

## NOTICE OF VIOLATION

Mr. Lanny R. Tillman  
[HOME ADDRESS DELETED]  
PURSUANT TO 10 CFR 2.790]

IA 97-089

During an NRC inspection conducted during the period April 6 through May 17, 1997, and an NRC Office of Investigations investigation completed on September 30, 1997, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions," NUREG-1600, the violation is listed below:

10 CFR 50.5(a)(1) states, in part, that any employee of a licensee may not engage in deliberate misconduct that causes or would have caused a licensee to be in violation of any rule, regulation, or order, or any term, condition, or limitation of any license, issued by the Commission.

10 CFR 50.5(c)(2) states, in part, that for the purposes of paragraph (a)(1) of this section, deliberate misconduct by a person means an intentional act or omission that the person knows constitutes a violation of a requirement, procedure, or instruction of a licensee.

Technical Specification (TS) 5.4 requires, in part, that written procedures be established, implemented, and maintained covering the activities in the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Item 1.d and Item 9 of Appendix A recommends procedures for procedural adherence and for performing maintenance, respectively.

Licensee Procedure 10AC-MGR-004-OS, Deficiency Control System, Revision 10, Section 4.11 requires all personnel to report all problems identified, which implements Item 1.d of Appendix A to Regulatory Guide 1.33.

Licensee Procedure 50AD-MNT-001-OS, Maintenance Program, Revision 24, Step 4.2.5 provides, in part, that management is to ensure that plant maintenance is performed and controlled within the boundaries of Work Instructions or Maintenance Work Orders and/or procedures prescribed by this procedure, which implements Item 9 of Appendix A to Regulatory Guide 1.33.

Licensee Procedure 51GM-MNT-025-OS, General Welding Requirements for Pressure Boundary Applications, Revision 4, Edition 1, Step 7.1.2.1 requires, in part, that welding shall be performed using welding material which meets the requirements of the Filler Material Specification Procedures and shall be controlled and issued in accordance with Welding Filler Material Control Procedure, which implements Item 9 of Appendix A to Regulatory Guide 1.33.

Contrary to the above, Mr. Lanny R. Tillman engaged in deliberate misconduct which caused the licensee to be in violation of Technical Specification 5.4. Specifically, on March 20, 1997, Mr. Tillman intentionally failed to follow Section 4.11 of Procedure 10AC-MGR-

Notice of Violation

2

004-OS, when he failed to report that he had mistakenly worked on Valve No. 2E51-F102, Reactor Core Injection Coolant System Exhaust Line Vacuum Breaker. In addition, he subsequently performed unauthorized maintenance on the valve without the work instructions required by Procedure 50AD-MNT-001-OS in order to conceal his previous error, and failed to follow Step 7.1.2.1 of Procedure 51GM-MNT-025-OS, when he performed welding on the valve using incorrect weld material. (01013)

This is Severity Level III violation (Supplement VII).

Pursuant to the provisions of 10 CFR 2.201, Mr. Lanny R. Tillman is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Regional Administrator, Region II, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previously docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation. An oath or affirmation is a solemn declaration of the truth of the statement.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at Atlanta, Georgia  
this 1st day of December 1997





UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION II  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET, SW, SUITE 23T85  
ATLANTA, GEORGIA 30303-3415  
June 17, 1997

Southern Nuclear Operating Company, Inc.  
ATTN: Mr. J. L. Sumner, Jr.  
Vice President, Hatch Plant  
Nuclear Operations  
P.O. Box 1295  
Birmingham, AL 35201

SUBJECT: NRC INTEGRATED INSPECTION REPORT 50-321/97-03, 50-366/97-03 NOTICE  
OF VIOLATION

Dear Mr. Sumner:

On May 17, 1997, the Nuclear Regulatory Commission (NRC) completed an inspection at your Hatch facility. The enclosed report presents the results of that inspection.

During the six-week period covered by this inspection report, your conduct of activities at the Hatch facility was generally characterized by safety-conscious operations, sound engineering and maintenance practices, and careful radiological work controls.

A violation is cited in the enclosed Notice of Violation (Notice), and the circumstances surrounding the violation are described in detail in the enclosed report. Please note that you are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response will be placed in the NRC Public Document Room.

Sincerely,

(Original signed by Pierce H. Skinner)

Pierce H. Skinner, Chief  
Reactor Projects Branch 2  
Division of Reactor Projects

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

Enclosures:

1. Notice of Violation
2. NRC Inspection Report 50-321/97-03  
and 50-366/97-03

cc w/encls: (See page 2)

Enclosure 2

9707030195 JPL

cc w/encls:  
P. H. Wells  
General Manager, Plant Hatch  
Southern Nuclear Operating Company, Inc.  
P. O. Box 439  
Baxley, GA 31513

D. M. Crowe  
Manager Licensing - Hatch  
Southern Nuclear Operating Company, Inc.  
P. O. Box 1295  
Birmingham, AL 35201

Ernest L. Blake, Esq.  
Shaw, Pittman, Potts and  
Trowbridge  
2300 N Street, NW  
Washington, D. C. 20037

Charles H. Badger  
Office of Planning and Budget  
Room 610  
270 Washington Street, SW  
Atlanta, GA 30334

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

Thomas Hill, Manager  
Radioactive Materials Program  
Department of Natural Resources  
4244 International Parkway  
Suite 114  
Atlanta, GA 30354

Chairman  
Appling County Commissioners  
County Courthouse  
Baxley, GA 31513

Thomas P. Mazingo  
Manager of Nuclear Operations  
Oglethorpe Power Corporation  
2100 E. Exchange Place  
Tucker, GA 30085-1349

Charles A. Patrizia, Esq.  
Paul, Hastings, Janofsky & Walker  
10th Floor  
1299 Pennsylvania Avenue  
Washington, D. C. 20004-9500

Distribution w/encls: (See Page 3)



## NOTICE OF VIOLATION

Southern Nuclear Operating Company, Inc.  
Hatch Unit 2

Docket No. 50-366  
License No. NPF-5

During the NRC inspection conducted on April 6, 1997 through May 17, 1997, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG 1600, the violation is listed below:

10 CFR 50, Appendix B, Criterion V states that activities affecting quality shall be prescribed by documented instructions or drawings of a type appropriate to the circumstances.

Hatch Unit 2 Technical Specification 5.4 requires that written procedures be established, implemented, and maintained covering activities delineated in Appendix A of Regulatory Guide (RG) 1.33, Revision 2, February 1978.

RG 1.33, Appendix A, Typical Procedures for Pressurized Water Reactors, paragraph 8.b, recommends specific written procedures for surveillance tests and paragraph 9.a recommends general procedures for control of maintenance and modification work.

Administrative Control Procedure 40AC-ENG-003-0S, Design Control, Revision 8, Section 8.2.2, requires, in part, that design packages will be field installed in accordance with the maintenance program and that procedural requirements for maintenance activities such as functional testing shall apply to the design implementation.

Modification Support Procedure 17MS-MMS-002-0S, Design Change Request Processing, Revision 1, Section 7.4.3, requires, in part, that when developing post-modification tests, consideration will be given to the need to demonstrate proper functioning of modified equipment and that functional tests that are not described by existing plant procedures shall be performed by a special purpose procedure.

Contrary to the above, the following examples of inadequate testing procedures were identified:

1. Unit 2 Special Purpose Procedure 17SP-032697-PH-1-2S, Design Change Request 95-054 Dynamic Functional Test of the Feed Water Control System, Revision 0, did not demonstrate proper functioning of recently modified equipment in that, on April 22, 1997, an unexpected plant transient occurred due to a Reactor Recirculation System Pump runback. Section 7.4.38 of the procedure was not changed to reflect the modification. As a result, Unit 2 operated for a short period of time in the "Operation Not Allowed Region" of the reactor power-to-flow map.

Enclosure 1

2. An activity affecting quality on April 13, 1996, was not prescribed by documented instructions of a type appropriate to the circumstances. Unit 2 Surveillance Test Procedure 42SV-R43-008-2S, Diesel Generator 2A LOCA/LOSP LSFT, Revision 5, ED 1, did not contain precautions, prerequisites or identify appropriate pretest conditions to prevent an unexpected engineering safety feature actuation during testing.

This is a Severity Level IV Violation (Supplement 1).

Pursuant to the provisions of 10 CFR 2.201, Southern Nuclear Operating Company, Inc. is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555, with a copy to the Regional Administrator, Region II, and a copy to the NRC Resident Inspector, Hatch Nuclear Plant, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. However, if you find it necessary to include such information, you should clearly indicate the specific information that you desire not to be placed in the PDR, and provide the legal basis to support your request for withholding the information from the public.

Dated at Atlanta, Georgia  
this 17th day of June 1997

Enclosure 1



U.S. NUCLEAR REGULATORY COMMISSION

REGION II

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

Report No: 50-321/97-03, 50-366/97-03

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

Facility: E. I. Hatch Units 1 & 2

Location: P. O. Box 439  
Baxley, Georgia 31513

Dates: April 6 - May 17, 1997

Inspectors: B. Holbrook, Senior Resident Inspector  
E. Christnot, Resident Inspector  
J. Canady, Resident Inspector  
L. Stratton, Safeguards Inspector, (Section P8.1)

Approved by: P. Skinner, Chief, Projects Branch 2  
Division of Reactor Projects

Enclosure 2

9707030207 48 pp.

## EXECUTIVE SUMMARY

Plant Hatch, Units 1 and 2  
NRC Inspection Report 50-321/97-03, 50-366/97-03

This integrated inspection included aspects of licensee operations, engineering, maintenance, and plant support. The report covers a 6-week period of resident inspection; in addition, it includes a portion of the results of an announced inspection by a regional safeguards inspector.

### Operations

- The operators and the shift technical advisor responded properly when the Unit 2 reactor entered the "Operation Not Allowed Region" of the power-to-flow map following a Reactor Recirculation System runback on April 22. Personnel response to the runback was considered good (Section 01.1).
- Clearance deficiencies associated with the main steam lines and the Transversing Incore Probe System were identified. The licensee is reviewing the root cause and corrective actions for these deficiencies in conjunction with the corrective actions for a recent NRC violation associated with previous clearance problems (Section 01.1).
- The Unit 2 main turbine overspeed trip test was conducted in a controlled manner. The shift pre-brief was thorough and personnel involved in the testing were cognizant of their job functions. The use of state-of-the-art communications equipment in the control room allowed operators to devote more attention to system controls and indications (Section 01.2).
- The Unit 2 startup was performed using effective communications, command and control, engineering support, and management oversight. The activities and performance of the shift technical advisors and operators for control rod movement activities were excellent. All other activities were good (Section 01.3).
- The inspectors did not identify any condition during the Unit 2 drywell walkdown that presented a system operability or Emergency Core Cooling System (ECCS) strainer blockage concern. No system leaks were observed. System insulation appeared to be properly placed and, except for one minor deficiency that was immediately repaired, appeared to be securely attached (Section 02.1).
- The inspectors concluded that the observed operation of systems affected by various modifications during the recent Unit 2 refueling outage was satisfactory. The inspectors did not identify system deficiencies as a result of modifications (Section 02.2).

Enclosure 2



- Following the Unit 2 Scram on April 22, operators used procedures, communicated well, and made the required NRC notification. Supervisory oversight was evident. The Event Review Team investigation was thorough and comprehensive. A weakness was identified in operator performance for failure to observe control room indications and identify an ongoing loss of condenser vacuum. The inspectors considered management's failure to provide specific direction or guidance to monitor a system that had not performed satisfactorily for about 10 years (B SJAE) and recently placed in service during unit startup to be significant oversight (Section 04.1).

#### Maintenance

- Maintenance activities were generally completed in a thorough and professional manner. No deficiencies were identified (Section M1.1).
- The inspectors concluded that the maintenance and engineering activities associated with trouble shooting the Unit 2 High Pressure Cooling Injection System auxiliary oil pump ground was reasonable and thorough. Replacing the pump motor was appropriate. The Engineering evaluation which determined that the system was not rendered inoperable due to the ground was reasonable (Section M1.2).
- The Infrared Thermography program was not fully developed to procedurally address the safety-related, normally energized CR120 relays. Adequate cooperation between Maintenance Engineering and Nuclear Safety and Compliance personnel was demonstrated to identify the CR120 relays that were inaccessible for infrared thermography surveys (Section M1.3).
- The surveillance procedure activities observed and reviewed were thorough and professional. The procedures were used under the continuous use requirements with engineering, Shift Technical Advisor, and supervisory oversight. Personnel use and performance of the Surveillance Procedures were excellent (Section M3.1).
- Non-Cited Violation (NCV) 50-366/97-03-01, Failure To Follow Procedure During Welding Process of Unit 2 Reactor Core Isolation Cooling Valve, was identified. The root cause of the problem was not conclusively determined. The human behavior demonstrated for failure to report the problem to licensee management was a serious concern. Plant management took timely corrective actions. The Quality Control inspectors' identification and followup actions for the unauthorized work was excellent (Section M4.1).

