi-Annual Test
 42SP-08-01-08-PF-1-2, Special Purpose Procedure for EDG timer card functional test
 42SV-R43-019-2S, Diesel Generator 1B Logic System Functional Test
 57CP-CAL-250-0, AOV Stroke/Positioner Test and Setup
 52PM-T48-013-0, Purge and Vent Valve T-Ring Replacement

CR: 2009100165, 2008107899
 Drawing: HB21033, H-23776, H-23588
 Hatch IST 4th Inspection Interval Document
 Hatch Unit 2 Pump IST Basis Document
 Required Action Sheet 2-08-156

Section 1R20: Refueling and Outage Activities

Procedures: 34GO-OPS-013-1/2, Normal Plant Shutdown
 34AB-C71-001-2 Reactor Scram Procedure
 34AB-G41-001-1, Loss of Fuel Pool Cooling
 57SV-B21-020-2, Reactor Wide Rangel Level Indication calibration performed on 2/10/2009
 DI-OPS-57-0393, Outage Safety Assessment
 34FH-OPS-001-0, Fuel Movement Operation
 42FH-ERP-014-0, Fuel Movement
 DI-OPS-37-0889, Fuel Movement Rules
 Clearances: 2-DT-08-2E21-00323, 2-DT-08-2E11-00304, 2-DT-08-2E41-00334, 2-DT-08-2E51-00340, 2-DT-08-2E51-00344(002)

Section 1R22: Surveillance Testing

CRs: 2009101069, 2009101305
 Procedures: 31GO-INS-001-0, Pump and Valve Inservice Testing (IST)
 42EN-INS-001-0, Inservice Testing Program
 31GO-INS-001-0, Pump and Valve Inservice Testing (IST)
 34SO-G11-009-2, Drywell and Reactor Building Sumps Systems
 42SV-P41-001-2, PSW Pump and Isolation Valve Auto Function Functional Test
 42SV-R43-016-2S, Diesel Generator 2C LOCA/LOSP LSFT
 57CP-CAL-186-0S, Bourdon Tube Style Test Gauge
 42SV-TET-001-0, for baseline and all eight MSIVs dated 2/16/2009 through 2/17/2009
 Drawings: H-116011, H-16331, C-11161
 Hatch IST Program Document
 Hatch IST Component Basis Document for 2P41-F316
 MWO: 19701552 01
 Clearance 2-Op-R20, Tagout: 2-OP-09-2R42-11007

Section 2OS1: Access Control To Radiologically Significant Areas

Procedures, Guidance Documents, and Manuals

62RP-RAD-047-O, Independent Spent Fuel Storage and Radiological Controls,
 Revision/Version 2.3, 08/31/07
 62RP-RAD-001-O, Release Surveys, Revision/Version 13.1, 06/29/08
 62RP-RAD-001-O, Dosimetry Issuance And Tracking, Version 15.1, 01/29/08
 62RP-RAD-016-O, Control Of High Radiation Areas, Version 26.2, 01/09/09
 62RP-RAD-006-O, Radiation Work Permit Processing, Version 11.5, 08/09/07
 62RP-RAD-055-O, Underwater Storage AND Inventory Of Radioactive Materials In Spent Fuel
 Pools, Version 3.1, 12/27/07
 62RP-RAD-002-O, Diving Procedure, Version 12.1, 10/30/08
 62RP-RAD-008-O, Radiation And Contamination Surveys, Version 11.4, 11/06/07
 62HI-OCB-028-O, Use And Calibration Of Whole Body Counters, 04/16/08
 62AC-HPX-004-O, Radiation And Contamination Control, Version 19.3, 04/16/08

NPM-GM-002, Corrective Action Program, Version 7.0, 05/30/08
 NPM-GM-0, Corrective Action Program Instructions, Version 11, 12/30/08

Records and Data

Unit One and Unit 2 Locked High Radiation Area Surveillances, 02/05/09
 RWP Number 09-2206, Refuel Floor Activities
 RWP Number 09-2605, ISI and Supporting Activities
 RWP Number 09-2620, Drywell Scaffolding Installation and Removal
 RWP Number 09-2615, Drywell Reactor Control Rod Drive Change Out, Transport and Support Activities
 Survey, Refueling Floor Surveys, 02/09/08
 Survey, Unit 2 Drywell Surveys, 02/25/08
 Survey, Unit 2 Reactor Building Surveys, 02/10/08
 Condenser Bay Surveys, 02/10/08
 Radwaste Transportation Shipment Survey, 02/26/08
 ISFSI Survey Number 47186, 09/20/2008 and Number 46228, 08/15/2008
 HPX-1191, HPX-1192, Annual Inventory Of Unit 1 and Unit 2 Spent Fuel Pools, 07/28/08

