



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

Report Numbers: 50-321/90-18 and 50-366/90-18

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 1 and 2

Inspection Dates: August 4 - September 14, 1990

Inspection at Hatch site near Baxley, Georgia

Inspectors:	<i>Randall A. Musser for</i>	9/28/90
	L. D. Wert, Jr., Senior Resident Inspector	Date Signed
	<i>Randall A. Musser</i>	9/28/90
	Randall A. Musser, Resident Inspector	Date Signed

Accompanying Personnel: Lloyd P. Zerr

Approved by:	<i>Ken E. Brockman</i>	9/28/90
	Kenneth E. Brockman, Chief, Project Section 3B Division of Reactor Projects	Date Signed

SUMMARY

Scope: This routine inspection was conducted at the site in the areas of Operational Safety Verification, Maintenance Observation, Surveillance Testing Observation, and Action on Previous Inspection Findings.

Results: Two weaknesses of licensee programs were identified. The first weakness was identified in the radiation health physics area and involved failures to comply with high radiation area controls. The second weakness was identified during observation of a chemistry department sampling evolution in which the procedure being utilized was not the current revision (paragraph 2).

Within the areas inspected, one violation and one inspector followup item were identified. The violation addressed a failure to report an ESF actuation (paragraph 5). The inspector followup item was identified in the area of DCR processing (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. Hammonds, Regulatory Compliance Supervisor
- *J. Lewis, Operations Manager
- C. Moore, Assistant General Manager - Plant Support
- D. Read, Assistant General Manager - Plant Operations
- *H. Sumner, General Manager - Nuclear Plant
- 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

- L. Wert
- R. Musser
- L. Zerr

NRC management/officials on site during inspection period:

- K. Brockman, Chief, Reactor Projects Section 3B, Region II
- J. Curtiss, Commissioner, Nuclear Regulatory Commission
- L. Reyes, Director, Division of Reactor Projects, Region II

*Attended exit interview

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

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

Unit 1 and 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 the operability of related instrumentation and support systems. Major components were also inspected for leakage, proper lubrication, cooling water supply, and general condition. The following systems were walked down:

- Unit 2 Standby Gas Treatment System. (August 20, 1990)
- Unit 2 RHR System. (August 21, 23 and 24, 1990)
- Unit 1 Reactor Core Isolation Cooling System. (September 6, 1990)
- Unit 2 Plant Service Water System. (portions of) (September 13, 1990)

On September 13, 1990, the inspector walked down portions of the Plant Service Water system using 3450-P41-001-2S, Rev. 8, Plant Service Water System, Attachments 1 and 2. Primarily, the focus of the inspectors' attention was directed towards safety related portions of this system although some non-safety related areas were also walked down. During the walkdown of one of these non-safety related areas, the inspector found 2P41-F487A closed rather than opened as required by the procedure. This valve is a vacuum breaker isolation valve located on the PSW supply side of the RFPT A Lube Oil Cooler. Upon further investigation, the inspector discovered that this mispositioned valve had been identified approximately two months ago by the licensee. The licensee was in the process of correcting this situation at the same time the inspector brought it to their attention. No other significant deficiencies were identified during the walkdown. Discussions with plant management and further review by the inspector into the long delay in correcting this identified problem indicate that this instance is an isolated case. The inspectors will follow the licensee's corrective actions.

General plant tours were conducted frequently. 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.

On August 28, 1990, while accompanying a PEO on inside rounds in the Unit 2 reactor building, a weakness was identified concerning requirements when personnel enter into a high radiation area. In this particular example, a high radiation area which was roped off and had swinging gates, was transgressed without the requirements for entry being met as delineated in 62RP-RAD-016-OS, Rev. 5, "High Radiation Area Access Control." Specifically, no HP escort was present for entry and monitoring. The inspector felt that additional attention was warranted and informed the necessary plant management for implementation of appropriate corrective actions. A mitigating factor in this particular case may be that the posting for entry into the high radiation area did not specifically list "HP escort required for entry" as is usually found at other posted high radiation areas. The following day, August 29, 1990, the inspector observed two people exiting a high radiation area without an HP escort. This area was specifically posted as requiring HP escort for entry. Plant management was informed. In both of these cases, the posted areas included zones that were potentially, as opposed to actually, subject to high radiation. The operators in question did not enter an actual high radiation area. For this reason, the problem area is being considered as a weakness. The licensee's corrective actions to prevent reoccurrence are being monitored by the inspectors.