- The movement of Unit 2 control rods with the Source Range Monitoring System surveillance not performed within the required frequency was a violation of Unit 2 Technical Specifications and was identified as NCV 50-366/97-03-02, Data Entry Error Results in Missed Technical Specification Surveillance on Unit 2. Personnel error for data entry to the surveillance schedule task sheet was the root cause. Licensee immediate corrective actions were appropriate (Section M4.2).

### Engineering

- The licensee's actions that resulted in the identification of a non-safety related valve being used in a safety-related application was excellent. The reviews and evaluations performed upon discovery of the problem were thorough and timely. This was identified as NCV 50-321/97-03-03, Failure to Commercially Dedicate Isolation Valve (Section E1.1).
- Engineering's timely followup action upon the discovery of the wiring-to-drawing inconsistency in the 2F 4160 volt alternating current switchgear resulted in prompt corrective actions by maintenance. The circuit analysis by the licensee's engineering staff and the Architectural Engineer which indicated that failures of the involved circuits would not impact the ability to safely shut down the units was reasonable (Section E1.2).
- A violation occurred when a special purpose test procedure did not reflect a recent Unit 2 feedwater control circuit modification and an unexpected plant transient occurred. This was identified as an example of Violation 50-366/97-03-04, Inadequate Procedures for Testing Activities - Multiple Examples (Section E2.1).
- The inspectors concluded that engineering personnel adequately addressed the GL 96-01, Testing of Safety-Related Logic Circuits, issue involving the 2E, 2F and 2G 4160 volt switchgear alternate supply breakers. Test results met the applicable test acceptance criteria (Section E2.2).
- The inspectors concluded from the reviews and observations of Unit 2 modified systems that the overall post-modification tests of the systems, except for the two deficiencies noted, were adequate. Training for the operators on the modifications was adequate (Section E2.3).
- The licensee's current program for determining the operability of sealed penetrations was adequate. Management was aware of the issues associated with the sealed penetrations and the fire protection program and provided satisfactory support. A weakness was identified for specialized training documentation provided to craft persons who install and repair sealed penetrations. QC



personnel's annual eye examinations review met the requirements. The inspectors did not identify any deficiencies with the penetrations that were inspected (Section E2.4).

- The logic system functional test procedure for the 2A emergency diesel generator did not contain precautions or prerequisites nor identify appropriate pretest conditions to prevent an unexpected Engineered Safety Function actuation during testing. This is an example of Violation 50-366/97-03-04, Inadequate Procedures for Testing Activities - Multiple Examples (Section E3.1).
- The performance of the Unit 2 pressure test and the followup test of the Class 1 system were performed in accordance with approved procedures. The overall activities were performed with engineering, quality control, and supervisory oversight. The performance of the pressure tests and the repair of identified leaks were considered to be excellent (Section E4.1).

#### Plant Support

- The inspectors concluded that, in general, radiological controls were satisfactory with designated personnel assigned to assist, monitor, and control radiological activities. Minor deficiencies were discussed with licensee management (Section R1.1).
- The licensee's implementation of the General Employee Training program for contractors was satisfactory. All training records reviewed indicated that personnel were either provided training or had passed the required examinations to obtain credit for previous training. The inspectors concluded that all personnel were satisfactorily trained for their level of site access (Section R5.1).
- One emergency preparedness exercise objective, The Ability for Prompt Notification to the State, Local and Federal Authorities, was not met during the exercise conducted on May 6. The inspectors concluded that no significant improvements were observed with regard to notifications as compared to performance observed in June 1996. The licensee's post-exercise critique and overall exercise assessment to self identify areas for improvement were considered to be excellent (Section P4).
- The inspectors concluded that the areas of security inspected met the applicable requirements (Section S2).

## Report Details

### Summary of Plant Status

Unit 1 began the report period at 100% rated thermal power (RTP). Power was reduced to about 78% RTP on April 24 to repair a motor cooling coil leak on the "B" condensate pump. RTP was achieved on April 26. Power was reduced to about 90% RTP on May 10, to repair a cooling water leak on the "C" condensate pump. Reactor power was restored to RTP the same day and was maintained throughout the report period, except for routine testing activities.

Unit 2 began the report period in day 23 of a scheduled 34 day refueling outage. Following the refueling outage, the reactor was brought critical on April 18, and was tied to the grid on April 20. The unit experienced a runback of both reactor recirculation pumps from about 67% RTP to about 45% RTP on April 22, during feedwater flow control system testing. Power was increased to about 65% RTP following the transient. On April 22, an automatic reactor scram occurred on a Turbine Stop Valve Closure signal when the main turbine tripped on low condenser vacuum. The reactor was brought critical on April 24 and power was increased to about 80% RTP. On April 27, power was reduced in preparation to remove the "B" condensate booster pump from service due to a high bearing temperature alarm. Power was increased following an investigation which revealed that the high bearing temperature alarm was false. RTP was achieved on April 29. On May 4, unit power was reduced to 85% RTP to backwash, precoat and place in service a condensate demineralizer. RTP was achieved on May 5, and was maintained throughout the remaining report period, except for routine testing activities.

## I. Operations

### 01 Conduct of Operations

#### 01.1 General Comments (71707)

The inspectors conducted frequent reviews of ongoing plant operations. In general, the conduct of operations was professional and safety-conscious; specific events and observations are detailed in the sections below.

During the Unit 2 startup, a Reactor Recirculation System runback occurred on April 22. The runback was caused by post-modification testing a Reactor Feed Pump Turbine Control System upgrade. The operators and the shift technical advisor (STA) responded properly when the reactor entered the "Operation Not Allowed Region" of the reactor power to flow map. The region was immediately exited using control rods and increased recirculation flow. The operator response to the runback was good. Additional discussion of the runback is documented in section E2.1 of this report.

Enclosure 2



The inspectors observed and were informed by operations management that clearance problems associated with the main steam lines (MSL) and the Transversing Incore Probe (TIP) system were identified. During the restoration of the MSLs, licensee personnel observed water coming from the MSL pipe chase area and going down into the torus area. The inspectors were informed that drain valves used for local leak rate testing were inadvertently left open.

The clearance problem associated with the TIP system involved the manual hand cranking operation and resulted in a TIP being left outside of the shield. No over-exposure resulted in the occurrence. A violation was issued in inspection report 50-321, 366/97-02 involving a clearance problem which resulted in the start of an Emergency Diesel Generator. The inspectors will include the licensee's review of the root cause and corrective actions for these clearance problems in conjunction with the corrective actions for the previous violation.

#### 01.2 Main Turbine Overspeed Testing During Startup Activities

##### a. Inspection Scope (7i707)

The inspectors observed overspeed trip testing of the Unit 2 main turbine in accordance with procedure 34IT-N30-004-2S, "Turbine Overspeed Trip Test", Revision (Rev.) 1.

##### b. Observations and Findings

On April 20, the inspectors observed the shift supervisor conduct a shift pre-brief prior to the start of the test. The inspectors observed the use of three-part communications during the pre-brief and the testing. The inspectors also observed the use of state-of-the-art wireless communications equipment (low powered cellular phone with headset) by the operators during the testing activities. This provided improved communications while performing switch manipulations.

Overspeed and backup overspeed trip tests were performed in accordance with the procedure. The backup overspeed trip test was within the acceptance criteria of procedure 34IT-N30-004-2S but the overspeed trip occurred at a turbine speed less than that specified by the procedure (1860 vs 1953 Revolutions Per Minute (RPM)). Tripping sooner than the acceptance criteria was considered to be conservative by the licensee. General Electric personnel provided approval for the actual trip value of 1880 RPM. The inspectors observed that the overspeed trip test was considered unsatisfactory until a letter from General Electric was received indicating approval of the lower overspeed trip value.

c. Conclusions

The shift pre-brief was thorough. Personnel involved in the testing activity were cognizant of their job functions and the test was conducted in a controlled manner and in accordance with procedures. The use of state-of-the-art communications equipment provided improved communications techniques while performing switch manipulations and allowed the operators to devote more attention to system controls and indications.

01.3 Unit 2 Startup Observations

a. Inspection Scope (71707) (71711)

The inspectors observed Unit 2 control room (CR) startup activities following the refueling outage. The observations included the use of appropriate procedures, operator communications, STA activities, engineering support, control by on-shift supervision, and management oversight.

b. Observations and Findings

The inspectors observed Unit 2 startup activities following the refueling outage. Prior to the startup, the inspectors performed a walkdown of the nuclear instrumentation/incore monitoring system and the emergency power system to verify system configuration and performance.

The inspectors observed the use of procedures during the startup activities and verified that they were the correct revision. Among the Hatch System Operating Procedures (HSOP) used were: 34GO-OPS-001-2S, "Plant Startup," Rev. 30; 34SO-B31-001-2S, "Reactor Recirculation System," Rev. 20, and 34SO-N30-001-2S, "Main Turbine Operation," Rev. 17. Among the Hatch Test and Inspection Procedures (HT&IP) and Hatch Surveillance Procedures (HSP) used were: 34IT-N21-001-2S, "Reactor Feed Pump Turbine Overspeed Trip Test and Dynamic Checks," Rev. 6, 34SV-SUV-021-0S, "APRM Adjustment to Core Thermal Power," Rev. 6, 34SV-SUV-025-0S, "Core Heat Balance," Rev. 8, and 34SV-C51-003-2S, "LPRM Operational Status," Rev. 3. The inspectors noted that Rev. 6 of the procedure for APRM adjustment was dated April 10, 1997. This procedure was revised due to the installation of the new Power Range Neutron Monitoring (PRNM) system that was installed during the refueling outage.

The inspectors observed that the CR personnel generally used three-part communications and the phonetic alphabet. Command and control and oversight by the shift supervisors were effective. Crew briefings were conducted prior to major evolutions.



The inspectors observed that an audit of the startup was being performed by the onsite audit group on an around-the-clock basis. The inspector observed that the Plant General Manager, Assistant General Manager-Plant Operations, and Unit Superintendents were routinely present in the CR on a shiftly basis.

The inspectors observed, prior to the startup, the performance of the reactor vessel pressure test, procedure 42IT-TET-006-2S, "ISI Pressure Test of Class 1 System and Recirculation Pump Runback," Rev. 2. During the pressure test, procedure 42SV-C11-003-0S, "Control Rod Scram Testing," Rev. 2, was also performed. Additional observations on the vessel pressure test are provided in Section E4.1 of this report.

Control rod sequence and rod withdrawal were controlled by Rod Movement Sequence sheets. During control rod movements, the inspectors observed that a second verifier was used to ensure that proper control rod movements were performed.

Engineering support was observed during the startup for post-modification testing, nuclear instrumentation adjustments, and process computer troubleshooting. The STA activities observed included the performance of surveillance procedures, verifying proper control rod withdrawal, and performing heat balance calculations.

A runback occurred during the unit startup and is discussed in Sections 01.1 and E2.1 of this report. A reactor scram occurred during the startup and is discussed in Section 04.1 of this report.

c. Conclusions

The inspectors concluded that the startup was performed using effective communications, command and control, engineering support, and management oversight. Operators and engineering personnel used appropriate procedures and control rod pull sheets. It was also concluded that the activities of the STAs and the control rod movement activities were excellent. All other startup activities were good.

02 Operational Status of Facilities and Equipment

02.1 Unit 2 Drywell Closeout After Refueling Outage (71707)

The inspectors reviewed procedure 34GO-OPS-028-2S, "Drywell Closeout", Rev. 7, and conducted a drywell walkdown to observe general housekeeping conditions, system insulation installation, and observe systems for leakage.

The inspectors considered housekeeping to be good, although a few small items of debris, such as plastic tie wraps, small pieces of wire, plastic and paper, were observed. Licensee personnel immediately collected the items. The inspectors observed one piece of blanket insulation that was not securely attached at one end. This was immediately repaired. The inspectors observed that several retaining clips for mirror-backed insulation were missing while others were repaired by wire. The inspectors observed that several pieces of new insulation were installed as well as some new floor grating.

The inspectors discussed the condition of the insulation with licensee management and were informed that the new insulation was a result of a drywell insulation upgrade initiative. The licensee plans to upgrade the drywell insulation over the next several refueling outages. The new floor grating was a result of employee safety concerns identified during the last refueling outage.

The inspectors did not identify any condition in the drywell that presented a system operability or ECCS strainer blockage concern. No system leaks were observed. System insulation appeared to be properly placed and, except for the comments above, appeared to be securely attached.

## 02.2 Observations of System Performance During Unit 2 Refueling and Startup

### a. Inspection Scope (71707) (60710)

The inspectors observed specific Unit 2 system performance during refueling and startup following the spring 1997 refueling outage. The observations also included operations at RTP.

