



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
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ATLANTA, GEORGIA 30303-8931

May 1, 2003

Mr. H.L. Sumner, Jr.
Vice President - Hatch Plant
Southern Nuclear Operating Company, Inc.
P. O. Box 1295
Birmingham, AL 35201-1295

SUBJECT: EDWIN I. HATCH NUCLEAR POWER PLANT - NRC INTEGRATED
INSPECTION REPORT 50-321/03-02 AND 50-366/03-02

Dear Mr. Sumner:

On April 5, 2003, the US Nuclear Regulatory Commission (NRC) completed an inspection at your Hatch Units 1 and 2. The enclosed integrated inspection report documents the inspection findings which were discussed on April 15, 2003 with Mr. Dennis Madison 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. Based on the results of this inspection, no findings of significance were identified.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available 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/

Brian R. Bonser, Chief
Reactor Projects Branch 2
Division of Reactor Projects

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

Enclosure: Inspection Report 50-321, 366/03-02
w/Attachment: Supplemental Information

cc w/encl: (See page 2)

SNC

2

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos: 50-321, 50-366

License Nos: DPR-57, NPF-5

Report No: 50-321/03-02 and 50-366/03-02

Licensee: Southern Nuclear Operating Company, Inc. (SNC)

Facility: Hatch Nuclear Plant, Units 1 and 2

Location: P.O. Box 2010
Baxley, Georgia 31515

Dates: January 5, 2003 - April 5, 2003

Inspectors: N. Garrett, (Acting) Senior Resident Inspector (SRI)
C. Rapp, Senior Project Engineer
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Approved By: Brian R. Bonser, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000321/2003-002, 05000366/2003-002; Southern Nuclear Operating Company, Inc.; 1/05/2003 - 4/05/2003; Edwin I. Hatch Nuclear Plant, Units 1 & 2, routine integrated report.

The report covers a three month period of inspection by resident inspectors and a senior project engineer, and announced inspections by a regional in-service inspection (ISI) inspector, regional health physics inspectors, a regional operations engineer, and a regional senior reactor inspector. No findings of significance were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at <http://www.nrc.gov/reactors/operating/oversight/index.html>.

A. Inspector Identified and Self-Revealing Findings

None

B. Licensee Identified Violations

None

Report Details

Summary of Plant Status

Unit 1 operated at or near 100 percent rated thermal power (RTP) during this inspection period.

Unit 2 operated at or near 100 percent RTP until March 1 when the unit was shut down for a refueling outage. The unit was restarted on March 28 and reached 100 percent RTP on April 3. The unit operated at or near 100 percent RTP for the remainder of the inspection period.

1. REACTOR SAFETY
Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment

a. Inspection Scope

The inspectors performed partial walkdowns of the following three systems to verify the availability of redundant or diverse systems, and components and to verify that defense-in-depth was maintained during periods when safety equipment was inoperable. The inspectors compared system configuration to the associated licensee procedures, system and component checklists, and system P&ID's to verify systems and components were properly aligned. Additionally, the inspectors reviewed selected Condition Reports (CRs) to verify that equipment alignment issues were being identified and adequately resolved. Documents reviewed are listed in the Attachment.

- 2A Core Spray (CS) and 2A, 2B, 2C, and 2D Residual Heat Removal (RHR) Systems
- 1A, 2A, and 2B Standby Gas Treatment System
- 1B and 2A Emergency Diesel Generator (EDG)

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors toured the following six risk significant areas, identified in the licensee's Independent Plant Evaluation for External Events, to assess the material condition of the fire protection and detection equipment and to verify fire protection equipment was not obstructed. The inspectors reviewed licensee procedure 40AC-ENG-008-OS, Fire Protection Program, and conducted area walkdowns to assess the licensee's control of transient combustibles. The inspectors also reviewed the Site Fire Hazards Analysis and applicable Pre-fire Plan drawings 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.

- Intake Structure Unit 1 & 2 Fire Area 0501

- Diesel Generator Building Fire Areas, 2A EDG, Switchgear 2E, and Hall, Fire Areas 2401, 2402, 2403, 2404, 0401
- Unit 2 158' Reactor Building, Fire Areas 2203K, 2205I, 2205H, 2205N, 2210, 2211
- Unit 2 185' and 203' Reactor Building, Fire Areas 2203I, 2205Q, 2205R, 2205S, 2205T, 2205U, 2205Y, 2205Z
- Diesel Generator Building Fire Areas 1A EDG room, Switchgear rooms 2G and 1E. Fire Areas 1411, 1412, and 2409
- Unit 1 & 2 Cable Spread Room, Fire Area 0024A

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance

a. Inspection Scope

The inspectors observed the licensee's inspection activities for the 2C EDG jacket coolant, oil cooler, and air coolant heat exchangers. The inspectors observed licensee inspection activities to verify licensee implementation of licensee procedures 52PM-R43-001-0, Diesel, Alternator, and Accessories Inspection and 42IT-TET-012-2S, Plant Service Water (PSW) and RHR Service Water Piping Inspection Procedure.

b. Findings

No findings of significance were identified.

