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

April 22, 2004

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 PLANT - NRC INTEGRATED INSPECTION REPORT 05000321/2004002, 05000366/2004002

Dear Mr. Sumner:

On March 27, 2004, the US Nuclear Regulatory Commission (NRC) completed an inspection at your Hatch Nuclear Plant, Units 1 and 2. The enclosed integrated inspection report documents the inspection findings, which were discussed on April 6, 2004, with Mr. George Frederick 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.

This report documents one self-revealing finding of very low safety significance (Green). This finding was determined to involve a violation of NRC requirements. However, because of the very low safety significance and because it was entered into your corrective action program, the NRC is treating this violation as a non-cited violation (NCV) consistent with Section VI.A of the NRC Enforcement Policy. Additionally, a licensee-identified violation which was determined to be of very low safety significance is listed in this report. If you contest any NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the United States 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 accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public

Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). 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 05000321/2004002 and 05000366/2004002
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

cc w/encl:
J. B. Beasley, Jr.
Executive Vice President
Southern Nuclear Operating Company, Inc.
Electronic Mail Distribution

George R. Frederick
General Manager, Plant Hatch
Southern Nuclear Operating Company, Inc.
Electronic Mail Distribution

Raymond D. Baker
Manager Licensing - Hatch
Southern Nuclear Operating Company, Inc.
Electronic Mail Distribution

Arthur H. Domby, Esq.
Troutman Sanders
Electronic Mail Distribution

Laurence Bergen
Oglethorpe Power Corporation
Electronic Mail Distribution

Director
Department of Natural Resources
205 Butler Street, SE, Suite 1252
Atlanta, GA 30334

Manager, Radioactive Materials Program
Department of Natural Resources
Electronic Mail Distribution

Chairman
Appling County Commissioners
County Courthouse
Baxley, GA 31513

Resident Manager
Oglethorpe Power Corporation
Edwin I. Hatch Nuclear Plant
Electronic Mail Distribution

Senior Engineer - Power Supply
Municipal Electric Authority of Georgia
Electronic Mail Distribution

Reece McAlister
Executive Secretary
Georgia Public Service Commission
244 Washington Street, SW
Atlanta, GA 30334

Distribution w/encl: (See page 4)

Distribution w/encl:
C. Gratton, NRR
C. Evans (Part 72 Only)
L. Slack, RII EICS
RIDSNRRDIPMLIPB
PUBLIC

OFFICE	DRP/RII	DRP/RII	DRP/RII	DRS/RII	DRS/RII	DRS/RII	
SIGNATURE	cr	ds		jb	jf	an	
NAME	CRapp:vyg	DSimpkins	NGarrett	JBlake	JFuller	ANielsen	
DATE	4/15/2004	4/22/2004	4/ /2004	4/15/2004	4/19/2004	4/15/2004	4/ /2004
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO
PUBLIC DOCUMENT	YES NO						

OFFICIAL RECORD COPY DOCUMENT NAME: C:\ORPCheckout\FileNET\ML041130512.wpd

U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos:	50-321, 50-366
License Nos:	DPR-57, NPF-5
Report No:	05000321/2004002 and 05000366/2004002
Licensee:	Southern Nuclear Operating Company, Inc. (SNC)
Facility:	Edwin I. Hatch Nuclear Plant
Location:	P.O. Box 2010 Baxley, Georgia 31515
Dates:	December 28, 2003 - March 27, 2004
Inspectors:	D. Simpkins, Senior Resident Inspector N. Garrett, Resident Inspector J. Blake, Senior Project Manager (Section 1R08) J. Fuller, Reactor Inspector (Section 1R08) A. Nielsen, Health Physicist (Section 2OS3)
Approved By:	Brian R. Bonser, Chief Reactor Projects Branch 2 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000321/2004-02, 05000366/2004-02; 12/28/2003 - 03/27/2004**;** Edwin I. Hatch Nuclear Plant, Units 1 & 2; Maintenance Effectiveness

The report covered a three-month period of inspection by resident inspectors and announced inspections by regional in-service inspection (ISI) and health physics inspectors. One Green non-cited violation was identified. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter (IMC) 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", Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

- Green. A self-revealing non-cited violation (NCV) was identified for inadequate work instructions provided to workers to remove a section of Plant Service Water (PSW) piping. This resulted in spilling water on to the 2C Emergency Diesel Generator (EDG) relay panel causing an auto-start of the 2C EDG and subsequent inoperability.

