



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

Report Numbers: 50-321/90-15 and 50-366/90-15

Licensee: Georgia Power Company
P.O. Box 1295
Birmingham, AL 35201

Docket Numbers: 50-321 and 50-366

License Numbers: DPR-57 and NPF-5

Facility Name: Hatch Units 1 and 2

Inspection Dates: June 23 - August 3, 1990

Inspection at Hatch site near Baxley, Georgia

Inspector: *RB Spynalock for*
Randall A. Musser, Resident Inspector

Aug 24, 1990
Date Signed

Accompanying Personnel: Lloyd Zerr

Approved by: *Kenneth E. Brockman*
Kenneth E. Brockman, Chief
Project Section 3B
Division of Reactor Projects

8/24/90
Date Signed

SUMMARY

Scope: This routine inspection was conducted at the site in the areas of Operational Safety Verification, Maintenance Observation, Surveillance Testing Observation, ESF System Walkdown, and 10 CFR Part 21 Report Followup.

Results: Several weaknesses were noted in the area of administrative procedure compliance. More specifically, observations by the inspectors have revealed problems with the proper performance/completion of procedure sign offs/data sheets. An additional concern was identified during a specific maintenance observation in which the work controlling document was not at the work area and did not fully cover the scope of the work being performed (paragraphs 2 and 3).

Within the areas inspected, one violation was identified for mispositioned valves in the Core Spray System (paragraph 2).

REPORT DETAILS

1. Persons Contacted

Licensee Employees

C. Coggin, Training and Emergency Preparedness Manager
D. Davis, Plant Administration Manager
*D. Edge, Nuclear Security Manager
*P. Fornel, Maintenance Manager
*O. Fraser, Safety Audit and Engineering Review Supervisor
G. Goode, Engineering Support Manager
M. Googe, Outages and Planning Manager
J. Lewis, Operations Manager
C. Moore, Assistant General Manager - Plant Support
H. Nix, General Manager - Nuclear Plant
*H. Sumner, Assistant General Manager - Plant Operations
S. Tipps, Nuclear Safety and Compliance Manager
R. Zavadoski, Health Physics and Chemistry Manager

Other licensee employees contacted included technicians, operators, mechanics, security force members and office personnel.

NRC Resident Inspectors

*R. Musser
*L. Zerr

NRC Management on site during inspection period:

K. Brockman, Chief, Project Section 3B, Region II

*Attended exit interview

Acronyms and initialisms used throughout this report are listed in the last paragraph.

2. Operational Safety Verification (71707) Units 1 and 2

Unit 1 began the reporting period operating at approximately 22% RTP in preparation for synchronization with the grid. Reactor startup was in progress following the scram on June 20, 1990. On June 23, 1990, at 0114, Unit 1 was synchronized with the grid. Rated thermal power was achieved at 0348 on June 24, 1990. For the remainder of the reporting period, Unit 1 operated at power. Unit 2 operated at power throughout the reporting period.

The inspectors were informed on a daily basis of the overall plant status and any significant safety matters related to plant operations. Daily discussions were held with plant management and various members of the

plant operating staff. The inspectors made frequent visits to the control room. Observations included control room manning, access control, operator professionalism and attentiveness, adherence to procedures, adherence to limiting conditions for operation, instrument readings, recorder traces, annunciator alarms, operability of nuclear instrumentation and reactor protection system channels, availability of power sources, and operability of the Safety Parameter Display system. These observations also included log book entries, tags and clearances on equipment, temporary alterations in effect, ECCS system lineups, containment integrity, reactor mode switch position, conformance with technical specification safety limits, daily surveillances, plant chemistry, scram discharge volume valve positions, and rod movement controls. This inspection activity involved numerous informal discussions with operators and their supervisors.