1R08 Inservice Inspection (ISI)

a. Inspection Scope

The inspectors observed in-process ISI work activities on Unit 2 and reviewed selected ISI records. The observations and records were compared to the Technical Specifications (TS) and the applicable Code (ASME Boiler and Pressure Vessel Code, Sections V and XI, 1989 Edition), to verify compliance. The inspectors reviewed non-destructive examination (NDE) reports for the following completed liquid penetrant (PT), visual (VT1), and ultrasonic testing (UT) examinations:

- S03H2U001, RPV head to vessel stud ligaments 21 to 40
- S03H2U002, RPV head to vessel studs 21 to 40
- S03H2U004, Main Steam piping weld, 2B21-1MS-24A-18
- S03H2U008, Main Steam piping weld, 2B21-1MS-24B-10
- S03H2V008, RPV Head Vent N6A Nozzle inner radius
- S03H2V009, RPV Head Vent N6B Nozzle inner radius
- S03H2V010, RPV Head Vent N7 Nozzle inner radius
- S03H2P001, Main Steam piping weld, 2B21-1MS-24B-10

Ongoing dry powder Magnetic Particle (MT) examinations of the 24 inch ASME Class 1 Main Steam piping welds 2B21-1MS-24-18 and 2B21-1MS-24A-20 along with the PT

examination of the 28 inch ASME Class 1 Recirculation Pump Suction piping weld 2B31-1RCM-28AS-9 were observed.

The inspectors also reviewed video recordings of various completed augmented inspections included in the licensee's Vessel Internals Program (VIP). This included remote visual inspection of welds on 1P7 weld 10 and 4P5 weld 37 on CS Sparger downcomer piping; 1P1 weld 2, 1P2 weld 3, 1P3 weld 4, 1P3 weld 17, and 2P1 weld 31 on T-Box junctions on the on the CS sparger piping; and steam dryer lifting eye and lifting rod.

Qualification and certification records for examiners, equipment and consumables, and NDE procedures for the above ISI examination activities were reviewed. Three licensee audits associated with ISI activities and the VIP program were reviewed. Additionally, two CR associated with ISI activities which had been documented in the licensee's corrective action program were reviewed. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

Resident Observation: The inspectors observed the performance of simulator scenario LT-SG-50431, Loss of Off-Site Power. The inspectors reviewed licensee procedures 10AC-MGR-019-0S, Procedure Use and Adherence, and DI-OPS-59-0896N, Operations Management Expectations, to verify formality of communication, procedure usage, alarm response, control board manipulations, group dynamics, and supervisory oversight. The inspectors also reviewed licensee procedure 73-EP-EIP-001-0, Emergency Classification and Initial Actions, to verify that the event action level was correctly identified and reported. The inspectors attended the post exercise critique of operator performance to assess if the licensee identified issues were comparable to issues identified by the inspectors.

Annual Operating Test Results: The inspectors reviewed the overall pass/fail results of the individual Job Performance Measure operating tests, and the simulator operating tests (required to be given per 10 CFR 55.59(a)(2)) administered by the licensee during calendar year 2002. These results were compared to the thresholds established in Manual Chapter 609 Appendix I, Operator Requalification Human Performance Significance Determination Process.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors conducted a detailed review of the following two systems. The inspectors performed a system walkdown and interviewed the system engineer to determine the existing system configuration and deficiencies. The inspectors reviewed the system health reports, maintenance work orders (MWO), CRs, and system modifications to assess overall system condition and maintenance related issues. Additionally, the inspectors reviewed the licensee's MR reports and scoping documents to determine that the systems were properly scoped, in the proper maintenance rule category, and appropriate actions were being taken on the system. Documents reviewed are listed in the Attachment.

- Unit 1 Reactor Core Isolation Cooling (RCIC) System
- Unit 2 Off-Gas System

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed the five licensee Plan of the Day (POD) documents listed below and the daily risk management evaluation to verify that risk assessments were performed prior to components being removed from service. In addition, when emergent work was identified, the inspectors held discussions with licensee personnel and walked down plant systems to verify that actions were taken to minimize the probability of an initiating event and to maintain the functional capability of mitigating systems. Documents reviewed are listed in the Attachment.

- POD for Week of 1/11-17; Failure of Unit 1 RCIC during surveillance test.
- POD for Week of 1/25 - 31
- POD for Week of 2/1-7
- POD for Week 2/15 - 21
- POD for Week 2/22-28

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-Routine Plant Evolutions

a. Inspection Scope

For the two events described below, the inspectors observed control room operator actions, reviewed operator logs, and reviewed plant procedures to verify that operator actions were taken in accordance with plant procedures.