  This finding is more than minor because it adversely affected the equipment performance attribute of the Mitigating Systems cornerstone in that the water spillage affected EDG operability. The finding was determined to be of a very low safety significance because the required redundant equipment trains were operable and the 2C EDG was restored to operable status within the Technical Specification (TS) allowed outage time. (Section 1R12)

B. Licensee-Identified Violations

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

REPORT DETAILS

Summary of Plant Status

Unit 1 operated at or near full Rated Thermal Power (RTP) until February 14 when the unit was shutdown for refueling. The unit was restarted on March 12 and achieved RTP on March 23.

Unit 2 operated at or near 100 percent Maximum Operating Power during the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R04 Equipment Alignment

a. Inspection Scope

The inspectors performed four partial system walk-downs of the following systems when the redundant trains were removed from service. The inspectors checked system valve positions, electrical breaker positions, and operating switch positions to evaluate the operability of the redundant trains or components by comparing the position listed in the system operating procedure to the actual position. Documents reviewed are listed in the Attachment.

- Unit 1A and 1B Emergency Diesel Generator (EDG) during 1C EDG heat exchanger repair
- Unit 1B and 2C EDG during 2A EDG scheduled maintenance
- Unit 1B and 1C EDG during 1A EDG outage related maintenance
- Unit 1A EDG, 1B EDG and related Plant Service Water (PSW) during 1C EDG outage related maintenance

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

Fire Area Tours. The inspectors toured 12 risk significant areas 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 walk-downs 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, were in place. Documents reviewed are listed in the Attachment.

- Control Building General Areas and Corridors
- Control Building Unit 1 Battery Rooms and Unit 1 and 2 Reactor Protection System Battery Rooms
- Control Building General Areas and Corridors
- Unit 1 South East Residual Heat Removal and Core Spray Room
- Unit 1 Reactor Core Isolation Cooling Pump and Turbine Room
- Unit 1 Reactor Building Control Rod Drive (CRD) Sump Room
- Unit 1 High Pressure Core Injection (HPCI) Pump Room
- Unit 1 Reactor Building South and North CRD Areas
- Unit 1 Reactor Building Motor Generator Rooms A and B
- Unit 1 Reactor Building HVAC and Standby Gas Filters and Fan Room
- Unit 1 Reactor Building North and South Working Floors
- Refueling Floor

Fire Drill Observation. The inspectors observed an unannounced fire drill conducted in the Unit 2 Turbine Building East Cableway, Fire Area 2104. 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, and command and control. 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

The inspectors observed the activities for the inspection of the 2A EDG scavenger air, lube oil and jacket coolant heat exchangers. The inspectors observed licensee inspection activities to verify implementation of licensee procedures 52SV-R43-001-0, Diesel, Alternator, and Accessories Inspection, and 42IT-TET-012-2S, Plant Service Water and RHR Service Water Piping Inspection Procedure. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R08 Inservice Inspection Activities

a. Inspection Scope

The inspectors observed inspection activities and reviewed the documentation and selected supporting records for ISI work activities conducted during Hatch Unit 1 refueling outage 21. This was the first outage of the 3rd period of the 3rd ISI interval. The inspection activities, documentation, and supporting records were reviewed for compliance to the Technical Specifications (TS); the ASME Boiler and Pressure Vessel Code, Section XI, 1989 Edition, with no Addenda; and other appropriate industry and NRC guidance and standards.

The inspectors reviewed the following nondestructive examinations (NDE):
- Ultrasonic Test (UT): Weld No: 1G31-1RWCUM-6-D-14, Elbow to Valve
- Liquid Penetrant Test (PT): Weld No: 1G31-1RWCUM-6-D-14, Elbow to Valve
- In Vessel Visual Inspection (IVVI) : Core Spray Welds 13, and 15;
- IVVI : Shroud Support Plate Gusset (SSPG)-1 @ 15 Degrees.