CAP Documents

CR 2008111166, Movement Of Material
 CR 2008111280, Contamination Events
 CR 2008111346, Surveys Outside Tool Room
 CR 2008111911, Briefing Effectiveness
 CR 2009100002, Contamination Control of Material
 CR 2009100027, Particle Contamination
 CR 2009101288, Contamination Control Of MG Set
 CR 2009101192, Alarming Dosimeter
 CR 2009102730, Ladder allowed access to overhead HRA

Section 20S2: As Low As Reasonably Achievable (ALARA)

Procedures, Manuals, and Guidance Documents

60AC-HPX-009-0, ALARA Program, Rev. 17.9
 NMP-CH-005-GL01, E.I. Hatch Water Chemistry Strategic Plan, Ver. 1.0
 62RP-RAD-012-0, Selection and Use of Temporary Shielding, Rev. 1.2
 NMP-GM-002, Corrective Action Program, Ver. 7.0

Records and Data Reviewed

ALARA Review Package, RWP 09-2205 - Reactor Vessel Disassemble/Reassemble
 ALARA Review Package, RWP 09-2615 - Control Rod Drive Change Out
 ALARA Review Package, RWP 09-2206 - Refuel Floor Work
 ALARA Review Package, RWP 09-2620 - Drywell Scaffolding Installation/Removal
 ALARA Review Package, RWP 09-2605 - ISI & Supporting Activities
 Temporary Shielding Log, 2/10/09 - 2/23/09
 RWP 09-2009, U2 RB HX, Valve, Pump inspection, Repair, Rev. 0
 RWP 09-2606, U2 Drywell Inspection, PM, Repair & Support, Rev. 0
 RWP 09-2614, Vibration Readings in U2 Drywell, Rev. 0
 Survey 51333, U2 Reactor Building 158' RWCU Heat Exchanger
 Survey 51183, U2 Drywell 147'

Survey 50835, U2 Subpile Room
 Survey 51626, U2 Torus Proper
 Personnel contamination Event Database, 2/9/09 - 2/26/09
 Declared Pregnant Worker Dose Records, July 2006 – January 2009

CAP Documents

H-HP-2007, Audit of Health Physics
 CR 2008111911, Weakness observed in pre-job briefings
 CR 2008101194, Too many workers on job added to overall dose
 CR 2007104676, Increased dose rates following noble chemistry application
 CR 2007106840, Evaluate storing SRMs and IRMs in a shielded pig
 CR 2006111248, More coordination between HP and Maintenance is needed
 CR 2006111246, Repositioning turbine deck crane may provide extra shielding

Section 2OS3: Radiation Monitoring Instrumentation and Protective Equipment

62RP-RAD-058-0, Operation of the 3M Air-Mate Hood and PAPR Blower Unit, Ver. 1.0
 60AC-HPX-006-0, Respirator Radiological Protection Program, Ver. 10.9
 10AC-MGR-026-0, Respiratory Protection Program, Rev. 1.0
 CR 2009101229, Worker lost air flow to PAPR hood

Section 2PS2: Radioactive Material Processing and Transportation

Procedures, Manuals, and Guidance Documents

Hatch Nuclear Plant HNP Solid Radioactive Waste PCP, Rev. 6
 Southern Nuclear, E.I.Hatch Nuclear Plant Lesson Plan, Radwaste Systems, 11/10/08
 Dewatering Topical Report CNSI, [DW-11118-01-P-A]
 62RP-RAD-011-0, Shipment of Radioactive Mater, Rev/Ver. 12.5
 62RP-RAD-023-0S, Resin Packaging and Classification, Rev./Ver 7.1
 62RP-RAD-024-0S, DAW Classification
 62RP-RAD-025-0S, Waste Classification for Aqueous Filter Media and other Type Waste,
 Rev/Ver. 8.2
 62RP-RAD-040-0, Resin Dewatering System, Ver. 8.1
 62RP-RAD-042-0, Solid Radwaste Scaling Factor Determination and Implementation, Rev/Ver
 6.0
 NMP-AD-008, Applicability Determination, Ver. 6.0

Records and Data

Document Data Package/Form HPX-0595 Rev.4, HPX-0860 Rev. 3: 2008 Scaling Factor
 Analyses for U1/U2 Clean-up Phase Separator (CUPS) Resin, U1/ U2 Condensate Phase
 Separator (CPS) Resin, U1/U2 Spent Resin, and DAW 01/07/08
 Document Data Package/Form HPX-0595 Rev.4, HPX-0860 Rev. 3: 2007 Scaling Factor
 Analyses for U1/U2 CUPS Resin, U1/ U2 CPS Resin, U1/U2 Spent Resin, and DAW,
 01/17/07.
 Document Data Package/Form HPX-0295, Package Characterization Report Data for Dry
 Active Waste Shipment
 Effluent Annual Report Radioactive Waste Data, January 1, 2008, through December 31, 2008
 Effluent Annual Report Radioactive Waste Data, January 1, 2007, through December 31, 2007
 Radioactive Shipment Log Data: CY 2006; CY 2007; CY 2008; and 01/01/2009 –02/09/2009