- On January 24, 2003, the Emergency Notification Network and Emergency Notification System phones systems were disabled when a Bell South fiber cable was severed between the plant and Baxley, Georgia. The inspectors observed the Main Control Room (MCR) response to the loss of communication and subsequent event notification to the NRC.
- On March 25, 2003, a radiological event was declared when a hot spot was formed in the Spent Fuel Pool Cooling system piping on the 185 foot level of the reactor building. The inspectors observed the MCR response to the event to assess the licensee's implementation of 73EP-RAD-001-0, Radiological Event, 34AB-D11-001-2, Radiological Release Control, and 34AB-T22-003-0, Secondary Containment Control.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following five operability evaluations to assess the technical adequacy of the evaluation and verify if continued operability was justified. The evaluations were compared to the requirements identified in TS and the UFSAR as required to ensure that operability was adequately assessed and the system or component remained available to perform its intended function. In addition, the inspectors assessed the adequacy and implementation of compensatory measures resulting from the evaluation. The inspectors verified that the operability determinations were performed in accordance with licensee procedure 00AC-REG-006-0, Operability Determinations.

- LR-REG-001-0203, Unit 2 Diesel Generator 2A, PSW valve 2P41-F339A not fully closing
- LR-REG-001-0103, Unit 2 Scram Discharge Volume Inboard Vent and Drain Valves 2C11-F011, 2C11-F010A, and 2C11-F010B
- LR-REG-011-0203, Missed ASME Code Section XI Inspection following replacement of valve 1G11-F020
- CR 2003002130, 11 Tubes Plugged on Control Room Chiller - 1Z41-B008A
- LR-REG-004-0103, Unit 2 RHR & CS Pump Room Cooler - 2T41-B002B

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

The inspectors either observed personnel performance or reviewed the test results for the following five maintenance testing activities to verify the scope of testing demonstrated that the work performed was correctly completed and the affected equipment was functional and operable. The inspectors reviewed the maintenance package to verify procedural requirements were met. The inspectors 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.

- MWO 10300065, Replace Unit 1 RCIC EGR
- MWO 20203138, 20203139, and 20204149, Rebuild and troubleshooting of 2C11F010B and 2C11F011
- MWO 20201859 and 20202140 Perform 18 Month PM and 6 Month PM on 2C Diesel Generator
- MWO 20300072 Clean/Repair/Replace 2P41-F036B
- MWO 20300821 Replacement of 2P41-F339B Flange

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities

a. Inspection Scope

The inspectors reviewed the overall outage safety assessment for the refueling outage and the outage schedule to verify the licensee's use of risk management, operating experience and past lessons learned for the Unit 2 refueling outage conducted from March 1 - 30, 2003. The inspectors reviewed the outage safety assessment procedure to verify the licensee was correctly maintaining required equipment in service in accordance with the overall outage safety assessment. In addition, the inspectors reviewed the outage safety assessment to verify the licensee had contingency plans and equipment to maintain defense in depth. During the refueling outage the inspectors monitored licensee control over outage activities listed below. Documents reviewed are listed in the Attachment.

- Plant shutdown including insertion of manual scram and the following reactor coolant system cooldown to verify the cooldown rate did not exceed TS limits.
- Various clearances to verify implementation of the clearance process and the associated equipment was properly configured to support the function of the clearance.

- Calibration of reactor instrumentation used to monitor reactor water within surveillance requirements.
- Monitoring of decay heat removal by the decay heat removal and fuel pool cooling systems.
- Reactor water inventory sources controlled in accordance with the outage risk assessment.
- Refueling activities, including portions of core offload, fuel shuffles, and core reload to verify these activities were performed in accordance with TS and plant procedures and verify fuel movements were tracked.
- TS and licensee procedures to verify mode change requirements were met.
- Walkdown of the drywell to verify material conditions supported plant operations.
- Plant startup, heatup, and power ascension
- Licensee determination of the shutdown margin determination to verify adequate shutdown margin in the core configuration.
- Licensee identification and resolution of problems related to refueling outage activities.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the following six surveillance test procedures and either observed personnel performance or reviewed test results to verify the scope of the test adequately demonstrated that the affected equipment was operable. The inspectors reviewed the activities to assess for preconditioning of equipment, procedure adherence, and valve alignment following completion of the surveillance. The inspectors reviewed licensee procedure AG-MGR-21-0386N, Evolution and Pre-and Post-Job Brief Guidance, and attended selected briefings to determine if procedure requirements were met.