### b. Observations and Findings

The observations of system performance focused on systems which were modified during the refueling outage. Among the systems observed were the following:

- the main turbine, which had three stages to the high pressure turbine replaced;
- the reactor feed pump turbines, which had an upgraded control system installed to give the system more versatility, including supplying the two systems from separate power sources to address a single failure problem;



- the Condensate Demineralizer System, which had its pneumatic control system replaced with an electronic system; and
- the cooling water to the plant service water pumps, which had check valves removed.

The systems observed operated satisfactorily up to and including RTP.

c. Conclusions

The inspectors concluded that the operation of systems affected by various modifications during the recent Unit 2 refueling outage was satisfactory. The inspectors did not identify deficiencies as a result of modifications.

04.0 Operator Knowledge and Performance

04.1 Unit 2 Turbine Trip and Reactor Scram Due to Loss of Condenser Vacuum

a. Inspection Scope (92901)

The inspectors reviewed procedures, 34AB-C71-001-2S, "Scram Procedure", Rev. 6, ED 2, Emergency Operating Procedure "RC RPV Control (Non-ATWS)", Rev. 5, 00AC-REG-001-0S, "Federal and State Reporting Requirements", Rev. 4, 34AB-T22-003-2S, "Secondary Containment Control", Rev. 2, and observed scram recovery and corrective actions for a Unit 2 automatic Scram that occurred on April 22, 1997.

b. Observations and Findings

On April 22, Unit 2 was at about 55 % RTP. Unit power was increased to about 75% RTP following startup after a scheduled 34-day refueling outage. Power was subsequently reduced to 55% RTP to conduct Feedwater Control System testing.

Operators received a high hotwell level alarm and, during their panel review, observed that condenser vacuum was decreasing. The turbine tripped on low vacuum and the reactor automatically scrammed, as expected. Reactor level decreased to about -45 inches (top of active fuel is about -165 inches). High pressure ECCS initiated as expected and operators manually injected water with the standby reactor feed pump (RFP). Reactor water level was increased. The RFP tripped on high level and operators manually secured the ECCS.

One of the inspectors responded to the site to observe operator scram recovery actions and assess licensee performance. The inspector observed that operators used procedures, communicated well and supervisory oversight was evident. The inspector reviewed the emergency operating procedures (EOPs) used and concluded that operators took the appropriate actions for the existing plant conditions. The inspector verified that secondary and primary systems isolated as required and were reset and returned to normal. The 10 CFR 50.72 report to the NRC was made within the allowed time limit.

The inspectors discussed the problem with Event Review Team (ERT) members, operators on shift, and operations management. Initially the operators suspected a problem with the B Steam Jet Air Ejector (SJAE). The B SJAE, which had not operated satisfactorily for about 10 years, was placed in service for unit startup. Inspector observations of previous SJAE problems are documented in Inspection Report (IR) 50-321, 366/96-04. Recent maintenance activities were completed to repair the SJAE. The SJAE was successfully placed in service during the Unit 2 shutdown activities prior to the refueling outage and remained in service until the unit was removed from service.

The inspector observed main control room chart recorders that provided indication of potential condenser vacuum problems. The inspectors observed that the recorder for condenser circulating water temperature (inlet and outlet temperature) indicated a divergent trend for about 15 hours prior to the Scram. Since reactor power had been increased, this indication was expected to show some divergence. However, temperature indicated a significant increase about 45 minutes prior to the scram and during this time reactor power was not increased. The inspectors considered this as an early indication that potential vacuum problems existed.

The recorder for condenser vacuum indicated that the B pen showed no condenser vacuum decrease. However, the A pen showed a divergence from the B pen and decreasing vacuum for about 6 hours prior to the scram. Although some divergence is expected, a significant difference was observed about 45 minutes prior to the scram. A more questioning attitude toward this indication may have resulted in early detection of the vacuum problem. The operator performance for failure to observe control room indicators and identify an ongoing loss of condenser vacuum is identified as a weakness.



The ERT identified several items that needed to be resolved prior to unit startup and other items that may require long term resolution. The inspectors concluded that the priorities placed on the items were appropriate.

The inspectors discussed management's failure to provide specific direction or guidance to monitor a system that had not performed satisfactorily for about 10 years (B SJAE) and placed in service during unit startup. The inspectors considered this lack of direction to be a significant oversight.

The startup issues were corrected and a unit startup was initiated on April 24.

c. Conclusions

The inspectors concluded that following the Unit 2 scram, operators used procedures, communicated well, and made the required NRC notifications. Supervisory oversight was evident. The ERT investigation was thorough and comprehensive. A weakness was identified for operator performance for failure to observe control room indications and identify an ongoing loss of condenser vacuum. The inspectors considered management's failure to provide specific direction or guidance to monitor a system that had not performed satisfactorily for about 10 years (B SJAE), and recently placed in service during unit startup, to be a significant oversight.

08 Miscellaneous Operations Issues (92901) (92700) (90712)

08.1 (Closed) Violation 50-321, 366/96-13-03: Failure to Follow Procedure - Multiple Examples.

A plant equipment operator failed to follow the requirements of Hatch Administrative Control Procedure 30AC-OPS-001-0S, "Control of Equipment Clearances and Tags," Rev. 15, while performing a clearance for the 1A control rod drive pump.

The licensee's response to this violation, dated December 19, 1996, indicated that the individual involved was disciplined in accordance with the company's positive discipline program. In addition to the disciplinary actions, the accuracy in hanging clearances and tags and performing peer checks were emphasized during pre-job briefs. Based upon the inspectors' review of licensee actions, this violation example is closed. Other examples of this violation are closed in sections M8.2 and R8.1 of this report.

- 08.2 (Closed) LER 50-366/1997-07: Loss of Main Condenser Vacuum Results in a Main Turbine Trip and Automatic Reactor Shutdown. This event is discussed in section 04.1 of this report. No new issues were revealed by the LER. This LER is closed.
- 08.3 (Closed) LER 50-366/1997-005: Personnel Error Results in Unplanned Automatic Engineered Safety Feature Actuation. This event is discussed in section 01.6 of IR 50-321, 366/97-02. This problem was identified as an example of failure to follow procedure - multiple examples. No new issues were revealed by the LER. This LER is closed.

## II. Maintenance

### M1 Conduct of Maintenance

#### M1.1 General Comments

##### a. Inspection Scope (62707)

The inspectors observed or reviewed all or portions of the following work activities:

- MWO 1-96-2712: clean, inspect, and meggar test 1R24-S009, 600/208V alternating current motor control center 1A
- MWO 2-97-1306: remove and replace high pressure coolant injection (HPCI) turbine auxiliary oil pump motor
- MWO 2-97-1041: install a seal welded metal gasket at the flange connection of reactor vessel head nozzle 6B per design change request (DCR) 97-019
- MWO 2-96-3005: pull cables for PRNM DCR 94-008
- MWO 2-97-0033: pull cables for feedwater control DCR 95-054
- MWO 1-97-0745: replace Nelson fire seal per 42FP-FPX-003-0S
- MWO 2-97-0937: check and repair penetration per 42FP-FPX-014-0S

##### b. Observations and Findings

The inspectors observed that the work was performed with the work packages present and being actively used. The inspectors observed that during the cleaning and inspecting of the 1A motor control center, a four-wire rig was used to short the three phases and the fourth wire was used to ground the phases. Each of the three wires used to short the phases was individually danger tagged.

Enclosure 2



However, the fourth wire (the grounding wire) was not danger tagged. The inspectors questioned whether this was a good practice for personnel safety. The inspectors discussed this observation with the maintenance supervisors and system clearance management and were informed that the danger tags were placed for equipment protection and not personnel safety.

MWO 2-97-1306, the replacement of the auxiliary oil pump motor is discussed in Section M1.2 and MWO 2-97-1041, the seal welded metal gasket, is discussed in Section E4.1 of this report. The MWOs associated with cable pulls and fire protection penetrations are discussed in Section E2.4 of this report.

c. Conclusions on Conduct of Maintenance

Maintenance activities were generally completed in a thorough and professional manner. No deficiencies were identified by the inspectors.

M1.2 Ground on Unit 2 HPCI Auxiliary Oil Pump.

a. Inspection Scope (62707) (92902)

The inspectors reviewed Deficiency Cards (DC) 97-2240, "HPCI Auxiliary Oil Pump Caused a Ground," procedure 00AC-REG-001-0S, "Federal and State Reporting Requirements," Revision (Rev.) 4, and reviewed maintenance and engineering activities to repair the HPCI auxiliary oil pump. The inspectors also reviewed the licensee's 10 CFR 50.72 Report and a HPCI operability evaluation.

b. Observations and Findings

Following a Unit 2 scram on April 22, operations personnel identified that the HPCI auxiliary oil pump caused a ground on the associated power bus. The ground cleared about 5 minutes after the pump was secured. Operators initiated a DC for maintenance to identify and repair the ground. Maintenance personnel used procedure 50AC-MNT-001-0S, "Maintenance Program," Rev. 24, in an attempt to identify the problem but were not successful. The HPCI auxiliary oil pump was started several times in an attempt to duplicate the ground problem. However, the ground did not return. No further maintenance actions were performed and the system was placed in service.

On April 30, during the performance of the HPCI system monthly surveillance, the ground reappeared. The breaker for the pump was opened and the ground cleared. Again maintenance personnel were unable to find any problem with the pump motor. When the pump motor breaker was reclosed the ground did not return. The HPCI surveillance was repeated and the ground re-appeared.

The licensee declared the HPCI system inoperable, initiated the required TS action statement, and made a 10 CFR 50.72 notification.

Maintenance personnel inspected the oil pump motor and discovered a problem with the motor armature. The motor was replaced, a functional test was performed, and the system was declared operable.

Nuclear Safety and Compliance (NSAC) personnel reviewed the ground problem and work activities to determine if the actions completed on April 22 should have reasonably identified and corrected the problem and prevented the ground on April 30. They concluded that the maintenance activities completed on April 22 would not have reasonably identified the problem.

As part of the NSAC review, engineering personnel concluded that the auxiliary oil pump ground would not have prevented the HPCI system from performing its intended safety function. The auxiliary oil pump supplies initial oil until the shaft driven oil pump reaches sufficient speed to supply the required components. The inspectors reviewed Unit 2 Final Safety Analysis Report (FSAR) sections 6.3, 7.3.1, and 7.8, "ECCS." The FSAR indicated that the auxiliary oil pump should operate until the main pump speed reached about 2000 RPM. Engineering personnel determined that time to be about 10 to 15 seconds. The auxiliary oil pump had operated several times in excess of 30 minutes during the trouble shooting activities with no failures. Licensee personnel withdrew the 10 CFR 50.72 notification on May 9.

c. Conclusions

The inspectors concluded that the maintenance and engineering activities associated with trouble shooting the HPCI auxiliary oil pump ground were reasonable and thorough. Replacing the pump motor was appropriate. The engineering evaluation which determined that the HPCI was not rendered inoperable was reasonable. Withdrawing the 10 CFR 50.72 notification on May 9 was appropriate.

M1.3 Inaccessible CR120 Relay Evaluation for the Infrared Thermography Program

a. Inspection Scope (92902)

The inspectors conducted discussions with licensee personnel and reviewed procedure 53PM-MON-003-0S, "Infrared Thermography Program," Rev. 2. The discussions and procedural review were



associated with the identification and evaluation of safety-related CR120 relays that are inaccessible for infrared thermography surveying.

b. Observations and Findings

The licensee, as part of its corrective actions, had committed in LER 321/96-15-00 to identify the normally energized, safety-related CR120 relays that are inaccessible for thermography surveying and to evaluate these relays for initial and periodic replacement. This LER was closed in inspection report (IR) 50-321, 366/97-02.

The inspectors were provided a list that tentatively identified 23 safety-related CR120 relays for Unit 1 that were inaccessible for thermography surveying. These relays were identified through a joint effort between Maintenance Engineering, and NSAC personnel. The licensee plans to replace each of the 23 relay coils on Unit 1, unless a panel walkdown indicates that thermography testing can be performed and the thermography results indicate that the coil does not need replacing. The evaluation also indicated that the list of CR120 relays for Unit 1 had only one failure after 15 years of service. The licensee determined that a conservative periodic replacement for the relays would be every 10 years.

The normally energized safety-related CR120 relays on Unit 2 are accessible for thermography and have had thermography temperature readings performed. The temperature readings obtained indicate that the relays do not require coil replacement at this time.

The procedure, 53PM-MON-003-0S, indicated that the Infrared Thermography Program is scheduled and controlled by Maintenance Engineering. The procedure contained all of the applicable CR120 relays with their locations listed in an attachment, except the relays located in the control room panels. These relays are written into an attachment in the procedure as they are surveyed. Additionally, the panel number, relay number, voltage, relay temperature, and related comments are documented on the attachment. Maintenance Engineering stated that the procedure will be revised soon to reflect a listing of the relays in the control room with panel numbers. These relays have been identified but the procedure has not been updated to reflect the additional relay information.

c. Conclusions

The Infrared Thermography program has not been fully developed and procedurally addressed for the safety-related, normally energized CR120 relays. Adequate cooperation between Maintenance

Enclosure 2

Engineering and NSAC was demonstrated in the identification of those CR120 relays that are inaccessible for infrared thermography surveys.