Applicability Determination, 62RP-RAD-040 for RAD-040-0, Resin Dewatering/Drying System, Ver. 8.0
 Procedure Processing Form, 62RP-RAD-040-0, Resin Dewatering/Drying System, Ver. 8.0
 Radioactive Shipment 09-4005, Radioactive material, low specific activity (LSA-I) 7, UN2912 Fissile Excepted, DAW (1) 40 foot Sealand
 Radioactive Shipment 08-6033, Radioactive material LSA-II, 7, UN3321 fissile excepted, 1 metal liner
 Radioactive Shipment 08-6029, Radioactive material LSA-I, 7, UN2912, Fissile Excepted, DAW (1) 40 foot Sealand
 Radioactive Shipment 08-2010, Radioactive material, Type A package, 7, UN2915, Unit 1 CRDs, (1) metal box
 Radioactive Shipment 07-1003, Radioactive material, Type b(U) package, 7, UN2916, Fissile Excepted, RQ-Radionuclides, Irradiated CRBs, LPRMs with fission chambers and Misc Hardware, 1 Type B Cask
 Radioactive Shipment 07-1002, Radioactive material, Type B(U) package, 7, UN2916, Fissile Excepted, RQ-Radionuclides, 1 Type B(U) Cask, Irradiated CRBs and LPRMs with Fission Chambers
 Radioactive Shipment 07-1001, Radioactive material, Type B(U) package, 7, UN2916, Fissile Excepted, RQ-Radionuclides, 1 Type B(U) Cask, dewatered Tri-Nuc Filters, VLs, Support Bracket, Sources, Smoke Detectors, DAW, and IRMs/SRMs with Fission Chambers
 Radioactive Shipment 07-2033, Radioactive material, Type A package, 7, UN2915, MMS Coupons, 05/10/07
 Radioactive Shipment 07-5010, Radioactive material, LSA-II, 7, UN3321, Torus Filters

CAP Documents

Hatch – Chemistry Radioactive Waste (H-CRW), Fleet Oversight Audit, 11/21/2008
 CR 2007101231, Cobalt-60 contamination found on equipment coming to the site
 CR 2007102830, Pre-shipment surveys of shipping containers identified smearable contamination exceeding Plant Hatch administrative levels
 CR 2007107362, Food wastes discovered in 'yellow' radioactive material bag during processing
 CR 2007107363, Bag of highly contaminated waste materials with incorrect (non-conservative) dose rates
 CR 2007107720, Review of recent industry shipping events against plant activities
 CR 2008107354, Inspection of two DAW shipments using intermodal containers identified small amount of moisture observed dripping from one container onto the flatbed trailer
 CR 2008108762, Delays in offloading time at of CPS resins from 14-210(H) shipping cask at vendor facility
 CR 2008107644, Liquid radwaste system resin liners have failed repeatedly
 CR 2008108253, Radwaste resin liner failure of
 CR 2008108238, During dewatering of Unit 2 Condensate Phase Separator resin, failure of liner filter lateral with subsequent bypass of resin to radwaste.
 CR 2008107223, Failure of U2 resin liner filter laterals during CPS resin processing
 CR 2008107107, Failure of U1 resin liner filter laterals during resin dewatering activities
 CR 2008107104, Failure of U1 resin liner filter laterals during resin dewatering activities
 CR 2008109350, Repeated failures of dewater filters in liners.

Section 4OA1: Performance Indicator Verification

Procedures

00AC-REG-005-0, Preparation and Reporting of NRC PI Data, Rev. 5.6

Records and Data Reviewed

Occupational Cornerstone Performance Indicator Data for 2008 and 2009

Alarming Dosimeter Investigation Report 02/10/09

Gaseous release permits G-20081223-210-C, G-20081223-211-C, G-20081225-212-C, and G-20081225-213-C

Liquid release permit L-20081202-334-B

CAP Documents

CR 2008111159, Flow meter for outfall 1Y22-N003A is not working

CR 2008111204, Main stack sample pump failed

CR 2008111205, Additional guidance needed for gaseous unmonitored releases

CR 2009100037, Dose Rate Alarm

CR 2008111068, High Radiation Key Controls

CRs: 2009103473, 2009103359, 2008105381

Main Control Room Logs

Hatch Key Performance Indicators Reports

Section 4OA2: Identification and Resolution of Problems

CR 2008110988 Root Cause

Als: 2008202231

Procedures: DI-OPS-59-0896, Observing for Excellence

Section 4OA3: Event Follow-up

CRs: 2009100684, 2009100685

Southern Nuclear Emergency Notification Forms

Checklist for Notification of Significant Events Report

Controlroom Logs