- 34SV-E11-004-1, RHR Service Water Pump Operability (IST)
- 34SV-R43-006-1S, Diesel Generator 1C Semi-Annual Test
- 34SV-E11-001-2, Residual Heat Removal Pump Operability
- 42SV-TET-001-2, Primary Containment Periodic Type B and Type C Leakage Tests, 2E41-F102/F103/F104 (CI valves)
- 42SV-C71-001-2S, Reactor Protection System LSFT
- 42SV-TET-001-2, Primary Containment Periodic Type B and Type C Leakage Tests, 2P33-F224 and 2T33-X11 (CI valves)

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors witnessed an emergency drill conducted on January 29. The inspectors observed licensee activities in the simulator and Technical Support Center to verify implementation of 10AC-MGR-006-0S, Hatch Emergency Plan. The inspectors reviewed 73EP-EIP-001-0, Emergency Classification and Initial Actions, to verify the licensee properly classify the simulated event and developed the proper protective action recommendations. The inspectors also reviewed 73EP-EIP-073-0, Offsite Emergency Notification, to verify the licensee made proper offsite notifications. The inspectors attended the post-drill exercise critique to assess the licensee's effectiveness in identifying areas of improvement.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Control To Radiologically Significant Areas

a. Inspection Scope

Access Controls: The licensee's procedures for controlling access to airborne radioactivity areas, radiation areas, high radiation areas, and very high radiation areas were evaluated. The licensee's activities and guidance for posting, surveying, and access controls to radiologically significant areas listed in the report Attachment were evaluated against applicable 10 CFR Part 20 and TS requirements. During tours conducted March 3-7, 2003, and March 17-21, 2003, the inspectors evaluated radiological postings, barricades, and surveys associated with the Unit 1 and Unit 2 reactor, turbine, plant stack building areas, and the Independent Spent Fuel Storage Installation (ISFSI). Dose rates at various locations in the Unit 1 and Unit 2 buildings and around the spent fuel pool area were independently surveyed by the inspectors and compared to current licensee survey map data.

The inspectors evaluated eight Radiation Work Permits (RWPs) used for work in radiologically significant areas associated with the 2003 Unit 2 refueling outage and one associated for non-outage work. The selected RWPs were evaluated for incorporation of access controls, and specified electronic dosimeter (ED) set point alarms were evaluated against RWP criteria for appropriateness with regard to the expected work area dose rates.

The inspectors conducted interviews concerning RWP requirements and ED set points with radiation workers. Radiological worker and radiation protection technician

training/skill level, adherence to access control procedures and RWP specified access controls were observed and evaluated by the inspectors during selected job site reviews and tours throughout the radiological control area (RCA). The inspectors attended the RWP 03-2209 briefing for work activities associated with a diver entering the reactor vessel to remove a potential loose part from the steam dryer support seat. In addition, the inspectors interviewed management personnel associated with the Unit 2 vessel diving operation, observed the dive mock-up facility and diving operation to assess the radiological controls implemented, and attended the pre-job brief and diver debrief conducted by the licensee to review lessons learned from the evolution. The inspectors also evaluated the radiological controls and surveys for the expected airborne work areas established for the Unit 2 replacement of control rod drive mechanisms.

Access control procedures for locked high radiation areas (LHRAs) were reviewed and discussed with radiation protection management and supervision. The inspectors reviewed documentation of the licensee's weekly inspections which verified the status of the locked doors and independently assessed LHRA doors status during plant tours. Implementation of key controls for Very High Radiation Areas (VHRAs) and LHRAs and controls for accessing posted VHRAs also was assessed.

The inspectors verified the postings located on the fence of the ISFSI and independently surveyed and verified the dose rates on the storage spent fuel casks located on the storage pads. The environmental thermoluminescent dosimeters (TLD) fence line doses at the ISFSI were evaluated for compliance with 10 CFR 20, Subpart D. The inspectors evaluated the Edwin Hatch Nuclear Plant ISFSI Annual Radioactive Effluent Release Report, dated February 11, 2003, and the ISFSI Occupancy Factor White Paper dated November 21, 2002.

Problem Identification and Resolution: Licensee CRs associated with access controls to radiologically significant areas were reviewed. Six CRs listed in the Attachment were reviewed and evaluated in detail for issues identified.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

ALARA: Implementation of the licensee's ALARA program during the Unit 2 refueling outage was observed and evaluated by the inspectors during the periods March 3-7 and March 17-21, 2003. The inspectors reviewed, and discussed with licensee staff, ALARA planning, dose estimates, and prescribed ALARA controls for selected outage work activities expected to or had the potential to incur significant collective doses. Those activities included replacement and transfer of control-rod drives, drywell in-service inspections, drywell valve work, diving activities, and drywell local leak-rate tests. Incorporation of the planning, work controls, and expected dose and dose rates into the most current RWPs and ALARA pre-job briefings for those activities also was reviewed. A proposed increase in the overall projected outage exposure (from 124 to 136 person-

rem) was reviewed and discussed with licensee staff prior to being considered by the Plant ALARA Review Committee (PARC). The inspectors also reviewed the minutes of the 2002 PARC meetings and the lessons learned from the 2002 Unit 1 outage. These elements of the ALARA program were evaluated for consistency with the methods and practices delineated in applicable licensee procedures.