### M3 Maintenance Procedures and Documentation

#### M3.1 Surveillance Observations

##### a. Inspection Scope (61701) (61726)

The inspectors observed all or portions of various Unit 1 and Unit 2 surveillance activities. The majority of the surveillance activities observed involved the Unit 2 refueling outage and startup.

##### b. Observations and Findings

Among the activities observed and the Hatch Surveillance Procedures (HSP) used were as follows:

- HSP 34SV-SUV-025-0S, "Core Heat Balance," Rev. 8
- HSP 34SV-R43-004-1S, "Diesel Generator 1A Semi-Annual Test," Rev. 11
- HSP 34SV-SUV 021-0S, "APRM Adjustment to Core Thermal Power," Rev. 6
- HSP 42SV-R43-016-2S, "Diesel Generator 2C LOCA/LOSP LSFT," Rev. 5, ED 1
- HSP 42SV-C11-003-0S, "Control Rod Scram Testing," Rev. 2
- HSP 34SV-C11-004-2S, "CRD Timing," Rev. 6
- HSP 42SV-R43-018-2S, "Diesel Generator 2A Logic System Function Test," Rev. 4, ED 1
- HSP 42SV-C11-003-0S, "LPRM Operational Status," Rev. 3
- H.P. 57CP-C51-012-0S, "LPRM Detector I/V Curve,"
- HSP 42SV-E41-002-2S, "HPCI LSFT"

The inspectors reviewed the following completed HSPs:

- HSP 42SV-R43-008-2S, "Diesel Generator 2A LOCA/LOSP LSFT," Rev. 5, ED 1
- HSP 42SV-R43-012-2S, "Diesel Generator 1B LOCA/LOSP LSFT," Rev. 6, ED 2

The inspectors noted that the HSPs for the 1B, 2A and 2C Emergency Diesel Generator Loss of Coolant Accident (LOCA)/Loss of Offsite Power (LOSP) logic system function tests (LSFT) were temporarily changed. The changes added two attachments to the procedures and were performed in section 7.4, "Loss of Offsite Power," of each procedure. The changes were reviewed and approved in accordance with the plant procedure change process. The attachments verified that the logic for the alternate supply breakers on the diesel



switchgears functioned as required for a LOSP. Additional inspector observations associated with the alternate supply breaker are contained in Section E2.2 of this report.

The HSPs involving heat balance, average power range monitors scram testing, and local power range monitors were performed with Shift Technical Advisor (STA) and/or reactor engineering oversight. The HSPs involving the Unit 2 diesel generators were performed with system engineering oversight.

c. Conclusions

The HSP activities were generally completed in a thorough and professional manner. The procedures were used under the continuous use requirements with engineering, STA, and supervisory oversight. The use and performance of the HSPs were excellent.

M4 Maintenance Staff Knowledge and Performance

M4.1 Unauthorized Maintenance Activities on the Unit 2 Reactor Core Isolation Cooling (RCIC) System

a. Inspection Scope (92902) (92903)

On about April 11, the inspectors were informed that unauthorized maintenance had occurred on valve 2E51-F102, RCIC Exhaust Line Vacuum Breaker for Unit 2. Unit 2 was in day 20 of a scheduled 34-day outage. The inspectors reviewed the following documents: procedures 50AC-MNT-001-0S, "Maintenance Program," Rev. 24 and 10AC-MGR-004-0S, "Deficiency Control System," Rev. 10; MWOs 2-97-734, Replace Valve Weld on Valve 2F51-F103 and 2-97-891, Repair Ground-out Seal Weld on Valve 2E51-F102; DCs 97-1666, Grinding Observed On Weld Of Valve 2E51-F102 and 97-1836, Grinding On Valve 2E51-F102 Was Repaired Without Proper Authorization; and Drawing H26023, RCIC System. The inspectors discussed the maintenance activities with licensee management, quality control (QC), and maintenance personnel.

b. Observations and Findings

Valve 2E51-F102 is one of two 1½-inch check valves in series designed to prevent torus water from being drawn into the RCIC turbine exhaust line after the system has been in operation and subsequently shutdown. The second valve is 2E51-F103, and is located adjacent to the 2E51-F102 valve. The RCIC system requirements are in Technical Specification (TS) section 3.5.3, RCIC System. The Unit 2 RCIC System is described in Section 5.5.6, of the Unit 2 FSAR. The RCIC is not an Engineered Safety Feature System and no credit is taken in the safety analysis for

the RCIC system operation. The licensee treats the RCIC system and components as safety-related.

On about April 3, a QC inspector was assigned to perform a liquid penetrant test (PT) on valve 2E51-F103 following maintenance to correct leakage identified during local leak rate testing. During the performance of the PT the QC inspectors observed that grinding had occurred on the bonnet seal weld area of the adjacent valve, 2E51-F102. The grinding was approximately three inches around the bonnet-body weld. The grinding seemed abnormal to the inspector since there were no known work to be performed on the 2E51-F102 valve. The QC inspector also observed that neither valve contained an identification label. This was consistent with site procedure requirements for check valves. The QC inspector suspected that someone may have worked on the incorrect valve. The inspector reported his observations to management and initiated DC 97-1666 to document his observations. Maintenance personnel began a review of the circumstances surrounding the grinding work activities.

A MWO was initiated to repair the grinding on the 2E51-F102 valve. The work was to be performed per MWO 2-97-891. On about April 4, when the welder arrived at valve 2E51-F102 to implement the welding repair, he observed that the work had already been completed. The completed work was reported to management. This observation was documented on DC 97-1836.

A detailed review of the work activity was initiated by licensee management. Their review identified that valve 2E51-F103 was carbon steel in both the bonnet and valve body. The weld and fill material identified for this valve repair was correct. However, valve 2E51-F102, that was repaired without proper authorization contained a stainless steel bonnet with a carbon steel body. The unauthorized work was performed with the same weld and fill material used on the 2E51-F103 valve and resulted in an incorrect weld repair. Additionally, current drawings did not identify that valve 2E51-F102 contained a stainless steel bonnet. A welder was directed to grind out the weld material and reweld the valve. QC personnel inspected the repair work and concluded that the work was satisfactory.

The inspectors reviewed procedure 51GM-MNT-029-OS, "Repair and Replacement Welding," Rev. 4, which is used to develop weld process sheets, and procedure 51GM-MNT-025-OS, "General Welding Requirements For Pressure Boundary Applications," Rev. 4, ED 1, which is used for all pressure boundary welding and for some non-pressure boundary welding. The inspectors observed that step 7.1.2.1 of procedure 51GM-MNT-025-OS, requires, in part, that welding shall be performed using welding material which meet the requirements of the Filler Material Specification Procedure and

Enclosure 2



shall be controlled and issued in accordance with the Welding Filler Material Control Procedure. In this case, procedures were not used and incorrect weld filler material was used for valve 2E51-F102.

The inspectors reviewed procedure 50AC-MNT-001-0S, "Maintenance Program," Rev. 24, and observed that step 4.2.5 states, in part, that management is to ensure that plant maintenance is performed and controlled within the boundaries of Work Instructions of MWOs and/or procedures described in the procedure. In this case, work was performed on valve 2E51-F102 that was not described in any work instruction.

The inspectors reviewed procedure 10AC-MGR-004-0S, "Deficiency Control System," Rev. 10, and observed that section 4.11 required all personnel to report all problems identified. The procedure also required that a DC be written for items such as deficiencies in safety, quality, administrative controls not complied with, and incorrect personnel actions. In this case, several deficiencies occurred that were not initially reported or documented.

The inspectors discussed the problem with licensee management. The inspectors' concern was that a craftsman apparently performed unauthorized work on the 2E51-F102 valve and failed to report the error. Unauthorized repairs were attempted to correct the problem without informing or consulting with management and without proper work review and approval. Plant procedures were not followed with respect to reporting deficiencies, the initial error, and maintenance work activities performed that were not approved or controlled by the normal work control process.

The licensee determined the individual that performed the unauthorized work. Following several different discussions the individual admitted he performed work on the incorrect valve and attempted to correct the mistake. The individual stated he did not report the error because he did not want to get someone into trouble.

Licensee management considered these errors significant and required a Significant Occurrence review and subsequent report to senior plant management. As a result of the licensee's investigation and review, the craftsman involved in the errors was terminated from employment on April 22.

c. Conclusions

The inspectors concluded that the immediate cause of the problem was a failure to follow procedures. The root cause of the problem was not conclusively determined. The inspectors concluded that there was very little actual or potential safety significance for

Enclosure 2

plant operation. However, the human behavior demonstrated was a serious concern. The QC inspectors' identification and followup actions for the unauthorized work was excellent. Plant management took timely corrective actions. This licensee-identified violation constitutes a violation of minor safety significance and is being identified as NCV 50-366/97-03-01: Failure To Follow Procedure During Welding Process of Unit 2 Reactor Core Isolation Cooling Valve, consistent with Section IV of the NRC Enforcement Policy.

M4.2 Missed Technical Specification Surveillance on Unit 2

a. Inspection Scope (61726) (92902)

The inspectors were informed that TS surveillance 3.3.1.2 on Unit 2 for the Source Range Monitor (SRM) System was not performed within the required frequency. The inspectors reviewed the applicable TS requirements and licensee documentation with respect to the missed surveillance.

b. Observations and Findings

The inspectors reviewed the applicable TS requirements and observed that TS 3.3.1.2.5 requires a functional test of the SRMs to determine a signal-to-noise ratio once per 7 days. Licensee documentation indicated that the surveillance was last completed on March 28. On April 5, the SRMs should have been considered inoperable with no control rod movement until the surveillance was performed. However, on April 7, operators moved control rods to remove air from the system. Withdrawing control rods to remove air is a normal activity during a refueling outage and prior to unit startup.

The inspectors discussed the missed TS surveillance with operations, maintenance, and outage and planning personnel. The inspectors reviewed operator logs and verified that control rods were moved and the SRM surveillance had not been performed within the required frequency. The inspectors observed that following the completion of the surveillance on March 28, the computerized surveillance data base was not properly updated by outage and planning personnel. The next correct due date of the surveillance was April 4 with a late date of April 5. However, the scheduler entered a next due date as April 6 with a late date of April 7. Operations personnel reviewed the surveillance task sheets, which contained the incorrect due and late dates of the surveillance, considered the surveillance was current and moved control rods.

A licensee review of the surveillance status identified the error. The surveillance was satisfactorily completed within 2 hours of discovery of the error. Immediate corrective actions were

Enclosure 2



appropriate. The licensee determined that the cause of the problem was a data entry error on the part of the surveillance scheduler. The inspectors also determined that the cause was personnel error of data entry.

The inspectors reviewed licensee performance for the last two years and determined that no surveillance was missed due to a similar personnel error and no previous corrective action would have reasonably prevented this error.

This licensee-identified and corrected violation constitutes a violation of minor safety significance and is identified as NCV 50-366/97-03-02: Data Entry Error Results in Missed Technical Specification Surveillance on Unit 2, consistent with Section IV of the NRC Enforcement Policy.

c. Conclusions

The movement of Unit 2 control rods with the Source Range Monitoring System surveillance not performed within the required frequency was a violation of Unit 2 Technical Specifications and was identified as NCV 50-366/97-03-02: Data Entry Error Results in Missed Technical Specification Surveillance on Unit 2. Personnel error for data entry to the surveillance schedule task sheet was determined to be the root cause. Licensee immediate corrective actions were appropriate.

M8 Miscellaneous Maintenance Issues (92700) (92902) (90712)

M8.1 (Close) Violation 50-321/96-06-03: Failure to Follow Procedure During Safety-Related Valve Maintenance. The licensee responded to this violation in correspondence dated July 10, 1996. The inspectors reviewed the response and observed that among the corrective steps were the following:

- the involved licensee personnel and the contractor supervision personnel were counseled regarding the failure to obtain Authorized Nuclear Inservice Inspector and Quality Control Specialist reviews and signatures prior to valve maintenance activities;
- a program was established to review Maintenance Work Order packages assigned to contract personnel and requires a specific review prior to valve reassembly.

The inspectors discussed the program with licensee personnel and noted that similar deficiencies were not identified during the recent spring 1997 Unit 2 refueling outage. Based on the inspectors review of licensee actions and licensee performance, this violation is closed.

Enclosure 2

M8.2 (Closed) Violation 50-321, 366/96-13-03: Failure to Follow Procedure - Multiple Examples.

Maintenance personnel failed to label one-gallon containers as required by Hatch General Maintenance Procedure 51GM-MNT-017-OS, "Control of Lubricants," Rev. 1.