The inspectors also inspected the following NDE by record review:
- UT - Weld No: 1B31-1RC-4JP-B-1, N8B Nozzle to Safe-end, (Dissimilar metal weld)
- UT - Weld No. 1B21-1MS-24C-15, Pipe to Valve,
- UT - Weld No. 1B21-1MS-24A-8,

Qualification and certification records for NDE procedures, examiners, and equipment and consumables (i.e., UT oscilloscopes, transducers, calibration blocks, and couplant; PT cleaner, penetrant, and developer) for the inspected ISI examinations were reviewed.

The inspectors reviewed the following recorded indications to ensure that they were dispositioned in accordance with ASME Code requirements:

- UT - Weld No. 1B21-1MS-24C-15, Pipe to Valve, Limited exam due to welded attachment, 60-deg shear exam - 60% DAC RI - Root Geometry
- UT - Weld No. 1B21-1MS-24A-8, 50% DAC RI - Root Geometry
- UT - Weld No: 1G31-1RWCUM-6-D-14, 178% DAC RI - Root Geometry

The inspectors reviewed the Owner's Activity Report dated September 17, 2002, which contained the statement that "No flaws or relevant conditions that required evaluation for continued service were identified during the Plant Hatch Unit 1, 1R20 Outage." To verify this report, the inspectors selected the UT data from IR20 outage for review. The inspectors reviewed the following data sets with recordable indications, which were all resolved as root geometry or counterbore indications. UT records with recordable indications were for welds: 1E11-2HX-A-1, 1E11-2HX-B-0, 1E11-2RHR-6B-RVD-19, 1E11-2RHR-16B-DS-11, 1E11-2RHR-20-RS-12, 1E11-2RHR-20B-D-4, and 1E11-2RHR-24A-BP-11.

The inspectors reviewed Maintenance Work Order (MWO) 10201673 for the repair of the 1E11-F060A Valve. This MWO involved the grinding out of an eroded area of the bonnet sealing suface, weld repair and re-machining. The inspectors reviewed the weld process sheets and inspection documentation for this weld repair of ASME Class 1 pressure boundary material.

The inspectors selected the following work packages from the licensee's listing of ASME Section XI code repairs and replacements since the last refueling outage:

- MWO 1030839701, Unit 2 PSW supply to Unit 1 PSW Division 1 Supply to Main Control Room A/C (air conditioning) Valve. Replacement of 7 feet of 4-inch diameter C-Steel pipe due to microbiological corrosion causing pin-hole leaks in the piping. (ASME Cl 3 piping.)

- MWO 1030188601, Reinstall RBCCW (Reactor building closed cooling water) piping and supports attached to Recirc Motor "B". No failure; piping and supports removed as interferences for Recirc motor replacement. (ASME Cl 1 & 2 piping and supports.)

- MWO 1020180101, Replace existing Control Room Chiller water regulating valves with direct acting valves. Add local indication of PSW header pressure. (ASME Cl 3 piping)

In addition to the ISI review, a sample of ISI issues in the licensee's corrective action program were reviewed for adequacy. ISI inspection activities for all of the Southern Company's sites are controlled and conducted by representatives of the licensee's corporate offices. Corrective actions are recorded in the corporate corrective action system rather than the local plant corrective action system. The inspectors reviewed the following Corporate Condition Reports (CCRs):

- CCR 2004000086, Ultrasonic search unit outside qualified parameters of EPRI Table 1 for P.I.-UT-10. Corrective action: took search unit to EPRI for qualification.

- CCR 2004000087, Calibration block (BC-188) designated by procedure for Jet-Pump ECT inspection was not the Cal block (BC-151) shipped with the equipment. Corrective action: Modified procedure to allow use of calibration block supplied with equipment.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors observed the performance of simulator scenario LT-SG-51083-00 which included a Group 1 isolation, a reactor scram, the inadvertent start of HPCI, and a

steam leak from HPCI requiring an emergency depressurization. The inspectors reviewed procedures 10AC-MGR-019-0S, Procedure Use and Adherence, and DI-OPS-59-0896N, Operations Management Expectations, to verify that the operators met expectations for formality of communication, procedure usage, alarm response, control board manipulations, group dynamics, and supervisory oversight. The inspectors attended the post-exercise 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.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the following two maintenance activities 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. For the equipment problems identified below, the inspectors reviewed operator logs, associated Condition Reports (CR), MWOs and the licensee's procedures for implementing the Maintenance Rule. The review was 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.