The proper configuration of selected safety-related systems was confirmed on, essentially, a weekly basis. These confirmations involved verification of proper valve and control switch positioning, proper circuit breaker and fuse alignment, and operability of related instrumentation and support systems. Major components were also inspected for leakage, proper lubrication, cooling water supply, and general condition. On July 5, 6, and 9, 1990, the inspector walked down the Unit 2 HPCI system. Proper electrical, valve, and switch alignments were confirmed using Data Packages 1, 2, and 3 to procedure 34SO-E41-001-2S, Rev. 7. On July 9, 1990, the inspector walked down the Units 1 and 2 ECCS control panels. Proper switch and valve lineups were confirmed using Attachments 1, 2, 3, and 4 to procedure 34IT-OPS-001-1S, Rev. 3, for Unit 1 and Attachments 1, 2, 3, and 4 to procedure 34SV-SUV-018-2S, Rev. 1 Ed 2, for Unit 2. On July 23-25, 1990, the inspector walked down the Unit 1 Core Spray system. Proper switch, breaker, and valve positions were verified using Attachments 2, 3, 4, 5, and 6 to procedure 34SO-E21-001-1S, Rev. 8. On July 23, 1990, the inspector walked down the Unit 1 Standby Liquid Control System. Proper switch, breaker, and valve lineups were verified using Attachments 2, 3, and 4 to procedure 34SO-C41-003-1S, Rev. 5. On August 1, 1990, the inspector performed a walkdown of the Unit 1 control rods. This walkdown consisted of checking individual rod positions, verifying that full out indicating lights were illuminated where expected, comparing rod positions between the RWM and OD-7 print out, and reviewing the last three ENG-0501, Rev. 2, Control Rod Movement Sequences, an attachment to 34GO-OPS-065-1S, Rev. 1, Control Rod Movement. All rods were found to be in their designated positions. The inspector noted that four rod full out indicator lights were not illuminated. This condition had been previously identified by the licensee and was documented on two MWOs.

On July 23-25, 1990, while walking down the Core Spray system using Attachments 2, 3, 4, 5, and 6 to procedure 34SO-E21-001-1S, Rev. 8, the inspector found three valves out of position for the present plant configuration. Two of the valves, 1E21-F025B and 1E21-F027B, are the upstream and downstream isolation valves for the pressure control valve 1E21-F026B, and were found to be open rather than closed. These valves

are located in the alternate keep-fill line from the condensate transfer system which is used if the jockey pumps are out of service. If a core spray initiation signal would have been received in this condition, operation of the system would not have been affected. The third valve found out of position was 1E21-F3011A, an isolation valve for a system level switch. This level switch has an alarm function associated with it which alerts the operators to a low level condition in the system piping and the potential for a subsequent water hammer. The inspector informed the Unit 1 Shift Supervisor of these discrepant conditions. Upon confirmation of these conditions, the licensee repositioned the three valves. It should be noted that upon unisolating the system level switch, no level alarm was received. The licensee is currently investigating these events. As a result of the mispositioned valves, the licensee has established a program requiring all plant systems to be walked down. Each walkdown will include checks for valve position, breaker alignment, labeling, and procedural deficiencies. The walkdowns are to be conducted by the Operations Department, and will usually be performed by one individual for approximately four hours on each shift. The licensee plans for this to be an ongoing program.

Technical Specification 6.8.1.a requires that written procedures be established, implemented, and maintained as recommended in Appendix "A" of Regulatory guide 1.33, Revision 2, February 1978. Section 4 of Appendix "A" of Regulatory Guide 1.33, recommends procedures for operation of the ECCS. This matter is considered a violation of Technical Specification 6.8.1.a and will be tracked as violation 321/90-15-01 - Mispositioned Valves in the Core Spray System.

General plant tours were conducted on, at least, a weekly basis. Portions of the control building, diesel generator building, intake structure, turbine building, reactor building, and outside areas were toured. Observations included general plant/equipment conditions, fire hazards, fire alarms, fire extinguishing equipment, emergency lighting, fire barriers, emergency equipment, control of ignition sources and flammable materials, and control of maintenance/surveillance activities in progress. Radiation protection controls, implementation of the physical security program, housekeeping conditions/cleanliness, control of missile hazards, and instrumentation and alarms in the main control room were also observed.