The inspectors observed a pre-job ALARA briefing associated with control-rod-drive (CRD) replacement, and made observations of limited under-vessel activity (preparatory to the CRD work) via a closed-circuit video monitoring system.

The plant collective exposure history for the years 1999 through 2001, based on the data reported pursuant to 10 CFR 20.2206 (c), was reviewed and discussed with licensee staff, as were established goals for reducing collective exposure. The inspectors also reviewed the licensee's program for declared pregnant workers, although at the time of the inspection there were no declarations.

Through the above reviews and observations, the licensee's ALARA program implementation and practices were evaluated by the inspectors for consistency with TS Section 5.4.1, Procedures, and Section 5.7, High Radiation Area Controls; 10 CFR Part 20 requirements; and procedural guidance documented in the Attachment.

Problem Identification and Resolution: Licensee CRs and PARC ALARA activities were reviewed and assessed. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues. Documents reviewed and evaluated in detail for the identified issues are listed in the Attachment.

b. Findings

No findings of significance were identified.

Cornerstone: Public Radiation Safety

2PS2 Radioactive Material Processing and Transportation

a. Inspection Scope

Waste Processing and Characterization: During the weeks of March 3-7, 2003 and March 17-21, 2003, the configuration status and operability of selected radioactive waste (radwaste) processing systems and equipment were evaluated. Inspection activities included document review, direct inspection of processing equipment, and interviews with plant personnel.

The document review of radwaste systems included evaluation of program guidance for waste classification and procedures for processing spent resin. The inspectors reviewed the licensee's 10 CFR Part 61 contract laboratory sample gamma analysis results for the waste streams. The 2003 data were evaluated for consistency with the most current 10 CFR Part 61 sample data collected in 2002. The licensee's use of scaling factors for hard-to-detect nuclides was assessed for the primary resin waste stream. The inspectors reviewed the licensee's procedure for clearing clean trash from

the RCA. The inspectors reviewed procedures for transferring and de-watering spent resin to ensure compliance with the process descriptions in the Process Control Program (PCP) and the system diagrams in the Updated Final Safety Analysis Report (UFSAR), Section 11. Documents reviewed are listed in the Attachment.

The direct inspection of radwaste equipment included walk-downs of resin lines and observation of abandoned radwaste equipment. Observations were conducted of clean trash monitoring, Low Level Waste Storage Building activities and inspection of the solidification dewatering operation.

Licensee personnel were interviewed regarding waste classification analyses and radwaste processing equipment. The inspectors assessed the individuals' knowledge of regulations, understanding of licensee procedures, and familiarity with radwaste systems. The inspectors reviewed and evaluated the Licensing Action Report (LAR) 91-006, Safety Evaluation for Author's Document Incorporation Form (ADIF) 12A-001 dated July 13, 1993. The inspectors reviewed the revised drawing and observed the current operational and configuration status of the radwaste processing equipment during system walk-downs. Waste stream sampling frequency, response to changing plant conditions, and laboratory counting techniques were also discussed and assessed.

The licensee's program for classifying and processing solid radwaste was evaluated against 10 CFR Part 61, the Branch Technical Position on Waste Classification and Waste Form, the Process Control Program, the UFSAR, Section 11, Radioactive Waste Management, and licensee procedures.

Transportation: The inspectors evaluated the licensee's activities related to transportation of radioactive material. The evaluation included document review and direct observation of shipping activities.

The document review consisted of evaluation of licensee procedures, review of shipping records, and assessment of worker training. Records for five shipments, listed in the Attachment, were reviewed for compliance with regulations and consistency with licensee procedures. Training records for two technicians qualified to ship radioactive material were evaluated for completeness. In addition, training curricula provided to these workers were assessed. The inspectors discussed Department of Transportation (DOT) training and shipping paper requirements with the Radioactive Material Control supervisor.

On March 4, 2003, the inspectors directly observed the preparation of resin for shipment to a vendor for volume reduction. The inspectors assessed the technician's performance in completing the required documentation and characterization using the RADMAN computer code and in conducting appropriate surveys of the loaded package.

Transportation program guidance and implementation were reviewed against regulations detailed in 10 CFR Part 71, 49 CFR Parts 170-189, and licensee procedures. In addition, training activities were assessed against Subpart H of 49 CFR Part 172 and the guidance documented in NRC Bulletin 79-19.