- Decay Heat Removal System
- MWO 1039002603, Cap off the Unit 1 Division I PSW supply to the 1B Diesel Generator

b. Findings

Introduction. A Green self-revealing non-cited violation (NCV) was identified for inadequate work instructions provided to workers to remove a section of PSW piping. This resulted in spilling water on to the 2C EDG relay panel causing an auto-start of the 2C EDG and subsequent inoperability.

Description. On February 18, 2004, workers were removing a section of the PSW piping which normally supplies the 1B EDG. The work was controlled under MWO 1039002603 and Work Process Sheet (WPS) 03-026T-M002. The piping was located above the 2C EDG Relay Panel 2H21-P232, which contains safety-related relays for the EDG auto-start during events such as a loss of coolant accident or loss of offsite power. When the workers removed the section of PSW piping, residual water in the pipe spilled on to the relay panel causing the 2C EDG to automatically start. As a result of the inadvertent start, the 2C EDG was subsequently declared inoperable. The licensee determined four relays were affected by water intrusion. Three relays required inspection, cleaning, and calibration. The fourth relay failed due to water intrusion and

required replacement. The corrective actions for the relays were completed and the 2C EDG was tested satisfactorily within the allowed outage time.

The inspectors determined this event was caused by inadequate work instructions and precautions for maintenance workers performing maintenance near safety-related components. While some water spillage was expected during this work, the only instructions for protecting adjacent safety related equipment was listed in Item 5 of WPS 03-026T-M002, which stated "Take special precautions to protect cable trays that could be damaged during work activities. Consider effects from welding, possible water drainage, and personnel access." There were no instructions or standing work practices that provided measures to prevent residual water in the PSW piping from affecting adjacent safety-related components.

Analysis. This finding is more than minor because it adversely affected the equipment performance attribute of the Mitigating Systems cornerstone in that the water spillage affected EDG operability. The finding was determined to be of a very low safety significance because the required redundant equipment trains were operable and the 2C EDG was restored to operable status within the Technical Specification (TS) allowed outage time.

Enforcement. 10CFR50 Appendix B, Criterion V, Instructions, Procedures, and Drawings, states that activities affecting quality shall be accomplished in accordance with documented instructions appropriate to the circumstances. Contrary to the above, the licensee failed to prescribe adequate instructions appropriate to the circumstances in that on February 18, 2004, the instructions contained in WPS 03-026T-M002 did not contain adequate guidance to ensure protection of the 2C EDG relay panel from water intrusion, which caused an inadvertent start of the 2C EDG and subsequent inoperability. Because the event was of a very low safety significance and has been entered into the licensee's corrective action program (CRs 2004101943 and 2004103609), this violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000366/2004002-001, Inadequate Maintenance Instructions Results in Emergency Diesel Generator Start and Inoperability.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

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

- POD for Week 1/9-16 including 2A EDG Outage
- POD for Week 1/17-23

- POD for Week 1/24-30
- POD for Week 1/31-2/6
- POD for Week 2/7-13
- POD for Week 2/28-3/5
- POD for Week 3/20-26

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-routine Plant Evolutions

a. Inspection Scope

For the three events described below, the inspectors observed operator actions and plant computer data, and reviewed operator logs and computer data, as applicable to verify proper operator actions were taken. Documents reviewed are listed in the Attachment.

- Fire in the Refueling Floor Kelley Building
- Unit 1 plant shutdown, cooldown, and placing plant on Residual Heat Removal (RHR) to start the Unit 1 refueling outage.
- Unit 1 plant startup following the refueling outage

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the documents listed in the Attachment and the following five 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 it's intended function. Also, the inspectors assessed the adequacy of compensatory measures implemented as a result of the condition.

- CR 2004101183, 2A Plant Service Water Pump Motor oil-exposure
- CR 2004101134, Master Trip Solenoid Valve sticking
- CR 2003112330, 1C RHR SW Pump (Cutter Pump)
- CR 2004101919, 1B PSW Pump Mechanical Seal Leakage
- CR 2004102369, Crack-like Indications on Jet Pumps

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

The inspectors reviewed licensee procedures listed in the Attachment and observed personnel performance during selected maintenance and testing activities to verify procedural requirements were met. The inspectors also reviewed activities to determine if the scope of testing demonstrated the work performed was correctly completed and the affected equipment was functional and operable. Following the maintenance activities, the inspectors reviewed equipment status and alignment to verify the system or component was available to perform the required safety function.