In the area of housekeeping, the following discrepancies were observed by the inspector: On July 23-25, 1990, during tours of the Unit 1 reactor building, the inspector observed several areas in which material housekeeping was not up to acceptable. The first area of concern was in the vicinity of the RWCU precoat tank. The inspector noted that several empty "precoat" boxes were left lying on the floor and that a lot of "precoat" had missed the tank and been spilled on valves, piping and the floor (It had been approximately 3-4 days since the "precoat" was last used). The second area of concern was the Fuel Pool Cooling Heat Exchanger Room. Inside the caged area there were numerous items scattered about, including tools, protective clothing, a procedure, cables, and a

ladder. The final area of concern was on the 87' elevation of the northeast diagonal. Here the inspector found nails, several blocks of wood, copper tubing, a roll of duct tape, tools, and lagging which had been removed. All of these housekeeping concerns were brought to the attention of the Unit 1 Shift Supervisor, who contacted the appropriate personnel for cleanup.

The inspectors observed selected operations shift turnover briefings to confirm that all necessary information concerning the status of plant systems was being addressed. Each briefing was conducted by the oncoming SOS. The inspectors noted that each SOS discussed existing plant problems, activities that were anticipated for the shift, and any new Standing Orders or management directives. Radiological and industrial safety were generally stressed. The STAs discussed any recent procedure revisions that impacted on the attendees. The inspectors attended shift turnover briefings on the following dates and shifts: July 2, 1990 - Day, July 3, 1990 - Night, July 6, 1990 - Day, July 8, 1990 - Night, July 8, 1990 - Night, July 9, 1990 - Day and Night, July 16, 1990 - Day and Night, July 17, 1990 - Day and Night, July 29, 1990 - Night.

Several safety-related equipment clearances that were active were reviewed to confirm that they were properly prepared and placed. Involved circuit breakers, switches, and valves were walked down to verify that clearance tags were in place and legible and that equipment was properly positioned. Equipment clearance program requirements are specified in licensee procedure 30AC-OPS-001-OS, Control of Equipment Clearances and Tags. On July 6, 1990, Unit 2 equipment clearance 2-90-398 was walked down. This clearance was placed to support maintenance on the standby supply transformer 2R23-S021. On July 12, 1990, Unit 1 equipment clearance 1-90-1669 was walked down. This clearance was placed to support maintenance on the 1B Emergency Diesel Generator. On July 25, 1990, Unit 2 equipment clearance 2-90-458 was walked down. This clearance was placed to support maintenance on Post LOCA Hydrogen Recombiner valve 2T49-F008A. During this walkdown, a minor discrepancy was noted by the inspector in that equipment clearance tag number 3 (as designated on the equipment clearance sheet) was actually labeled as tag number 2 (tag number 2 was a voided tag number). The tag, however, was hung in the appropriate location with the component in the correctly designated position. This discrepancy was brought to the attention of the SOS, who promptly initiated action to correct the condition. The inspectors will continue to closely monitor licensee activities in this area.

Implementation of the licensee's sampling program was reviewed by the inspector. This review involved observation of sampling activities (reactor coolant and tank sampling) and chemistry surveillance. Related records were also reviewed. During this inspection period, the inspector monitored the following activities. On July 9, 1990, the inspector observed the monthly source check of the Off Gas Vent Pipe (Stack) in accordance with procedure 62CI-CAL-007-OS, Rev. 6, Ed 1. On July 18, 1990, the inspector observed portions of the 18 month calibration and setpoint calculation of the Off Gas Vent Pipe (Stack), which was conducted

in accordance with procedure 62CI-CAL-007-OS, Rev. 6, Ed 1. On July 31, 1990, the inspector observed the establishing of the Unit 1 Main Steam Line Radiation Monitor setpoints prior to the startup of Hydrogen Injection system. These setpoints were established in accordance with procedure 62CI-CAL-005-OS, Rev. 2.

On July 18, 1990, during the performance of the 18 month calibration and set point calculation of the Off Gas Vent Pipe (Stack), the inspector became concerned that the chemistry technician performing the work was recording data on a separate piece of paper, rather than in the appropriate procedure data package. The technician's intent was to transpose the data to the correct forms upon completion of the work. This practice is not in accordance with plant administrative guidelines, specifically, procedure 10AC-MGR-003-OS, Rev. 12, "Preparation and Control of Procedures," paragraph 5.3.1.4 states that sign offs/data sheets shall be completed as the procedure directs and as soon as the procedure step is completed. This weakness was brought to the attention of the Chemistry supervisors.