The licensee's response dated December 19, 1996, indicated that the importance of using lubricants from properly labeled containers was stressed to maintenance teams during team meetings. The inspectors conducted a spot check of mechanics to ascertain their knowledge of procedural requirements regarding container labeling. Maintenance mechanics questioned by the inspectors demonstrated knowledge of labeling procedural requirements. Personnel questioned also indicated that the importance of correct labeling is addressed during pre-job briefs. Based upon the inspectors' review of licensee actions, this violation example is closed.

M8.3 (Closed) LER 50-366/1997-006: Data Entry Error Results in Missed Technical Specifications Surveillance on Source Range Monitors. This event is discussed in section M4.2 of this report. No new information was revealed by the LER. This LER is closed.

### III. Engineering

E1 Conduct of Engineering

On-site engineering activities were reviewed to determine their effectiveness in preventing, identifying, and resolving safety issues, events, and problems.

E1.1 Failure To Commercially Dedicate a Unit 1 TIP Nitrogen Purge Solenoid Valve

a. Inspection Scope (37551)

The licensee discovered during a maintenance history review that the Traveling Incore Probe (TIP) nitrogen solenoid valve 1C51-F3012 was being used in a safety-related application without having been commercially dedicated.

The inspectors' review of the documents associated with this issue included the following:

- Hatch Administrative Control Procedure (HACP) 20AC-MTL-003-OS, "Commercial Grade Dedication," Revision (Rev.) 4
- HACP 40AC-ENG-012-OS, "System Evaluation Document Management," Rev. 1

Enclosure 2



- Edwin I. Hatch Nuclear Plant Unit 1 Neutron Monitoring System, P&ID Drawing H-16561, Sheet 2 of 2
- Edwin I. Hatch Nuclear Plant System Evaluation Document, Volume 3, Units 1 and 2 Safety Component List
- Edwin I. Hatch Nuclear Plant Equipment Locator Index (ELI) - Unit 1, and
- Georgia Power Purchase Order (PO) 6012036

b. Observations and Findings

During a maintenance history review on April 2, the licensee discovered that TIP solenoid valve 1C51-F3012 had been used in a safety-related application without having been commercially dedicated. The valve was declared inoperable and operations personnel entered the applicable section of the required action statements (RAS) for Technical Specification (TS) 3.6.1.3, Primary Containment Isolation Valves and TS 3.3.6.1, Primary Containment Isolation Instrumentation.

Nuclear Safety and Compliance (NSAC) personnel conducted an operability evaluation of the valves. During their review they determined that the solenoid for the current Unit 1 valve was installed in February of 1993 and had not been commercially dedicated.

Two augmented quality (AQ) replacement solenoid valves were procured in March 1993. These replacement valves were commercially dedicated in accordance with procedure 20AC-MTL-003-05 in March 1997. One of the commercially dedicated valves was used to replace valve 2C51-F3012 on Unit 2 during Refueling Outage 13. The other valve was scheduled to be used to replace 1C51-F3012 during the 1997 Unit 1 Fall Outage.

The valves are listed as safety-related and are identified as containment isolation valves in the Unit 1 and Unit 2 TSs and Final Safety Analysis Report (FSAR). The inspectors were informed that a request for engineering assistance was written to investigate the possibility of reclassifying the valves from safety- to non-safety related. This request is based upon conformance criteria stated in Regulatory Guide 1.11 for instrument lines.

The current Unit 1 non-commercially dedicated valve was determined by NSAC to be of the same type and part number as the replacement valves procured in March 1993. NSAC considers this valve to be equal to the two valves that were commercially dedicated in March. Additionally, the valve was tested in accordance with both the Inservice Test (IST) and the Appendix J Leak Rate Test Programs. The NSAC's operability evaluation concluded that the valve should

be considered operable as long as the surveillance requirements for operability are met.

Operations terminated TS-required actions based upon the NSAC operability evaluation.

The inspectors reviewed the ELI and noted that valve 1C51-F3012 was marked as a "Q" component. Procedure 20AC-MTL-003-0S, Section 6.2.2 states, in part, that components marked "Q" in the ELI shall be procured safety-related or dedicated as a basic component. Section 8.1.1 of the procedure further states, in part, that a commercial grade item will not be considered a safety-related component until it has been documented as having been dedicated.

c. Conclusions

This licensee-identified violation constitutes a violation of minor safety significance and is identified as NCV 50-321/97-03-03, Failure to Commercially Dedicate Isolation Valve, consistent with Section IV of the NRC Enforcement Policy.

The licensee's actions that resulted in the identification of a non-safety related valve being used in a safety-related application were excellent. The reviews and evaluations performed upon discovery of the use of the non-dedicated components were thorough and timely.

E1.2 Field Wiring Inconsistencies with Drawing for 4160 Volt Alternating Current (VAC) Bus 2F

a. Inspection Scope (37551)

The inspectors conducted a review of inconsistencies between "as found" field wiring and the wiring diagram (H23522) for the 4160 VAC bus 2F switchgear. Maintenance Work Order (MWO) 2-97-1129: Install Terminal Block, and Inspection and Test Procedure 52IT-R22-001-2S, "Time testing of 4160 Supply ACBs," Rev. 0 were reviewed. The inspectors also held discussions with engineering and management personnel familiar with the inconsistencies.

b. Observations and Findings

The licensee discovered on April 16, while performing procedure 52IT-R22-001-2S, that vertical terminal block 6T on 4160 VAC switchgear 2F did not exist. The test procedure was a validation procedure that had not been previously performed. The procedure required the opening of link number 1 on the terminal block to prevent associated relays from changing states when the normal supply breaker is opened or closed during timing test. Wires that should have terminated on terminal block 6T at links 1 and 2.

Enclosure 2



which did not exist per drawing H23522, were found on terminal block 2T at link numbers 5 and 6. It was also discovered that the wiring that landed on terminal block 5T terminated on points 1 and 2 instead of points 9 and 10 as indicated by the drawing.

The licensee initiated MWO 2-97-1129 and As Built Notice (ABN) 97-109 to correct the wiring inconsistencies. The inspectors reviewed the MWO and ABN. This review indicated that the terminal block was installed and the wiring terminations were changed to meet the drawing and the ABN corrections.

The inspectors reviewed procedure 52IT-R22-001-2S. This review revealed that normal and alternate breaker time testing is required also for the 2E and 2G 4160 VAC safety-related busses. The frequency of the testing is determined by system engineering personnel.

During a discussion with engineering personnel, the inspectors were provided a preliminary safety assessment from the Architect/Engineer (AE) that evaluated the above wiring inconsistency. The safety assessment indicated that the inconsistent wiring configuration did not adhere to the separation criteria for divisional separation. An annunciator circuit associated with division I and a division I circuit were terminated on the same terminal block as an emergency diesel generator 1B circuit. The distance separating these circuits was less than the six inches specified as the minimum separation criteria. All of the circuits involved are low voltage control circuits and are fused or protected by a circuit breaker. The preliminary safety assessment concluded, based upon an analysis of the circuits involved, that there appeared to be no events that would have occurred as a result of the non-adherence to the separation criteria that would be more severe than the loss of the 4160 VAC current Switchgear Bus 2F. The loss of a single division of 4160 VAC switchgear has been analyzed. The analysis determined that the unit can safely be shut down with the loss of a division of the 4160 switchgear. The inspectors documented other recent configuration control problems in Inspection Report 50-321, 366/96-14.

As a result of the above wiring-to-drawing inconsistency and the discovery of the divisional separation problems, the licensee performed a walkdown of several panels in the emergency diesel generator building. Two Division I and two Division II circuits were found that did not adhere to the divisional separation criteria. These four divisional circuits were on Unit 2. Five Unit 1 circuits were found during the Unit 1 walkdown.

At the end of the inspection report period, a roving fire watch had been established until resolution of this issue has been

Enclosure 2

completed. Licensee personnel were still investigating the problem and had not conclusively determined when the inconsistencies occurred or the significance of the problem. However, the licensee indicated that the problem was not a concern for safe shutdown of the units, but rather a fire protection issue, due to inadequate separation. Engineering personnel suspected that the divisional separation deficiencies occurred during the construction phase of the plant.

c. Conclusions

Engineering's timely followup action upon the discovery of the initial wiring-to-drawing inconsistency in the 2F 4160 volt switchgear resulted in prompt corrective actions by maintenance. The inspectors will review the licensee's operability and engineering assessment and corrective actions when they are available. This item is identified as Inspector Followup Item (IFI) 50-321, 366/97-03-05, Review of 4160 VAC Wiring Separation Deficiencies.

E2 Engineering Support of Facilities and Equipment

E2.1 Post Modification Testing Observations

a. Inspection Scope (37700) (37828)

The inspectors reviewed and observed post-modification testing of the power range neutron monitoring (PRNM) system, including the oscillating power range monitor (OPRM) portion, and the reactor feed pump turbine (RFPT) upgraded control system.

b. Observations and Findings

The inspectors reviewed and observed portions of test results, ongoing testing activities, and the operational performance of modified systems. The modifications installed on the systems were as follows:

- Design Change Request (DCR) 94-008, PRNM system which provides a two-out-of-four scram from any of the four average power range monitor (APRM) channels if reactor power exceeds established setpoint values and also provides the same logic for the future oscillating power for the instability scram.
- DCR 95-054, RFPT upgraded control system which installed fault tolerant, redundant and validity check features in order to make the system more reliable.



Three special purpose procedures (SPP) were issued, two for DCR 94-008 and one for DCR 95-054, as follows, respectively:

- 17SP-121696-QP-1-2S, "Unit 2 PRNM System Functional Test for DCR 94-008," Rev. 0
- 42SP-040897-QF-1-0S, "OPRM testing and Tuning," Rev. 0
- 17SP-032697-PH-1-2S, "DCR 95-054 Dynamic FT of the Feed Water Control," Rev. 0

The test for the PRNM consisted, in part, of verifying that the indicated power of the 4 channels tracked along with the actual power, was able to be adjusted by use of a computer downloading process, and that the various individual components of the system, such as the rod block monitor, the 2-out-of-4 logic modules, the rod worth minimizer interface, and the annunciators functioned properly. The test for the OPRM consisted, in part, of verifying during power operations the oscillation sensitivity at various power levels and core flows. The test for the feedwater control included, in part, testing the system responses to water level step changes, swap from median level signals to manual level signals, swap from three element to single element control, and failed steam flow and feed flow signals. The feedwater control test was performed at three thermal power plateaus: 30%, 50%, and 95% RTP.

On April 22, while performing section 7.4.38, "Simulate Steam Flow/Feed Water Flow Failure," of procedure 17SP-032697-PH-1-2S, an unplanned reactor recirculation pump runback occurred. The reactor entered the "Operation Not Allowed Region" of the power-to-flow map. The region was immediately exited using control rods and increased recirculation flow. Additional discussions of this transient are included in section 01.1 of this inspection report. The inspectors reviewed the functional test (FT) procedure, had observed portions of the test performance, discussed the occurrence with operations personnel, and discussed the technical aspects of the test with the involved test engineers.

The inspectors found from the review, observations and discussions with licensee personnel that:

- the square root converter output for the two feed water flow channels was changed by onsite personnel at operations' request. The change was for the square root converters to indicate zero flow when the output of each converter is at one volt and, by design, each converter feeds into a flow totalizer;

- subsection 7.4.38.2 of the dynamic FT procedure required that the input from the B flow transmitter be open-circuited, resulting in the flow totalizer receiving a zero volt signal from the B channel;
- the zero volt signal was received, by the totalizer, as a negative (reverse) feed water flow signal and the totalizer subtracted more than 50% from the total flow signal input to the system; and
- the test engineers were not aware of the effect of the change and did not foresee any required test procedure change. Consequently, an unplanned reactor runback occurred due to a low total feed water flow signal.

The inspectors reviewed plant procedures associated with modification activities and noted the following:

- Administrative Control Procedure (ACP) 40AC-ENG-003-0S, "Design Control," Rev. 8, Section 8.2.2, requires, in part, that design packages be installed in accordance with the maintenance program and that procedural requirements for maintenance activities, such as functional tests, shall apply to the design implementation.
- Modification Support Procedure (MSP) 17MS-MMS-002-0S, "Design Change Request (DCR) Processing," Rev. 1, Section 7.4.3, requires, in part, that when developing post-modification tests, consideration be given to the need to demonstrate proper functioning of modified equipment and that functional tests that are not described by existing plant procedures shall be performed by a special purpose procedure.
- Special Purpose Procedure (SPP) 17SP-032697-PH-1-2S was issued to functionally test the feedwater control system upgrade modification.

The inspectors discussed the results of the procedure reviews with licensee personnel. The inspectors observed the SPP was changed to have operators lock the recirculation pump system scoop tube to prevent future similar runbacks.

c. Conclusions

The inspectors concluded that the failure to adequately implement ACP 40AC-ENG-003-0S and MSP 17MS-MMS-002-0S was a violation when SSP 17SP-032697-PH-1-2S was not changed to reflect the system circuit change. This was identified as an example of Violation 50-366/97-03-04: Inadequate Procedures for Testing Activities - Multiple Examples.