Problem Identification and Resolution: Licensee CRs associated with radwaste processing and transportation were reviewed. CR 2002011605, Two Sea Land Radwaste Storage Containers Had Unexpected Corrosion, was reviewed and evaluated in detail.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspectors reviewed the licensee's Unit 1 and Unit 2 submittals for the PIs listed below. To verify the accuracy of the PI data reported during the period, PI definitions and guidance contained in licensee procedure 00AC-REG-005-0, Preparation and Reporting of NRC PI Data, and NEI 99-02, Regulatory Assessment Indicator Guideline, Revision 2, were used to verify the basis in reporting for each data element.

Occupational Radiation Safety Cornerstone

- Occupational Exposure Control Effectiveness PI

The inspectors reviewed the PI results for the period January 1, 2002, through March 5, 2002. Selected CRs issued during the review period were reviewed and assessed for potential PI occurrences.

Public Radiation Safety Cornerstone

- Radiological Effluent TS/Offsite Dose Calculation Manual Radiological Effluent PI

The inspectors reviewed and discussed the PI results for the period May 1, 2002, through March 15, 2002. For the review period, the inspectors reviewed data reported to the NRC and evaluated selected radiological liquid and gaseous liquid and gaseous effluent release data, out-of-service process radiation monitor and compensatory sampling data, abnormal release results, and CRs documented in the Attachment.

b. Findings

No findings of significance were identified.

40A5 Other Activities

.1 Review of Institute of Nuclear Power Operations (INPO) Evaluation Report

On February 5, the inspectors reviewed the results of an INPO evaluation of licensee performance conducted during October/November 2002. The report was dated January 7, 2003. The report did not identify any significant licensee performance issues that had not been previously addressed and/or reviewed by the NRC.

.2 (Closed) URI 50-366/02-06-03: Design Control of High Pressure Coolant Injection (HPCI) System Steam Line Drain Pot

During the Safety System Design and Capability Inspection (NRC Report No. 50-321,366/02-06), the inspectors identified that, under some conditions, the HPCI steam trap could be isolated with the potential for condensate backup into the turbine steam supply line. It could not be determined during the inspection whether the possible water slug inflow to the HPCI turbine would impact the operability of the HPCI pump. Following the inspection, the licensee provided vendor test documentation which enveloped the conditions expected by the steam trap isolation and demonstrated that the pump would meet its safety function. The inspectors reviewed the test documentation and concluded there is no actual safety consequence.

40A6 Meetings, Including Exit

.1 Exit Meeting Summary

On April 15, 2003, The inspectors presented the inspection results to D. Madison and the other members of his staff. The inspectors confirmed that proprietary information was not provided or reviewed during the inspections.

.2 Annual Assessment Meeting Summary

On April 9, 2003, the NRC's Chief of Reactor Projects Branch 2 and the Senior Resident Inspector assigned to the Hatch Nuclear Plant (HNP) met with Southern Nuclear Operating Company to discuss the NRC's Reactor Oversight Process (ROP) and the HNP annual assessment of safety performance for the period of January 1, 2002 - December 31, 2002. The major topics addressed were: the NRC's assessment program, the results of the HNP assessment, and NRC security activities. Attendees included HNP site management, corporate management, and plant co-owners.

This meeting was open to the public. The presentation material used for the discussion is available from the NRC's document system (ADAMS) as accession number ML030990064. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

Betsill, J., Assistant General Manager - Plant Support
Davis, D., Plant Administration Manager
Dedrickson, R., Engineering Support Manager
Googe, M., Performance Team Manager
Hammonds, J., Operations Manager
Coleman, V., Safety Audit and Engineering Review Supervisor
Kirkley, W., Health Physics and Chemistry Manager
Lewis, J., Training and Emergency Preparedness Manager
Madison, D., Assistant General Manager - Plant Operations
Reddick, R., Site Emergency Preparedness Coordinator
Roberts, P., Outage and Planning Manager
Thompson, J., Nuclear Security Manager
Tipps, S., Nuclear Safety and Compliance Manager
Wells, P., General Manager - Nuclear Unit Superintendent

NRC Personnel

Brian R. Bonser, Chief, Divisions of Reactor Projects, Branch 2

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Closed

50-366/02-06-03	URI	Design Control of High Pressure Coolant Injection System Steam Line Drain Pot
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LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

34SO-E11-010-2, Residual Heat Removal System
34SO-E21-001-2S, Core Spray System
34SO-T46-001-1S, Standby Gas Treatment System
34SO-T46-001-2S, Standby Gas Treatment System
34SO-R43-001-1, Diesel Generator Standby AC System
34SO-R43-001-2, Diesel Generator Standby AC System

Section 1R05: Fire Protection

Plant Drawing A-43965, Sheet 109B, 115B, 120B
Plant Drawing A-43966, Sheet 5B, 27B
Drawing A-43966, Sheets 16B, 17B and 26B.
Drawing A-43965, Sheet 44B.