The licensee's deficiency control system was reviewed to verify that the system is functioning as intended. Licensee procedure 10AC-MGR-004-OS, "Deficiency Control System," establishes requirements and responsibilities for the preparation, processing, review, and disposition of deficiency reporting documents. This procedure applies to all deficiencies affecting equipment, procedures, or personnel. Deficiencies are reported on Deficiency Cards. On July 2, 1990, the inspector reviewed recently prepared DCs and verified problems noted in the plant had been properly documented. More specifically, it was noted that DC 1-90-4624 had been prepared to document problems encountered while backwashing the Unit 1 RWCU demins. It was also noted that DC 2-90-1873 had been generated to document the improper operation of the Unit 2 "D" TIP. On July 16, 1990, the inspector also reviewed recently prepared DCs and observed that DC 1-90-4782 had been prepared to document the inadvertent tripping of the 1A RFPT. It was also noted that DC 2-90-1993 had been prepared to document the half group one signals received in Unit 2 due to high turbine building temperatures. Finally, on July 26, 1990, the inspector noted that DC 1-90-4983 had been prepared to document the discovery of valve 1E21-F3011A in the closed position, in lieu of the correct open position. The inspector also observed that DC 1-90-4989 had been prepared to document the improper operation of the Site Area Emergency pulse tone discovered during weekly testing.

Selected portions of the containment isolation lineup were reviewed to confirm that the lineup was correct. The review involved verification of proper valve positioning, verification that motor and air-operated valves were not mechanically blocked and that power was available (unless blocking or power removal was required), and inspection of piping upstream of the valves for leakage or leakage paths. On July 11, 1990, the inspector reviewed the following Unit 1 containment isolation valves; 1E11-F016A, 1P33-F002, 1P33-F005, 1P33-F010, 1P33-F011, 1P33-F013, 1T48-F319, 1T48-F320, 1T48-F340, and 1T48-F341. On July 18, 1990, the

inspector reviewed the following Unit 2 containment isolation valves; 2E21-F005A, 2D11-F050, 2D11-D052, 2E11-F041C, 2T48-F115, 2T48-F116, 2T48-F308, 2T48-F309, 2T48-F324, 2T48-F325, and 2T48-F327. On July 25, 1990, the inspector reviewed the following Unit 1 containment isolation valves; 1E21-F015B, 1E41-F012, 1E31-F042, 1E51-F019, 1T48-F309, 1T48-F324, 1T48-F328A, 1T48-F332A, 1T48-F332B, 1T48-F333A, 1T48-F333B, 1T48-F334A, and 1T48-F335A.

During this reporting period, the inspector reviewed the controls on overtime of personnel who perform safety-related functions. Section 6.2.2.g of the technical specifications establishes requirements for the control of such overtime, and Section 8.4 of licensee procedure 30AC-OPS-003-05, "Plant Operations," provides implementing instructions to support the technical specification requirements. On June 25, 1990, the inspector reviewed an Operations Department Overtime Report for the month of April and determined that technical specification and procedural requirements had not been met. More specifically, an individual in the operations department worked in excess of 72 hours in a seven day period without receiving prior authorization. This isolated occurrence was due to the individual rearranging his scheduled work hours which inadvertently resulted in the working of more hours than allowed. The involved individual was counseled on this infraction of the rules governing the use of overtime. The inspector will continue to monitor the licensees' activities in this area.

On August 2, 1990, the inspector verified that all required Notices to Workers were appropriately and conspicuously posted pursuant to 10 CFR 19.11. Related posting requirements are delineated in Section 8.1 of licensee procedure 00AC-REG-001-05, "Federal and State Reporting Requirements." This procedure establishes posting locations at the Waste Separation and Temporary Storage Facility, Simulator Building near the breakroom, Service Building outside the breakroom, and the Plant Entrance Security Building. The inspector reviewed the postings at these locations and observed no discrepancies.

One violation was identified.