- MWO 2020185701, 2A EDG 18 Month Preventative Maintenance
- MWO 2020213901, 2A EDG 6 Year Preventative Maintenance
- MWO 1030310901, Replace the 1B 125/250V Station Service Battery
- MWO 1040558201, Troubleshoot and Repair 1R24-S026, 600/208V Motor Control Center 1B ESS Division B
- MWO 1039000103, Replace existing air circuit breaker in 1R22-S005 with new vacuum breaker.
- MWO 1020167301, Repair RHR injection valve 1E11-F060A

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities

a. Inspection Scope

The inspectors reviewed LR-REG-002-0104, Outage Safety Assessment for the Plant Hatch Unit 1 Spring 2004 Refueling Outage, dated Jan. 30, 2004, and the outage schedule to verify the licensees use of risk management techniques and incorporation of operating experience and past lessons learned for the Unit 1 refueling outage conducted from February 14 - March 14, 2004. Additionally, the inspectors reviewed the outage 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 reviewed licensee procedure DI-OPS-57-0393N, Outage Safety Assessment, to verify 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.

- Plant shutdown including insertion of a manual scram and the following reactor coolant system cooldown to verify the cooldown rate did not exceed TS limits
- Six 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
- Observe fuel movement during initial and final fuel shuffles
- TS and licensee procedures to verify mode change requirements were met
- Walkdown of the drywell and torus proper to verify material conditions supported plant operations
- Plant startup, heatup, and power ascension
- Shutdown Margin determination
- Licensee identification and resolution of problems related to forced 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 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-21-0386N, Evolution and Pre-and Post-Job Brief Guidance, and attended selected briefings to determine if procedure requirements were met. Test procedures either reviewed or witnessed included the following:

- 34SV-R43-004-2, Diesel Generator 2A Semi-Annual Test
- 34SV-SUV-026-1, Primary Containment Isolation Valves LSFT
- 34SV-E41-002-2, HPCI Pump Operability (IST)
- 34SV-E41-001-2, HPCI Valve Operability (IST)
- 42SV-TET-001-1, Primary Containment Type B and C Leak Rate Testing, Type B
- 34SV-E51-004-1, RCIC Pump Operability 150# Test
- 34SV-E41-005-1, HPCI Pump Operability 165# Test

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed temporary modification TMM 01-04-007, Reduce the Operating Voltage on the 1B APRM to 75 VDC, and assessed the evaluation using criteria defined in licensee procedure 40AC-ENG-018-0S, Temporary Modification Control. In addition, the 10 CFR 50.59 evaluation was assessed using the design basis information provided in the FSAR to verify the modifications did not affect the safety functions of these systems. The inspectors also verified the modifications were installed in accordance with the temporary modification requirements.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety (OS)

2OS3 Radiation Monitoring Instrumentation and Protective Equipment

a. Inspection Scope

Instrument Operability and Use. On February 23, 2004, the inspector reviewed the operability and use of selected portable Health Physics (HP) instrumentation. The inspector observed source checks and reviewed calibration information for two ion-chamber type survey meters. In addition, the inspector evaluated HP technician proficiency in selecting appropriate survey instruments and using them to perform gamma and neutron dose rate measurements in dry cask storage Radiation Areas.

Performance activities and equipment operability were reviewed against requirements contained in 10 CFR Part 20 and applicable licensee procedures. Documents reviewed are listed in the Attachment.

Problem Identification and Resolution. Three Condition Report documents and one Quality Assurance audit associated with HP instrumentation were reviewed and discussed with HP technical staff. 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. 1.0. Documents reviewed are listed the Attachment.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA2 Identification and Resolution of Problems

1. Problem Identification and Resolution (PI&R) Reviews

a. Inspection Scope

Daily Condition Report Review. As required by NRC 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 reviewing the licensee's computerized database.