## E2.2 Emergency Diesel Generator (EDG) Logic System Testing Per Generic Letter (GL) 96-01

### a. Inspection Scope (92903)

The inspectors documented in IR 50-321, 366/97-01, that a review of the EDG logic system disclosed an item affected by GL 96-01, "Testing of Safety-Related Logic Circuits." The inspectors reviewed HSPs 42SV-R43-018-2S, "Diesel Generator 2A Logic System Function Test," Rev. 4, ED 1; 42SV-R43-008-2S, "Diesel Generator 2A LOCA/LOSP LSFT," Rev. 5, ED 1; 42SV-R43-012-2S, "Diesel Generator 1B LOCA/LOSP LSFT," Rev. 6, ED 2; and observed licensee actions to test the corrected problems.

### b. Observation and Findings

The review of the EDG logic system disclosed that the logic for the alternate supply breakers for the EDG 4160 VAC switchgears was not being tested. Engineering personnel processed temporary changes to the 1B, 2A, and 2C EDG loss of coolant accident/loss of offsite power (LOCA/LOSP) logic system functional test (LSFT) surveillance procedures. The changes to each procedure consisted of attachment numbers 3 and 4. The attachments verified that the applicable relay contact involving the alternate supply breaker opened and closed as required. Inspector observations of the performance of the LOCA/LOSP surveillance procedures are documented in section M3.1 of this report.

### c. Conclusions

The inspectors concluded that engineering personnel adequately addressed the GL 96-01 issue involving the Unit 2 EDG 4160 VAC switchgear alternate supply breakers. Test results met the applicable test acceptance criteria.

## E2.3 Review and Observation of Implemented Design Changes (Unit 2)

### a. Inspection Scope (37700) (37828)

The inspectors reviewed and observed the operation of systems affected by modifications. Among the systems were Main Steam, HPCI, temperature monitoring, Reactor Core Isolation Cooling (RCIC), Condensate, and EDG 600 volt distribution. Specific post-modification testing observations of the PRNM and the Feedwater (FW) upgraded control system are discussed in Section E2.1 of this report.

b. Observations and Findings

The inspectors reviewed selected implemented DCRs and minor design changes (MDCs). The inspectors observed the operation of the systems impacted by the DCRs and MDCs. The reviews and observations were made during plant startup, power ascension, and operation at RTP.

Among the DCRs and MDCs reviewed and the systems observed were the following:

| <u>DCR/MDC</u> | <u>Description</u>   |
|----------------|--|
| 92-042         | Replaced 22 obsolete analog temperature modules with new digital modules. The modules monitor temperatures of the feedpumps, condensate pumps and booster pumps.   |
| 92-134         | Installed new electrical starters in the power supplies to the drywell coolers.  |
| 93-048         | Replaced the condensate demineralizer system backwash with an air surge backwash system and replaced the pneumatic controls with electronic controls.  |
| 95-033         | Changed control room fuses, breakers in switchgears, and installed current limiting fuses in switchgears, such as selected breakers in the Unit 2 600V AC switchgears.   |
| 96-006         | Generic Letter 89-10 modifications to 14 valves such as the following: 2B21-F021, 3-inch main steam line drains restricting orifice bypass and 2E41-F007, 14-inch HPCI pump discharge, changed stroke times from 19 to 35 seconds; 2E11-F119A, 18-inch residual heat removal service water crosstie valve, changed stroke time from 46 to 91 seconds; and the thermal overloads in two RCIC system valves were bypassed. |
| 96-018         | Removed a single failure problem (a common power supply in the feedwater control system failed causing both feed water pumps to trip on Unit 1). This resulted in a reactor scram.   |
| 94-5044        | Removed the low hotwell water level trip wiring and annunciators for the condensate pumps.   |
| 96-0532        | Removed check valves in the cooling water supply to the service water pump motors.   |
| 96-5044        | Removed the relief valves on the suction piping of the residual heat removal and core spray pumps.   |



97-5004 removed snubbers from the main steam and HPCI systems.  
and  
97-5005

The inspectors reviewed the training presented to the operators prior to Unit 2 returning to full power operation. The inspectors noted that operations personnel demonstrated an understanding of the various modifications.

c. Conclusions

The inspectors concluded from the reviews and observations of the operation of the systems that the overall post-modification tests of the systems were adequate, with the exceptions noted in section E2.1 and E3.1 of this report. The inspectors concluded that the modification training was adequate.

E2.4 Review of Fire-Rated Sealed Penetration Program

a. Inspection Scope (37551) (71750)

The inspectors reviewed procedures, drawings and other documents related to fire-rated sealed penetrations and conducted field walkdowns of selected sealed penetrations. Interviews were conducted with Fire Protection Engineering, Plant Modification and Maintenance Support (PMMS) Engineering, PMMS Supervisor and Quality Control (QC) Inspectors.

The documents reviewed included the following:

- Hatch Fire Hazard Analysis (FHA) and Fire Protection Program
- Hatch Administrative Control Procedure (HACP) 40AC-ENG-008-0S, "Fire Protection Program," Rev. 8
- Hatch Fire Protection Procedure (HFPP) 42FP-FPX-003-0S, "Installation of Nelson Electric Fire Stops," Rev. 3
- HFPP 42FP-FPX-014-0S, "Installation and Repair of Silicone Foam Seals," Rev. 1
- Hatch Surveillance Procedure (HSP) 42SV-FPX-018-1/2S, "Fire Barrier 18-Month Surveillance," Rev. 2
- HSP 42SV-FPX-019-1/2S, "Penetration Seal Surveillance," Rev. 2
- Hatch Departmental Instruction (HDI) DI-MMS-01-0292N, "PM&MS Employee Orientation and Procedure Awareness Program," Rev. 6

b. Observations and Findings

The procedures review provided instructions and the acceptance criteria for the installation, repair, and surveillance of the following types of fire-rated sealed penetrations: Nelson Compound, Nelson Caulk, Nelson Putty, Nelson Pillow, and silicon foam.

QC personnel or engineering personnel are responsible for performing surveillance procedures. The inspectors observed that QC personnel had performed the most recent surveillance procedures. QC personnel are also responsible for inspecting the installation/repair of fire-rated sealed penetrations to verify procedural compliance. Fire Protection Engineering is responsible for providing procedural familiarization training to personnel that install or repair fire-rated sealed penetrations. The installation and repairs are performed primarily by contractor personnel with the assistance of maintenance personnel, as needed.

Surveillance procedures 42SV-FPX-019-1/2S require that a 10% sample of each type of sealed penetration be visually inspected at least once every 18 months. The samples shall be selected such that each penetration seal is inspected at least once every 15 years.

The inspectors interviewed the fire protection engineer to determine the status of the program based upon the surveillance frequency. The fire protection engineer provided documentation that indicated that the sixth 18-month surveillance cycle out of a total of ten cycles was completed on April 19, 1997. The 15-year cycle started in October 1987 and ends September 2003. The procedure requires that each penetration seal be inspected at least once by the end of cycle 10. The fire protection engineer stated that of the approximately 4105 original fire-rated sealed penetrations to be inspected, a total of 1924 remained to be inspected.

The inspectors reviewed the data packages for the cycle 6 surveillances. This review indicated that a total of 393 fire-rated penetrations were inspected, 213 on Unit 1 and 180 on Unit 2. A total of three penetrations did not meet the surveillance acceptance criteria on Unit 1 and four on Unit 2. Deficiency Cards (DCs) were written for the rejected penetrations. The rejected penetrations were reviewed by fire protection engineering for an operability determination. The review did not identify any operability concern. The inspectors observed an administrative oversight in the data packages. The cover page for Unit 1 was on the Unit 2's data package and vice versa. QC and fire protection engineering personnel were informed of the deficiency.

Enclosure 2



The inspectors reviewed 10 DCs (four DCs for Unit 1 and six DCs for Unit 2) that were written by QC inspectors for damaged or degraded seal penetrations identified during the performance of the surveillance but were not being inspected as part of the surveillance. The MWO data package associated with eight of these DCs were reviewed. The data package indicated that the repairs for the deficiencies identified in these eight DCs were accepted by QC. Some of the MWOs reviewed are listed in section M1.1 of this report. The MWO numbers for deficiencies C09702132 and C09702061 had been assigned but had not been scheduled for work. The deficiencies identified in these two DCs were related to damaged and degraded penetrations located in main control room panels. A review of the these control room panel deficiencies by fire protection engineering indicated that there was no FHA operability concern.

The inspectors visually inspected the surface of the sealant in the floor of a sampling of back panels located in the main control room. Most of these back panels were identified in DCs C09702132 and C09702061. The inspectors observed that some of the foam sealant in the cabinets had surface cracks and nicks. The nicks appeared to have been caused by a fish tape or some other type of probing device. The inspectors observed that the depth of the larger nicks appeared to be shallow. Panel 1H11-P608D had a crevice in the sealant that was approximately 3 inches deep and 4 inches in diameter. The inspectors did not view this as an operability concern. The inspectors observed several wires in the various panels that were cut and had the ends taped. The inspectors did not observe any cut wiring that did not have the ends taped. Some of the panels had congested wiring laying on the floor. The condition of the sealant in the panels with wiring on the floor could not be observed by the inspectors.

The inspectors discussed the observed deficiencies in the main control room back panels with fire protection engineering. Fire protection engineering stated that the deficiencies were of a material condition and did not pose an operability concern. It was also stated by fire protection engineering that the nicks that appeared to be made by the fish tape would soon be repaired in accordance with procedure 42FP-FPX-014-0S. Since, the silicon foam is an elastomer material and expands upon heating, fire protection engineering stated that any opening made by a fish tape would reseal itself in the expansion process during a fire. The crevice in panel 1H11-P608D would be similarly repaired according to fire protection engineering. The inspectors asked fire protection engineering if documentation existed for the operability determination in determining that the deficiencies in the control room panels were of a material condition and were not an operability concern. The inspectors were informed that for these deficiencies a review was performed and results were

documented on the DC. There was no other documentation that addressed the operability review.

MWO data package 2-97-0033 was reviewed by the inspectors. This data package had some rejected penetrations because of congested wiring or cabling in some of the control room back panels. The inspectors reviewed the rejection forms that were in the data package. These forms are required by Procedure 42FP-FPX-014-0S when wiring separation criteria in the penetration was not met. The engineering resolution for these penetrations were, in general, to separate the new and existing cables to allow the new silicon foam material to flow between cables below the surface of the existing fire barrier material. This work was completed and was approved by QC personnel.

The inspectors examined the inside of control room panels wherein some recent cable pulls had been completed. The inspectors observed the silicon foam sealant in the floor of main control room panels 2H11-P602A, B, C, D, and E. These panels contained components associated with the Power Range Neutron Monitoring (PRNM) system that was installed during the 1997 Unit 2 refueling outage. The inspectors observed several wires that were cut and the ends taped. The wiring was arranged in an orderly and neat manner. The inspectors did not visually observe any deficiencies in the foam sealant located in the flooring of the panels.

The inspectors also reviewed the MWO data package (MWO 2-96-3005) for the cable pull work activities associated with the design change request (DCR 94-008) for installing the PRNM. The fire protection checklist indicated that the applicable fire action statements (FAS) of the Fire Hazard Analysis, Appendix B, were entered. The data packages also indicated that completed sealed penetration work activities were accepted by QC.

The inspectors reviewed the FAS log in the Unit 1 and Unit 2 main control rooms for approximately the past six months. Unit 1 did not have any open FASs that specifically identified any penetration problems. Unit 2 had one open FAS that identified a penetration located in the reactor protection system motor generator room cable way and the 112-foot elevation of the control building. An hourly fire watch was performed as a compensatory measure.

The inspectors reviewed the procedure for the installation and repair of silicon foam and an MWO data package wherein silicon foam was used. The inspectors compared the silicon foam procedure with the vendor's instructions provided by fire protection engineering and observed that the instructions in the procedure were consistent with those of the vendor. The MWO data package reviewed referenced procedure 42FP-FPX-014-0S as the guidance for



the repair. The vendor's manual was referenced in the installation and repair procedure. However, the vendor's manual was not referenced for use in performing the actual installation or repair. The inspectors observed that skill of the craft was used for seal material removal when seals were repaired. The procedure included guidance for the amount of material to be removed prior to applying the penetration repair seal kit material. The inspectors observed that work packages did not always contain routing diagrams. In general, the inspectors considered the procedural instructions and work package material adequate.

Licensee personnel queried about management's support of the fire protection program had mixed reactions. Some were of the opinion that management's support of the program was adequate and much better than what it was in the past. Others felt that management only provided adequate support to the program when operations and personnel resources for fire watches were impacted.