3. Maintenance Observation (62703) Unit 1

During the report period, the inspector(s) observed selected maintenance activities. The observations included a review of the work documents for adequacy, adherence to procedure, proper tagouts, adherence to technical specifications, radiological controls, observation of all, or part, of the actual work and/or retesting in progress, specified retest requirements, and adherence to the appropriate quality controls. The primary maintenance observations during this month are summarized below:

<u>Maintenance Activity</u>	<u>Date</u>
a. Fission Product Monitor Calibration/Calibration Check, in accordance with MWO 1-90-4984 and procedure 57SV-D11-023-0S, Rev. 2	07/03/90
b. Repair of oil leaks on the 1B Emergency Diesel Generator, in accordance with MWOs 1-90-1179 and 1-90-3274	07/12/90
c. Replacement of the 1B Emergency Diesel Generator Air Start Check Valves, in accordance with DCR 1H89-249 and MWO 1-90-2322	07/12/90
d. Repair of the Recombiner Building Closed Cooling Water Pump Motor, in accordance with MWO 1-90-2605 and procedure 52PM-N62-001-1S, Rev. 1	07/17/90
e. Repair of the 10" Diesel Fire Pump Discharge Check Valve (1X43-F319C), in accordance with MWO 1-90-5217 and procedure 51GM-MNT-023-0S, Rev. 1	07/17/90
f. Repair of the Diesel Fire Pump (1X43-C002B), in accordance with MWO 1-90-5216 and procedures 52SV-X43-002-1S, Rev. 2, and 52SV-X43-003-1S, Rev. 1. The vendors recommendations and the technical manual were also utilized.	07/17-18/90
g. Repair of the HPCI Flow Controller, in accordance with procedure 57CP-CAL-044-1S, Rev. 2 and MWO 1-90-5511	07/30/90

On July 17, 1990, during the performance of maintenance on the Diesel Fire Pump (1X43-C002B), the inspector noted several deficiencies. The first deficiency noted by the inspector was that work was being performed without the MWO package at the work location. When the MWO package did arrive, it was reviewed by the inspector, and it was determined that the MWO work instructions did not cover the scope of the work currently being performed (specifically work on the turbocharger). The above two deficiencies are not in accordance with paragraphs 8.5.8 and 8.5.9

respectively, of plant procedure 50AC-MNT-001-0S, Rev. 13, "Maintenance Program," the procedure which establishes the requirements and responsibilities for the control of maintenance activities at Plant Hatch. The third deficiency noted by the inspector was that the procedures being used to perform the work were not being signed off in accordance with the requirements of procedure 10AC-MGR-003-0S, Rev. 12, "Preparation and Control of Procedures." More specifically, the sign offs were not being performed as the work was being completed. These weaknesses were brought to the attention of the Maintenance Manager.

No violations or deviations were identified.

4. Surveillance Testing Observations (61726) Unit 1

The inspector(s) observed the performance of selected surveillances. Each observation included a review of the procedure for technical adequacy, conformance to technical specifications, verification of test instrument calibration, observation of all or part of the actual surveillances, removal from service and return to service of the system or components affected, and review of the data for acceptability based upon the acceptance criteria. The primary surveillance testing observations during this month are summarized below:

<u>Surveillance Testing Activity</u>	<u>Date</u>
a. Core Spray Pump 1A Monthly Operability Test, in accordance with procedure 34SV-E21-001-1S, Rev. 8	07/03/90
b. HPCI Valve Operability Test, in accordance with procedure 34SV-E41-001-1S, Rev. 5	07/03/90
c. HPCI Pump Operability Test, in accordance with procedure 34SV-E41-002-1S, Rev. 4	07/03/90
d. RHR Pump Operability Test, in accordance with procedure 34SV-E11-001-1S, Rev. 8	07/05/90
e. RHR System Leakage Inspection, in accordance with procedure 52SV-E11-001-1S, Rev. 2	07/05/90
f. Control Rod Weekly Exercise Test, in accordance with procedure 34SV-C11-003-1S, Rev. 4	07/06/90

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| g. | Core Spray Discharge Line Level Instrument FT&C, in accordance with procedure 57SV-E21-001-1S, Rev. 2 | 07/09/90 |
| h. | Control and Surveillance of Locked Valves and Breakers, in accordance with procedure 34GO-SUV-023-0S, Rev. 9 | 07/09/90 |
| i. | Diesel Generator 1A Monthly Test, in accordance with procedure 34SV-R43-001-1S, Rev. 8 | 07/12/90 |
| j. | Core Spray Pump Operability Test, in accordance with procedure 34SV-E21-001-1S, Rev. 8 | 07/30/90 |

No violations or deviations were identified.