Annual Sample Review. The inspectors performed a detailed review of CR 2003112280. This CR documented the advanced corrosion on two of the four foundation bolts for the Unit 1 'C' RHRSW pump. The RHRSW pump required three of the four foundation bolts intact to remain operable. The review was performed to ensure 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.

b. Findings and Observations

No findings of significance were identified; however, the inspectors identified a corrective action program (CAP) weakness in tracking completion of corrective actions. On March 28, 2001, the licensee documented in CR 2001002557 that there was significant corrosion on one foundation bolt for the 1B RHRSW pump and two foundation bolts on the 1C RHRSW pump. When the licensee concluded that the corrosion had no adverse impact on system operability, the CR was closed to MWO 1-01-00965. This MWO was initially classified as required maintenance, but later changed to elective maintenance. Consequently, the MWO was never implemented. On July 9, 2003, the licensee again documented in CR 2002007064 significant corrosion on the two foundation bolts on the 1C RHRSW pump. The licensee closed this CR to MWO 1-02-02521 referencing the corrosion evaluation performed for CR 2001002557. MWO 1-02-02521 was also classified as elective maintenance.

After reviewing the CAP procedures and discussing this issue with the licensee, the inspectors determined that once the CR was closed, there was no mechanism that tied the MWO to the CR to track completion of the corrective actions. Consequently, the corrective actions were untimely. The enforcement aspects of this condition are discussed in Section 4OA7.

2. Cross-Reference to PI&R Findings Documented Elsewhere

Section 4OA7 describes a licensee-identified NCV for failure to repair corroding bolts on a pump, resulting in the pump being declared inoperable for greater than the allowed outage time.

4OA3 Event Follow-up

1. (Closed) LER 05000321/2003003-003, Residual Heat Removal Service Water Pump 1C Inoperable For Its Failure To Meet Seismic Requirements

On November 17, 2003, the licensee declared the 1C RHRSW pump was seismically inoperable when it was determined that two foundation bolts were severely corroded and would not restrain the pump during a seismic event. The pump was declared inoperable from March 28, 2001 until bolt replacement on November 17, 2003. The out-of-service time for this pump exceeded the TS allowable 30 day out-of-service time. This issue is addressed in Section 4OA2. This problem was entered into the licensee's corrective action program as CR 2003112280. The enforcement aspects of this condition are discussed in Section 4OA7.

2. Inadvertent Actuation of the Engineering Safety System

a. Inspection Scope

The inspectors observed licensee response to an inadvertent actuation of the Engineering Safety System (ESF) during hydrostatic testing of the reactor vessel. The inspectors followed the troubleshooting and evaluation of plant conditions during the event, including personnel interviews and data acquisition. As part of the followup to this event, the inspectors observed plant pressure and level chart recorders, Safety Parameter Display System data trends, system schematics and diagrams. This issue has been placed in the corrective action program. Documents reviewed are listed in the attachment.

b. Findings

No findings of significance were identified.

3. Inadvertent Auto-Start of the 1C EDG

a. Inspection Scope

The inspectors observed licensee response and troubleshooting efforts to an inadvertent auto-start of the 1B EDG during breaker removal of the 1F 4160V switchgear. The inspectors followed the troubleshooting and evaluation of plant conditions during the event, including personnel interviews and data acquisition. This issue has been placed in the corrective action program. Documents reviewed are listed in the attachment.

b. Findings and Observations

No findings of significance were identified.

4OA5 Other

(Discussed) Temporary Instruction (TI) 2515/154, Spent Fuel Material Control and Accounting at Nuclear Power Plants.

The inspectors completed both Phase I and Phase II of the TI.

4OA6 Meetings, Including Exit

1. Exit Meeting Summary

On April 6, 2004, the inspectors presented the inspection results to Mr. George Frederick and the other members of his staff who acknowledged the findings. The inspector confirmed that proprietary information was not provided or examined during the inspection.

2. Annual Assessment Meeting Summary

On April 6, 2004, the NRC's Chief of Reactor Projects Branch 2 and Senior Resident Inspector assigned to the Edwin I. Hatch Nuclear Plant (HNP) met with Southern Nuclear Operating Company to discuss the NRC's Reactor Oversight Process (ROP) and the NRC's annual assessment of HNP safety performance for the period of January 1, 2003 - December 31, 2003. The major topics addressed were: the NRC's assessment program and the results of the HNP assessment. Attendees included HNP site management, members of site staff, and corporate management. This meeting was open to the public. Information presented during the meeting is available from the NRC's document system (ADAMS) as accession number ML041040680. ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html.

4OA7 Licensee Identified Violations

The following violation of very low safety significance was identified by the licensee and is a violation of NRC requirements which meets the criteria of Section VI.A.1 of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as NCVs.