Section 1R08: Inservice Inspection**Procedures:**

Inspection and Testing Services (ITS) Procedure, VT-H-750, Visual Examination of Reactor Pressure Vessel Internals Rev. 12

ITS Procedure, UT-H-401, Manual Ultrasonic Examination of Full Penetration Ferritic Welds (Appendix VIII), Rev. 3

ITS Procedure, UT-H-402, Manual Ultrasonic Examination of Full Penetration Austenitic Welds (Appendix VIII), Rev. 2

ITS Procedure, VT-H-701, Visual Examination (VT-1), Rev. 5

ITS Procedure, MT-H-500, Magnetic Particle Examination, Rev.10

ITS Procedure, PT-H-600, Solvent Removable, Color Contrast or Fluorescent Liquid Penetrant Examination, Rev. 8

Condition Reports (CRs):

CR 2001008653, Unit 2 Condensate piping elbow below thickness values (Flow Accelerated Corrosion action level)

CR 2003002491, Documentation of pipe elbow wall thickness reinspections as result of engineering evaluations required by CR 2001008653

Other Documents:

SNC Audit, ENG 2001-11, Inspection and Testing Services

SNC Audit, OL-OUTAGE-1, Outage ISI Activities

SNC Special Audit, HSAER-1108, Hatch BWR Vessel Internals Program

Section 1R12: Maintenance Rule Implementation

MWO 10200032, 10300065

CR 2003000356, 2001011090

Plant Drawing H16334 and H16335

52PM-E51-004-0, RCIC System Maintenance

DCR 02-025, Off-Gas Drain Modification

Plant Drawing H-26045

Section 1R14: Personnel Performance During Non-routine Plant Evolutions

73EP-EIP-001-0, Emergency Classification and Initial Actions

31GO-OPS-013-0S, Notifications and Reports

00AC-REG-001-0S, Federal and State Reporting and Federal Document Posting Requirements

Section 1R19: Post Maintenance Testing

95IT-OTM-001-0S, Maintenance Work Order Functional Test Guideline

34SV-E51-002-1, RCIC Pump Operability

34IT-E51-003-1, RCIC Turbine Speed Control Test

S27499 - Instruction Manual for 2 inch 600# Unbalanced Cage Trim Control Valve GE-VAF-3234-149

34SV-R43-006-2S, Diesel Generator 2C Semi-Annual Test

41IT-TET-004-0S, Operating Pressure Testing of Piping and Components

Section 1R20: Refueling and Outage Activities

LR-REG-14-0203, Outage Safety Assessment for the Plant Hatch Unit 2 Spring Refueling Outage

DI-OPS-57-0393N, Outage Safety Assessment

34GO-OPS- 013-2S, Normal Plant Shutdown

Clearance 20320415, Trip test of 2R22-S005 Frame 2 and 11 breakers

Clearance 20320125, HPCI System - 2E41

Clearance 20320115, RHRSW A & B Loops for Outage Repairs and Eddy Current Tests

Clearance 20320126, RCIC System - 2E51

Clearance 20320602, Drywell and Torus 18" Vent Lines

Clearance 20320072, PSW Pump Minimum Flow

34GO-OPS-001-2, Plant Startup

42CC-ERP-010-0S, Shutdown Margin Demonstration

Section 2OS1: Access Controls to Radiologically Significant Areas

Reports, Procedures, Instructions, Radiation Work Permits, Lesson Plans and Manuals

60AC-HPX-002-0S, Personnel Dosimetry Program, Revision (Rev.)/Version 12.0,

60AC-HPX-004-0S, Radiation & Contamination Control, Rev./Version 16.8,

60AC-HPX-007-0S, Control of Radioactive Materials, Rev./Version 6.1 Dated,10-26-01

62RP-RAD-001-0S, Dosimetry Issuance & Tracking, Rev./Version 12.1, Dated 3-20-02

62RP-RAD-006-0S, RWP Processing, Rev./Version 10.0 Dated 02-11-02

62RP-RAD-008-0S, Radiation & Contamination Surveys, Rev./Version 10 ED1,

62RP-RAD-009-0S, Air Sampling & Concentration Determination, Rev./Version 5.1,

62RP-RAD-016-0S, Very High & High Radiation Area Access Control, Rev./Version 19.0,

62RP-RAD-022-0, Diving Procedure, Rev./Version 8.1, Dated 10-01-02

Edwin I. Hatch Unit 2 Reactor Vessel Dive Plan, Dated March 17, 2003

Radiation Work Permits (RWPs)

RWP 03-2605, Drywell ISI and Support Work

RWP 03-2500, Unit 2 Inspection, Walkdown

RWP 03-2620, Install/Remove Shielding, Tents, and Scaffolds in Drywell

RWP 03-2600, Drywell Mechanical and Electrical and Inspections

RWP 03-2601, Health Physics and Operations Inspections, Surveillance, Sampling and Valve Lineups