5. ESF System Walkdown (71710) Unit 2

The inspectors routinely conducted partial walkdowns of ESF systems. Valve and breaker/switch lineups and equipment conditions were randomly verified both locally and in the control room to ensure that lineups were in accordance with operability requirements and that equipment material conditions were satisfactory. During this reporting period, accessible portions of the Unit 2 HPCI system were walked down in detail. This effort involved confirmation that system lineup requirements in procedure 34SO-E41-001-2S, Rev. 7, "High Pressure Coolant Injection System," were consistent with the as-built configuration and the applicable plant drawings (H-26020, Rev. 23 and H-26021, Rev. 18). The detailed walkdown also involved confirmation that valves, breakers, and switches were properly positioned and that material condition was satisfactory.

No violations or deviations were identified.

6. 10 CFR Part 21 Report Followup (92701) Units 1 and 2

By letter dated July 15, 1988, The Foxboro Company made a report to the NRC pursuant to 10 CFR Part 21 concerning the SPEC 200, Model 2AC-D+A4 controller card with its associated 2AX+RM, removable manual card. These cards were found to produce a momentary output offset when the 2AX+A4 card was reinserted into the 2AC-D+RM module. Users of these cards were advised to review the impact of this offset condition to their specific application. On June 13, 1989, the licensee determined that such controller cards and associated removable manual cards are not used at Plant Hatch. Based on this determination, review of this matter, tracked by Region II as item 321,366/P2188-04, is closed.

By letter dated March 18, 1988, Limatorque Corporation made a report to the NRC pursuant to 10 CFR Part 21 concerning the worm gear component of type H3BC valve actuators. A certain portion of these worm gears are thought to contain a casting porosity, thus subjecting them to failure when placed under initial loading. Limatorque Corporation recommended inspection of worm gear components of H3BC actuators that have not yet been placed in service, and at the utilities discretion, H3BC actuators that have been previously operated under load should have the worm gear component inspected. On July 20, 1990, the licensee inspected the two H3BC worm gears currently in stock. No defects were noted. Additionally, the licensee has opted not to perform visual inspections on currently installed H3BC worm gears, as they have been previously operated under load and should not be subject to failure as confirmed by plant maintenance history records. (The Limatorque Corporation Engineering Department has concluded that failure of a worm gear component with similar deficiencies would be instantaneous upon gear loading and would be evident at the time of installation). Based on these actions, review of this matter, tracked by Region II as item 321,366/P2188-01, is closed.

7. Exit Interview (30703)

The inspection scope and findings were summarized on August 6, 1990, with those persons indicated in paragraph 1 above. Particular emphasis was placed on the one violation discussed in paragraph 2. A weakness in licensee performance (paragraphs 2 and 3) was also highlighted. The licensee did not identify as proprietary any of the material provided to or reviewed by the inspector(s) during this inspection. Dissenting comments were not received from the licensee.

<u>Item Number</u>	<u>Status</u>	<u>Description/Reference Paragraph</u>
50-321/90-15-01	Opened	VIOLATION - Mispositioned Valves in the Core Spray System (paragraph 2)

8. Acronyms and Abbreviations

CFR - Code of Federal Regulations
 DCR - Design Change Request
 ECCS - Emergency Core Cooling System
 ESF - Engineered Safety Feature
 FT&C - Functional Test and Calibration
 HPCI - High Pressure Coolant Injection
 LER - Licensee Event Report
 MWO - Maintenance Work Order
 NRC - Nuclear Regulatory Commission
 RHR - Residual Heat Removal System
 RTP - Rated Thermal Power
 RWCU - Reactor Water Cleanup System
 RWM - Rod Worth Minimizer

SOS - Superintendent on Shift (Operations)
STA - Shift Technical Advisor
TIP - Traversing Incore Probe
TS - Technical Specifications