- TS 3.7.1 requires two RHRSW subsystems shall be operable. Contrary to this, on November 17, 2003, the licensee declared the 1C RHRSW pump inoperable when it was determined that two foundation bolts were severely corroded and would not restrain the pump during a seismic event. The pump was declared inoperable from March 28, 2001 until bolt replacement on November 17, 2003, exceeding the TS

allowable 30 day out-of-service time. This problem was entered into the licensee's corrective action program as CR 2003112280. This finding is of a very low safety significance because of the low frequency of earthquakes, and due to the redundancy available in the RHRSW system.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

J. Anderson, Health Physics and Chemistry Manager
J. Betsill, Engineering Support Manager
V. Coleman, Safety Audit and Engineering Review Supervisor
D. Davis, Plant Administration Manager
R. Dedrickson, Assistant General Manager - Plant Support
G. Fechter, Site ISI/R&R/BWR VIP Coordinator
G. Frederick, General Manager - Nuclear Plant
M. Googe, Performance Team Manager
J. Hammonds, Operations Manager
K. Jones, S.C. Corporate Level III
J. Lewis, Training and Emergency Preparedness Manager
D. Madison, Assistant General Manager - Plant Operations
R. Reddick, Site Emergency Preparedness Coordinator
R. Varnadore, Outage and Planning Manager
J. Thompson, Nuclear Security Manager
S. Tipps, Nuclear Safety and Compliance Manager
K. White, S.C. Corporate Level III

NRC personnel

B. Bonser, Chief, Reactor Projects Branch 2,
L. Wert, Deputy Director, Division of Reactor Projects

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000366/2004002-001	NCV	Inadequate Maintenance Procedure Results in Emergency Diesel Generator Inoperability (Section 1R12)

Closed

05000321/2003003-00	LER	Residual Heat Removal Service Water Pump 1C Inoperable For Its Failure To Meet Seismic Requirements (Section 4OA3)

Discussed

2515/154	TI	Spent Fuel Material Control and Accounting at Nuclear Power Plants (Section 4OA5)

LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment
34SO-R43-001-1, Diesel Generator Standby AC System
34SO-P41-001-1, Plant Service Water System
System Drawings H-11600 and D-11001

Section 1R05: Fire Protection
Fire Areas
0201A, 1201, 1203B, 1203C, 1203F, 1203I, 1203K, 1205B, 1205C, 1205F, 1205I, 1205N, 1205R, 1205S, 1205T, 1205W, 1205U, 1205X, 1205Y, 1205Z, 1211, and 1210

Plant Drawings
A-43965 Sheets 5A/B, 7A/B, 11A/B, 12A/B, 14A/B, 15A/B, 21-24A/B, 51-55A/B, 58-61A/B, 63-68A/B, 73A/B, 74A/B, and 123A/B

Section 1R07: Heat Sink Performance
42EN-ENG-026-0S, Service Water Systems Heat Exchanger Testing
60AC-HPX-010-0, Chemistry Program
63IT-TET-003-0S, Biological Fouling Monitoring

Section 1R08: Inservice Inspection Activities
ES-MISN-H-409, PDI Generic Procedure for Ultrasonic Examination of Dissimilar Metal Welds (Appendix VIII)
ES-MISN-H-402, PDI Generic Procedure for the Ultrasonic Examination of Austenitic Pipe Welds
ES-MISN-H-600, Color Contrast, Solvent-Removable Liquid Penetrant Examination Procedure
ES-MISN-H-750, Visual Examination of the Reactor Pressure Vessel Internals
UT-19, Rev 5, Procedure for the UT of BWR Jet Pumps
EC-16, Rev 3, Procedure for the EC of BWR Jet Pumps

Section 1R12: Maintenance Effectiveness
34SO-G71-001-0, Decay Heat Removal System
50AC-MNT-003-0, Scaffold Control
51GM-MNT-002-0, Maintenance Housekeeping and Foreign Material Control
52PM-G71-001-0, Decay Heat Removal System Preventative Maintenance
WPS 03-026T-M001
WPS 03-026T-M002
DCR 03-026T, PSW Supply to the 1B EDG
DI-OAM-10-0999N, Evolution Pre and Post Job Brief Guidelines