The inspectors noted that managers discussed fire protection issues during the Managers' morning meeting on April 18. Maintenance management expressed a concern about the number of MWOs that were outstanding for penetration repairs. Engineering management informed the inspectors later that day that the problem was not as significant as it may have sounded during the Managers' meeting. Engineering management stated that some of the problems were cosmetic in nature and did not present an operability concern. It was further stated by engineering management that the seal penetration issues would be reviewed and corrected. The inspectors observed that DCs and MWOs had been completed for the deficiencies and most of the work had been completed.

A review of HSP 42SV-FPX-019-1/2S indicated that personnel performing the procedure are required to have an annual eye examination. The inspectors verified through a review of Quality Control records that eye examinations were current for personnel involved in performing the cycle 6 sealed penetration surveillance procedure.

The inspectors compiled a list of the names of craft persons that installed or repaired sealed penetration in accordance with applicable procedures. The names were obtained from MWO data packages associated with sealed penetration repairs or installation. The training and procedural familiarization for some of the personnel were verified through reproduced copies of the specialized training attendance sheets maintained by a PMMS supervisor. These attendance sheets were dated September 1992 and only listed the names of contractor personnel. The inspectors were unable to verify the attendance for one contract general

foremen whose name was obtained from the data package as the technician performing the seal penetration work activity.

Fire protection engineering conducts the procedural familiarization training for craft personnel performing fire seal penetration work activities. Discussions with fire protection engineering indicated that the procedural familiarization training consisted of a review of the applicable procedure with the craft person that will repair or install the seals. This procedural review is about one hour in duration per procedure. It was also stated that there is no "hands on" training and no refresher procedure familiarization training.

The inspectors reviewed Departmental Instruction DI-MMS-01-0292N. This instruction provided guidelines for three categories of PMMS training: Administrative Orientation Training (AOT); Department Instruction Training (DIT); and Just-in-Time (JIT) training. Procedures 42FP-FPX-003-0S and 42FP-FPX-014-0S were included in the procedures listed for JIT. Discussions with PMMS supervision indicated that a centralized data base existed for AOT and DIT but one did not exist for JIT. PMMS supervision stated that a consideration would be given to having JIT placed into a centralized data base or have it tracked under the DIT program.

The inspectors discussed with maintenance supervision the necessity for specialized training on procedures 42FP-FPX-003-0S and 42FP-FPX-014-0S for maintenance craft persons. Maintenance supervision stated that contractors primarily performed the repair and installation of fire penetration seals, and maintenance personnel usually assisted. However, maintenance supervisor stated that a re-evaluation of the specialized training requirements was being considered due to the cut backs in the use of contractor personnel.

The inspectors performed a walkdown of selected penetrations on the 130-foot elevation in the vicinity of the 1E electrical switchgear of Units 1 and 2. Included in the walkdown were penetrations 2Z43-H032D, 2Z43-H030D, and 1Z43-H646D. These penetrations are addressed in Appendix I of the FHA. Appendix I addresses, by an exception report, the acceptability of unrated penetrations in a fire area boundary. In many instances, the exception reports contain penetrations that could not be verified due to obstructions or inaccessibility. The exception report evaluations assumed each penetration was unsealed.

c. Conclusions

The licensee's current program for determining the operability of sealed penetrations was adequate. Management was aware of the issues associated with the sealed penetrations and the fire

Enclosure 2



protection program and provided satisfactory support. A weakness was identified for specialized training documentation provided to craft personnel who install and repair sealed penetrations. QC personnel's annual eye examinations review met the requirements. The inspectors did not identify any deficiencies with the penetrations that were inspected.

### E3 Engineering Procedures and Documentation

#### E3.1 Momentary Loss of Vital Alternating Current (AC)

##### a. Inspection Scope (37551) (71707)

A momentary loss of vital AC on April 13 generated an isolation signal for Fission Product Monitor Sample Isolation Valve, 2D11-F050. The inspectors reviewed HSP 42SV-R43-008-2S, "Diesel Generator 2A LOCA/LOSP LSFT," Rev. 5, ED 1; Shift Technical Advisor (STA) Report 97-03, "Momentary Loss of Vital AC Results in ESF," Plant Hatch - Unit 2 Master Single Line Diagram H23350; and Plant Hatch - Unit 2 Single Line Diagram H233652, 600V Bus 2C and 2D. The inspectors also performed a limited walkdown of the Vital AC rectifier/inverter panel and the 2C and 2D 600 Volts Station Service Switchgear. Additionally, discussions were held with licensee personnel.

##### b. Observations and Findings

During the performance of procedure 42SV-R43-008-2S on April 13, an unexpected ESF activation signal was generated. When the local operator placed the vital AC alternate power supply breaker to the TEST position per the instructions of section 7.4.13 of the procedure, power to the vital AC bus was momentarily lost until the local operator reclosed the alternate supply breaker. This loss of AC power resulted in a closed signal being generated for valve 2D11-F050. The licensee determined that an inadequate procedure was the cause of the power loss to the vital AC bus. The licensee notified the NRC in accordance with 10 CFR 50.72. Later, a detailed review by the licensee revealed that containment isolation valve 2D11-F050 was already closed for maintenance activities. The licensee retracted the 10 CFR 50.72 notification on April 14.

Prior to the logic system functional test for the 2A emergency diesel generator, the static transfer switch was aligned to the alternate power supply. The local operator was not aware that the vital AC bus was powered from the alternate source. Both vital AC supply breakers, the normal (2D) and the alternate (2C) are normally closed.

The inspectors reviewed HSP 42SV-R43-008-2S and noted that there was no precaution or prerequisite in the procedure for verifying that the static transfer switch was aligned to the normal power supply. The inspectors also performed a limited walkdown of the local vital AC panel and the 2C and 2F 600 volt station service switchgear and observed that the local operator could not easily determine the power supply to the vital AC bus.

Implicit in the requirements of 10 CFR 50, Appendix B, Criterion V and RG 1.33, Appendix A, Typical Procedures for Pressurized Water Reactors and Boiling Water Reactors, paragraph 8.b, is that the procedures are adequate. HSP 42SV-R43-008-2S did not provide adequate instructions to prevent a loss of power to the Vital AC bus when the bus is powered from its alternate source.

c. Conclusions

This problem was identified as an example of an inadequate test procedure. Procedure 42SV-R43-008-2S, "Diesel Generator 2A LOCA/LOSP LSFT," Rev. 5, ED 1, did not contain precautions or prerequisites nor identify appropriate pretest conditions to prevent an unexpected ESF actuation signal during testing. This is an example of Violation 50-366/97-03-04, Inadequate Procedures for Testing Activities - Multiple Examples.

E4 Engineering Staff Knowledge and Performance

E4.1 Inservice Leak Testing of ASME Class 1 System (Unit 2)

a. Inspection Scope (61701)

The inspectors reviewed and observed portions of the inservice leakage test performed on April 10. The requirements for the leakage test are in TS section 3.10, "Special Operations," subsection 3.10.1, "Inservice Leak and Hydrostatic Testing Operation." The inspectors reviewed Hatch Inspection and Test Procedure (HITP) 42IT-TET-006-2S, "ISI Pressure Test of the Class 1 System and Recirculation Pump Runback Test," Rev. 8, which was used by engineering and operations test personnel to implement the requirements.

b. Observations and Findings

The inspectors observed system testing, operations personnel performance, supervisory oversight, and engineering support for the testing activities. The testing observations involved the following:



- the establishment of the greater than 3 feet high air bubble in the top of the reactor pressure vessel with the water level between 170 and 190 inches above instrument zero;
- the initial pressurization of the vessel to 100 psig using plant service air;
- the heat up of the vessel, using the reactor recirculating pumps, to the minimum temperature specified in step 7.1.5 of the HITP at the rate of equal to or less than 100 degrees F per hour; and
- the pressurization of the vessel, at the rate of equal to or less than 50 psig per minute, to the test pressure of 1035 to 1050 psig by injection from the control rod drive system and the controlling of pressure by varying reactor water cleanup reject flow.

All observed activities were performed in accordance with applicable steps in the HITP.

The observations involving the operations group included: starting the reactor recirculating pumps, pressurizing the vessel, monitoring and maintaining vessel temperature, controlling the vessel pressure constant, and recording data.

The observations of supervisory personnel were activities involving the unit superintendent, the superintendent-on-shift, and the shift supervisor, including command and control of control room activities, conducting pre-job and shift briefings, coordinating engineering support activities, and insuring that the test was performed by the procedural requirements.

The observations of engineering support personnel activities included: assisting in job briefings, use and implementation of the test procedure, verifying data, and ensuring acceptable results.

During the performance of section 7.2, "System Leakage Test or 10-Year ISI Pressure Test (1035 to 1050 psig)," step 7.2.8, VT-2 leakage inspection of the Class 1 inspection boundary, a leak was observed coming from a flanged fitting located at the top of the reactor vessel head. The fitting was installed on nozzle 6B, which was part of the reactor vessel head spray system. This system and associated piping were removed several years ago and the nozzle was blank flagged.

Engineering personnel determined that the leakage was caused by a mispositioned blind flange that resulted in a gasket failure. The licensee initiated design change request (DCR) 97-019 and

maintenance work order 2-97-1041 to implement the DCR. The repair was made, in accordance with the DCR, and consisted of a seal welded metal gasket at the flange connection. A followup pressure test was successfully performed on April 10.

c. Conclusions

The inspectors concluded that the initial pressure test and the followup test were performed in accordance with approved procedures. The leak repair was successful with no subsequent leakage detected. The overall activities were performed with engineering, quality control, and supervisory oversight. The performance of the pressure tests and the leak repair were considered to be excellent.

E8 Miscellaneous Engineering Issues (92700) (92903)

E8.1 (Closed) Inspector Followup Item 50-366/96-07-03: Degradation and Replacement of the Unit 2 Station Service (SS) Battery 2B Due to Buildup of Cell Sediment. The licensee observed a dark colored sediment collecting in the bottom of several of the 120 cells that make up the SS battery. Prior to replacing all the cells in the SS battery, a total of 52 cells had sediment. The inspectors documented the replacement and testing of the battery in inspection report 50-321, 366/97-03. Based on the replacement and successful testing of the SS battery 2B, this item is closed.

E8.2 (Closed) Violation 50-321/96-11-02: Failure to Perform an ASME Code-Required VT-3 Inspection on High Pressure Coolant Injection Valve. The licensee responded to this violation in correspondence dated October 30, 1996. The inspectors reviewed the response and observed that among the corrective actions were the following:

- involved personnel were counseled regarding the event and the consequences;
- an operability and structural integrity assessment for the valve was performed and documented; and
- a maintenance work order was written to disassemble the valve and perform the required inspection during the Unit 1 fall 1997 refueling outage.

The inspectors reviewed the assessment and the maintenance work order. The inspectors concluded that valve was operable and is scheduled to be disassembled and inspected during the next Unit 1 refueling outage. Based on the inspectors review of licensee actions, this violation is closed.



IV Plant Support

## R1 Radiological Protection and Chemistry Controls

R1.1 Observation of Routine Radiological Controlsa. Inspection Scope (71750)

General Health Physics (HP) activities were observed during the report period. This included locked high radiation area doors, proper radiological posting, and personnel frisking upon exiting the Radiological Controlled Area (RCA). The inspectors made frequent tours of the RCA and discussed radiological controls with HP technicians and HP management. Minor deficiencies were discussed with licensee management. No significant deficiencies were identified.

## R5 Training and Qualifications in Radiation Protection and Transportation

R5.1 General Employee Traininga. Inspection Scope (83723)

The inspectors reviewed procedure 73TR-TRN-001-05, "General Employee Training Programs," Revision 9, and reviewed the licensee's program for providing General Employee Training (GET), also known as Badge Training, to contractor personnel. Other than initial GET for new personnel, the program recognizes three categories of personnel: those who have been badged at a nuclear facility within the last three years (exempt from classroom sessions, but must pass an examination); those who have been badged at a nuclear facility within the last year (exempt from classroom sessions and examination, upon verification of training from prior facilities); and those who are Plant Hatch contract employees (annual requalification, which includes classroom sessions and examination). The inspection included a review of a representative sample of GET training records for contractor personnel.

b. Observations and Findings

The inspectors obtained the names of 13 individuals from the Plant Modification and Maintenance Support (PMMS) roster of contractor personnel who were onsite during the Unit 2 Spring Outage (1997). A records review by the inspectors indicated that all personnel had completed GET training within the past three years. Specifically, the review indicated that six of the individuals had successfully completed the badge training examination at Plant Hatch within the past year. Seven other individuals were granted

Enclosure 2

credit for the successful completion of GET within the past 12 months at other nuclear facilities that used the Institute of Nuclear Power Operation's guidelines for GET, including three from the other nuclear plants operated by the Southern Nuclear Operating Company, Inc. (Plant Vogtle and the Farley Nuclear Plant).

A review of the procedures identified that an individual who had GET within the past three years and had unescorted access to restricted areas may be exempted from full Badge Training but must take the Badge Training examination. A review of the examination records indicated that all personnel who were examined had passed the examination.

c. Conclusions

The licensee's implementation of the General Employee Training program for contractors was satisfactory. All training records reviewed indicated that personnel were either provided training or had passed the required examinations to obtain credit for previous training. The inspectors concluded that all personnel were satisfactorily trained for their level of site access.