RWP 03-2611, B21-F022A-D and F028A-D Valve Inspection and Repair

RWP 03-2209, Vessel Diving Operations

RWP 03-2615, Control Rod Drive Mechanism Replacement

Corrective Action Report Documents

CR 2002009278, Workers Exceeded Alarm Set Point for Dose Rate

CR 2003000191, Locking Mechanism Problems for RWCU Room

CR 2003000524, Dose Rate Alarm During Radiographing Operation

CR 2003000524, Movement of Radioactive Source Without Hp Escort

CR 2003000727, Exposure Received During Repetitive Repairs

CR 2003000642, Unexpected High Radiation Area Identified on Pump Pedestal in Unit 1 Radwaste Area

Records and Data

Health Physics Day/Night Shift Turnover Logs, March 3, 2002, through March 19, 2002
 High Radiation Area and Locked High Radiation Area Entries from March 3, 2002, through March 07, 2002.

Personnel Exposure Investigation Data Sheets documented from January 1, 2003, through March 15, 2002.

Initial Intake Assessment Data Sheets documented from January 1, 2002, through March 20, 2003

Unit 2 Control Rod Drive Survey Results, Dated 03-09-03

Unit 1 and Unit 2 Reactor Auxiliary Building Survey Results, Dated 03-04-03

Refueling Floor Survey Results, Dated 03-04-03

Unit 2 Pre-Dive Vessel Dive Survey Results, Dated 03-19-03

Unit 2 Turbine Building Survey Results, Dated 03-04-03

2OS2: ALARA Planning and Controls

Procedures

60AC-HPX-004-0, Radiation and Contamination Control, Version 16.8

60AC-HPX-009-0, ALARA Program, Version 16.1

62RP-RAD-006-0, RWP Processing, Version 10.0

62RP-RAD-012-0, Selection and Use of Temporary Shielding, Version 1.2

62RP-RAD-016-0, Very High and High Radiation Area Access Control, Version 19.0

RWP/ALARA Review Packages

001-2602, Drywell Local Leak-rate Tests

001-2605, Drywell In-service Inspections

001-2606, Drywell Valve Work (Misc.)

001-2609, Safety-relief Valves

001-2611, Main-steam Isolation Valves

001-2615, Control-rod-drive Replacement

Miscellaneous Plant Documents

Minutes of Plant ALARA Review Committee (PARC) meetings conducted on March 19, March 25, June 28, July 11, July 12, September 17, October 14, and December 16, 2002

2002 Exposure/Goals

2002 Daily Radiation Exposure Goals

Unit 2 Year 2003 Outage - Daily Exposure/Goal

Plant Hatch Exposure Reduction Items

Lessons Learned from 2002 Unit 1 Outage

Detail/comparison of work projects and associated doses for Unit 2 refueling outages in 2001 (incurred doses) and 2003 (projected doses)

2PS2: Radioactive Material Processing and Transportation

Procedures, Instructions, Lesson Plans, and Manuals

62RP-RAD-011-OS, Shipment of Radioactive Material, Rev. 11.7

Shipment 03-5005 Resin, Dated 03/04/03

Shipment 02-5010 Resin, Dated 04/04/02

Shipment 02-0520 Resin, Dated 08/08/02

Shipment 02-2057 Scaling Factor, Dated 11/14/02

Shipment 02-2039 Charcoal Sample, Dated 09/05/02

System Prints and Drawings

H-27151 Rev. 11 Sheet 54 Hatch Unit 2 Radwaste System Elementary Diagram
H-27146 Rev. 13 Sheet 49 Hatch Unit 2 Radwaste System Elementary Diagram
H-27147 Rev. 8 Sheet 50 Hatch Unit 2 Radwaste System Elementary Diagram
H-27148 Rev. 6 Sheet 51 Hatch Unit 2 Radwaste System Elementary Diagram
H-26031 Rev. 28 Sheet 6 Hatch Unit 2 Radwaste System P&ID
H-26032 Rev. 28 Sheet 7 Hatch Unit 2 Radwaste System P&ID
H-26035 Rev. 18 Hatch Unit 2 Radwaste System P&ID

UFSAR Sections, License Amendments, Safety Evaluation Reports

UFSAR Unit 1 Rev. 19, Chapter 9 Radioactive Waste System
UFSAR Unit 2 Rev. 19, Chapter 11 Radioactive Waste Management

40A1: Performance Indicator Verification

Edwin I. Hatch Nuclear Plant, Radioactive Effluent Release Report for 2001
Edwin I. Hatch Nuclear Plant, Radiological Environmental Operating Report for 2001
Various records associated with individual RCA exit doses exceeding 100 mrem from 1/1/2002 through 3/5/2003