Technical Manual
S-53388, Decay Heat Removal System - Model SR950 Instruction Book
System Drawings H-44131, H-44132, S-53397, H11600, and H-16939

MWO's
1040241001, 1040238201, 1039002603, 1039002602, 1030466101, 1030334901, 1030333601, 1030333501, 1030319201, 1030319101, 1030316601, 1030314501, 1030312101, 1032287301, 1030257201, 1030055301, 1030256101, 1030256001, 1030255901, 1030199301, 1030193801, 1030151301, 1030051501, 1030054101, 1030052301, 1030048601, 1030047001, 1030022901, 1020284801, 1020045701, 1020092201, 1010388301, 1010380801, 1000310301, 1000177701, 1000069101, 1000061001

CR's
2004102044, 2004101957, 2004101943, 2004101350, 2004101333, 2004101331, 2004101325, 2004101290, 2004101283, 2004101256, 2004101222, 2003110908, 2003009117, 2003008896, 2003008358, 2003008270, 2003007557, 2003007553, 2003006654, 2003006878, 2003006453, 2003006420, 2003006386, 2003006251, 2003006260, 2003002678, 2003002613, 2003002532, 2003002472, 2003002052, 2003002444, 2002008508, 2003007557, 2002003480

Section 1R14: Personnel Performance During Non-routine Plant Evolutions
34GO-OPS-013-1S, Normal Plant Shutdown
34SO-E11-010-1, Residual Heat Removal System
34GO-OPS-001-1, Plant Startup

Section 1R15: Operability Evaluations
CR's
200311311, 2003112280, 2003112588, 2003112900, 2004100991, 2004101123, 2004101129, 2004101609, 2004102919

Drawings
S-56317, S-51356

Section 1R19: Post Maintenance Testing
95IT-OTM-001-0, Maintenance Work Order Functional Test Guideline
System Drawings SX-13072, H-14239, H-23670, and H-14153
S80242, Switchgear Instruction for Overcurrent Trip Devices with LA Power Circuit Breakers S-56746 - Instruction Manual - Type DHP-VR Vacuum Replacement Circuit Breakers for DHP Switchgear
MWO 1020170001, 1029002202, 1030314901, 1040388201
CR 2004102408

Section 1R20: Refueling and Outage Activities
Walkdown Tagout 1-DT-03-1E41-00315(001) for HPCI, H-16015, H-16024, H-16332
Walkdown Tagout 1-DT-03-1R41-00230 for PSW H-11600, H-11631
Walkdown Tagout 1-DT-03-1E11-00216 for RHRSW valve PM/Repair H-16329, H-16330, D-11004
Walkdown Tagout 1-DT-03-1C41-00214(002) for Standby Liquid Control H-16061, H-17120
Walkdown Tagout 1-DT-03-1E11-00198 for Residual Heat Removal System. H-16329, H-16330, H-16331, H16176
Walkdown tagout 1-DT-03-1E41-00226 for High Pressure Core Injection System. H-16332, H-16333

42CC-ERP-010-0S, Shutdown Margin Calculation
DI-OPS-37-0889, Fuel Movement Rules
34FH-OPS-001-0, Fuel Movement Operation
42FH-ERP-014-0, Fuel Movement

Section 2OS3: Radiation Monitoring Instrumentation and Protective Equipment

62RP-RAD-008-0, Radiation and Contamination Surveys, Version 10.3
62RP-RAD-047-0, Independent Spent Fuel Storage Installation and Radiological Controls, Version 1.2
NMP-GM-002, Corrective Action Program, Version 1.0
NMP-GM-002-GL02, Corrective Action Program Details and Expectations Guideline, Version 2.0
Audit No. 02-HPC-1, Audit of Health Physics and Chemistry, 09/20/02
CR 2002010423, Electronic dosimeter alarms blinking too quick on logout screen, 10/11/02
CR 2003008137, Tennelec #42123-1 has bad calibration data, 07/22/03
CR 2003110941, Control room PCM is often out-of-service, 10/07/03
Survey No. 5780, ISFSI Area, 02/04/04

Section 4OA3: Event Follow-up

H16063 Nuclear Boiler System piping and instrumentation diagram
A16237-012B Instrument Installation Detail drawing
CRs 2004102864, 2004102876, 2004103145, 2004103150 and 2004103205
34AB-B21-002-1, RPV Water Level Corrections