R8 Miscellaneous RP&C Activities (92904)

R8.1 (Closed) Violation 50-321, 366/96-13-03: Failure to Follow Procedure - Multiple Examples.

A routine monthly contamination survey of the scrap metal storage area identified three pieces of metal that were contaminated in excess of the requirements of procedure 60AC-HPX-007-0S, "Control of Radioactive Materials," Rev. 3.

The licensee's response dated December 19, 1996, indicated that HP management issued a new policy for the release of materials from the radiologically controlled areas. The inspectors reviewed the HP Information Letter and verified that the requirements of the new policy were included in the Information Letter. It was also noted that the original HP Information Letter, which was issued October 31, 1996, was updated May 16, 1997.

Based upon the inspectors' review of licensee actions, this violation example is closed.



P4 Staff Knowledge and Performance in Emergency Preparedness

a. Inspection Scope (71750) (82301)

The inspectors reviewed the Hatch Emergency Plan and participated in the licensee's Emergency Preparedness (EP) exercise conducted on May 6, 1997.

b. Observations and Findings

The inspectors observed licensee performance and participated in EP drill activities from the Technical Support Center (TSC) and Operations Support Center (OSC). The inspectors observed operator crew performance during the simulated accident from the plant specific simulator. State and local governments participated partially in the exercise. The exercise scenario was viewed as challenging and required event classifications from Notification of Unusual Event through a General Emergency. The exercise included the following Drills:

- Radiological Monitoring
- Health Physics
- Staff Augmentation
- Real-Time Activation
- Medical Emergency

The exercise contained 23 objectives covering six major assessment areas. One of the inspectors attended the initial post-exercise critique where exercise controllers conducted an initial evaluation of exercise performance. The licensee conducted a detailed review of participant critiques sheets and controller and evaluator observations. The licensee was self critical and identified several areas for improvement. The licensee determined that one objective, Demonstrate the Ability for Prompt Notification of the State, Local and Federal authorities, was not met.

The inspectors reviewed licensee performance during recent exercises and observed that in June 1996, an exercise weakness for failure to make adequate notifications to state and local and federal authorities was documented as an IFI in IR 50-321, 366/96 06. During this exercise, the inspectors observed that a simulated radiological release was not reported for over thirty minutes. The inspectors observed that some exercise participants were aware of the ongoing release but failed to ensure it was reported. The licensee was evaluating the problem for corrective actions.

The inspectors observed good operator performance in the plant simulator during the exercise. Procedures and Emergency Operating

Enclosure 2

Procedures (EOPs) used were appropriate for the plant conditions. Communications were not consistent throughout the exercise. Although several examples of good 3-part communications were observed, communications were not as precise during times of multiple activities.

The inspectors identified several areas for improvement and discussed these with EP and operations management personnel.

c. Conclusions

The inspectors concluded that no significant improvements were observed with respect to notifications to state, local and federal authorities. The licensee's post-exercise critique and overall exercise assessment to self identify areas for improvement were considered to be excellent.

S2 Status of Security Facilities and Equipment (71750)

The inspectors toured the protected area and observed that the perimeter fence was intact and not compromised by erosion nor disrepair. The fence fabric was secured and barbed wire was angled as required by the licensee's Plant Security Program (PSP). Isolation zones were maintained on both sides of the barrier and were free of objects which could shield or conceal an individual.

The inspectors observed that personnel and packages entering the protected area were searched either by special purpose detectors or by a physical patdown for firearms, explosives and contraband. Badge issuance was observed, as was the processing and escorting of visitors. Vehicles were searched, escorted and secured as described in applicable procedures.

The inspectors concluded that the areas of security inspected met the applicable requirements.

P8 Miscellaneous Security and Safeguards Issues (92904)

P8.1 (Open) VIO 50-321, 50-366/97-01-01: Failure to Follow Procedure - Multiple Examples

Violation 50-321, 50-366/97-01-01 documented five examples of the licensee's failure to follow procedures. Example 5 described the licensee's failure to conduct "hands-on" physical inventories of security weapons on February 19, 1997, which resulted in an unattended weapons inside the protected area for approximately 11 hours.

The licensee made a determination that the failure to secure the security weapon was caused by human error. In order to ensure

Enclosure 2



security weapon procedures were thorough, clear, and updated, the licensee had developed a Procedure Review Committee, which became effective March 10, 1997. The Procedure Review Committee has the responsibility to ensure that procedures are user friendly and current to ongoing operations.

The licensee had implemented the following additional practices to ensure that weapons are attended and stored in their correct location:

- Officers are now required to initial the inventory sheet when the weapon is taken on post.
- Upon activation and deactivation of a compensatory post, the base operator will confirm that the officer who has taken out a weapon remains in control of that weapon.
- Magnetic tags are posted on the weapons cabinet. When a weapon is removed from the cabinet, the magnetic tag will be transferred to the compensatory measure status board to confirm the officer and location of the weapon.
- Reminder notes such as "Do not forget to check your weapons" are put on the shift work schedule periodically.

Additionally, captains and lieutenants were formally briefed on the importance of weapon inventory control, as well as shift briefing reminders to all officers

The inspector determined through a review of the licensee's actions and interview of licensee representatives that appropriate corrective actions had been implemented for example 5 of Violation 50-321, 50-366/97-01-C1. This violation will remain open pending further review of licensee actions to address the other examples.

#### V. Management Meetings

##### X.1 Meeting on Spent Fuel Pool Regulatory Analysis for Hatch Units 1 and 2.

On April 9 and 10, Mr. K. Jabbour, Project Manager, Project Directorate II-2, office of Nuclear Reactor Regulation (NRR) and Mr. C. Gratton of NRR, accompanied by consultants from Idaho National Environmental and Engineering Laboratory (INEL) met with Southern Nuclear Operating Company, Inc. representatives at Plant Hatch to discuss the analysis and design features of the Unit 1 and Unit 2 spent fuel pools and associated cooling systems. The objective of this meeting was to review design and operational information regarding the two Hatch spent fuel pool systems that

Enclosure 2

will be used in an Spent Fuel Pool probabilistic risk assessment. The NRC will perform a regulatory analysis at several operating nuclear power plants, including Hatch, to determine whether plant-specific safety enhancement backfits could be justified. The NRC will document the results of the analysis in a report that will be transmitted to the licensee at a future date.

#### X.2 Review of UFSAR Commitments

A recent discovery of a licensee operating its facility in a manner contrary to the Updated Final Safety Analysis Report (UFSAR) description highlighted the need for a special focused review that compares plant practices, procedures and/or parameters to the UFSAR description. While performing the inspections discussed in this report, the inspectors reviewed the applicable portions of the UFSAR that related to the areas inspected. The inspectors verified that the UFSAR wording was consistent with the observed plant practices, procedures, and/or parameters.

#### X.3 Systematic Assessment of Licensee Performance (SALP) Evaluation and Public Meeting.

At 10:00 a.m. on April 22, NRC management met with Southern Nuclear Operating Company, Inc. management and employees in an open meeting to present the results of the licensee's Systematic Assessment of Licensee Performance (SALP) evaluation. The facility was evaluated for the period of May 28, 1995 through February 22, 1997. Following the SALP presentation, NRC management met with local officials and residents to discuss a variety of topics. The results of the SALP evaluation are documented in report Nos. 50-321/97-99 and 50-366/97-99.

#### X.4 Exit Meeting Summary

The inspectors presented the inspection results to members of the licensee management at the conclusion of the inspection on May 29, 1997. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.



## PARTIAL LIST OF PERSONS CONTACTED

Licensee

Anderson, J., Unit Superintendent  
 Betsill, J., Assistant General Manager - Operations  
 Coggin, C., Engineering Support Manager  
 Curtis, S., Unit Superintendent  
 Davis, D., Plant Administration Manager  
 Fornel, P., Performance Team Manager  
 Fraser, O., Safety Audit and Engineering Review Supervisor  
 Hammonds, J., Operations Support Superintendent  
 Kirkley, W., Health Physics and Chemistry Manager  
 Lewis, J., Training and Emergency Preparedness Manager  
 Madison D. R., Operations Manager  
 Moore, C., Assistant General Manager - Plant Support  
 Reddick, R., Site Emergency Preparedness Coordinator  
 Roberts, P., Outages and Planning Manager  
 Sumner, H., Vice President, Hatch Nuclear Operations  
 Thompson, J., Nuclear Security Manager  
 Tipps, S., Nuclear Safety and Compliance Manager  
 Wells, P., General Manager - Nuclear Plant

## INSPECTION PROCEDURES USED

IP 37551: Onsite Engineering  
 IP 37700: Design Changes and Modifications  
 IP 37828: Installation and Testing of Modifications  
 IP 60710: Refuelling Activities  
 IP 61701: Complex Surveillance  
 IP 61726: Surveillance Observations  
 IP 62707: Maintenance Observations  
 IP 71707: Plant Operations  
 IP 71711: Plant Startup From Refueling  
 IP 71750: Plant Support Activities  
 IP 82301: Evaluation Of Exercises For Power Reactors  
 IP 83723: Training and Qualifications: General Employee  
 Training, Radiation Safety, Plant Chemistry, Radwaste,  
 and Transportation  
 IP 92700: Onsite Follow-up of Written Reports of Nonroutine  
 Events at Power Reactor Facilities  
 IP 90712: In-office Review of Written Reports of Non-routine  
 Events at Power Reactor Facilities  
 IP 92901: Followup - Operations  
 IP 92902: Followup - Maintenance/Surveillance  
 IP 92903: Followup - Followup Engineering  
 IP 92904: Followup - Plant Support

## ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

|                      |     |   |
|----------------------|-----|---|
| 50-366/97-03-01      | NCV | Failure to Follow Procedure During Welding Process of Unit 2 Reactor Core Isolation Cooling Valve (Section M4.1). |
| 50-366/97-03-02      | NCV | Data Entry Error Results in Missed Technical Specification Surveillance on Unit 2 (Section M4.2).                 |
| 50-321/97-03-03      | NCV | Failure to Commercially Dedicate Isolation Valve (Section E1.1).  |
| 50-366/97-03-04      | VIO | Inadequate Procedures for Testing Activities - Multiple Examples (Sections E2.1 and E3.1).                        |
| 50-321, 366/97-03-05 | IFI | Review of 4160 VAC Wiring Separation Deficiencies (Section E1.2).   |

Closed

|                      |     |   |
|----------------------|-----|---|
| 50-366/97-03-01      | NCV | Failure to Follow Procedure During Welding Process of Unit 2 Reactor Core Isolation Cooling Valve (Section M4.1). |
| 50-366/97-03-02      | NCV | Data Entry Error Results in Missed Technical Specification surveillance on Unit 2 (Section M4.2).                 |
| 50-321/97-03-03      | NCV | Failure to Commercially Dedicate Isolation Valve (Section E1.1).  |
| 50-321, 366/96-13-03 | VIO | Failure to Follow Procedure - Multiple Examples (Sections O8.1, M8.2, and R8.1).                                  |
| 50-366/1997-007      | LER | Loss of Main Condenser Vacuum Results in a Main Turbine Trip and Automatic Reactor Shutdown (Section O8.2).       |
| 50-366/1997-006      | LER | Data Entry Error Results in Missed Technical Specifications Surveillance on Source Range Monitors (Section M8.3). |

Enclosure 2



|                 |   |
|-----------------|---|
| 50-366/1997-005 | LER Personnel Error Results in Unplanned Automatic Engineered Safety Feature Actuation (Section 08.3).                        |
| 50-366/96-07-03 | IFI Degradation and Replacement of the Unit 2 Station Service (SS) Battery 2B Due to Buildup of Cell Sediment (Section E8.1). |
| 50-321/96-11-02 | VIO Failure to Perform an ASME Code-Required VT-3 Inspection on High Pressure Coolant Injection Valve (Section E8.2).         |

Discussed

|                      |   |
|----------------------|---|
| 50-321, 366/97-01-01 | VIO Failure to Follow Procedure - Multiple Examples (Section P8.1). |
|----------------------|---|

# SYNOPSIS

This investigation was initiated by the U.S. Nuclear Regulatory Commission, Office of Investigations, Region II, on May 23, 1997, to determine whether a welder at the Edwin I. Hatch Nuclear Plant, Baxley, Georgia, intentionally failed to document alterations he made to a valve cover that was not covered by a work order.

The evidence developed in this investigation substantiated the allegation that the welder made repairs to a valve cover without an authorization work order.

~~NOT FOR PUBLIC DISCLOSURE WITHOUT APPROVAL OF  
FIELD OFFICE DIRECTOR, OFFICE OF INVESTIGATIONS, REGION II~~

CASE NO. 2-97-014

1

Approved for release  
12/01/97

Enclosure 3