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 on-going 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 average of two to three times per week.

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 August 14, 1990, Unit 2 equipment clearance 2-90-504 was walked down. This clearance was placed to support corrective maintenance on the HPCI system. On August 23, 1990, Unit 1 equipment clearance 1-90-1848 was walked down. This clearance was placed to support DOP testing on the "B"

train of the Unit 1 Standby Gas Treatment system. On September 7, 1990, Unit 2 equipment clearance 2-90-566 was walked down. This clearance was placed to perform maintenance on the 2A RHRSW Pump. No discrepancies were noted.

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 August 16, 1990, the inspector observed the monthly source check of the Unit 2 Off Gas Pretreatment Radiation Monitor (2D11-K601), in accordance with procedure 62CI-CAL-006-OS, Rev 3. On August 20, 1990, the inspector observed sampling activities associated with the Off Gas system, in accordance with procedure 64CH-SAM-001-OS, Rev 1 Ed 1. On August 21, 1990, the inspector observed the performance of procedure 62CH-SAM-031-OS, "Routine and Post Accident Sampling of Reactor Coolant and Drywell Atmosphere using the Automated Isotopic Measurement System." As a part of this observation, the inspector discovered that the incorrect procedure revision was being utilized (revision 2 in lieu of the current effective revision 3). This concern was brought to the attention of chemistry department supervision as well as the Plant General Manager. In this particular case, revision 3 encompassed editorial changes previously written in on revision 2 and, therefore, did not effect the performance of the procedure. Immediate corrective action implemented by the chemistry department was to ensure that prior to performing any procedure that the correct procedure revision would be verified through document control or through the plants Nucleis system. A similar deficiency was previously identified as IFI 321,366/89-27-03. The inspectors will continue to closely monitor the effectiveness of the licensee's corrective actions on this issue.

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 August 14, 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 1-90-5291 had been prepared to document the leaking of the discharge check valve (1X43-F319A) on the electric fire pump. It was also noted that DC 2-90-2266 had been generated to document the improper indication displayed by the HPCI discharge pressure gauge. On August 27, 1990, the inspector also reviewed recently prepared DCs and verified that problems observed in the plant had been properly documented. The inspector observed that DC 1-90-5507 had been prepared to document the failure of valve 1E11-F013 (RHR pump vent valve) during stroke time testing. It was also noted that DC 2-90-2430 had been prepared to document the failure of a reactor building vent radiation monitor (2D11-K636A) to calibrate. Finally, on September 12, 1990, the inspector noted that DC 1-90-5766 had been prepared to document the failure of valve 1D11-F071. (Fission Product Monitor sample supply isolation valve)

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.

During this reporting period, the inspector reviewed the licensee's 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 August 15, 1990, the inspector reviewed a Health Physics and Chemistry Department Overtime Report for the month of July and determined that technical specification and procedural requirements had been met.

On August 9, 1990, Unit 1 began losing instrument and service air system pressure. Operations personnel were unable to start any of the three Unit 1 station service air compressors. At the direction of the shift supervisor, the operator cross connected the Unit 1 and 2 air systems. Unit 2 SSACs A and B were started to supplement SSAC C in order to meet the air demand of both units. Unit 1 and 2 air systems were operated in a cross connected configuration for approximately three hours during which time the Unit 1 surge tank level switch was jumpered out of the circuit allowing the operations personnel to restart the Unit 1A and 1B compressors and separate the air systems.

The event review investigation revealed a number of findings. First, the Unit 1C SSAC tripped because of inadequate assembly of the drive motor overload by the manufacturer (a spring which holds contacts closed was pinched between the overload back plate and the overload housing, shortening the springs effective length) and had tripped about 30 minutes prior to the loss of instrument and service air transient. At this time, the Unit 1A and 1B compressors were started.

The Unit 1A and 1B compressors tripped because the surge tank level switch probe for each of the SSAC closed cooling water pump trip circuits had vibrated loose from their mountings causing CCW pump trip signals. Consequently, the SSACs tripped on low CCW flow.

The licensee has determined the primary cause of this event was inadequate design of the surge tank level switch probe assembly. This design deficiency was exacerbated by the failure to perform periodic surveillances on the SSAC CCW pumps. Further investigation revealed that the same circumstances existed for Unit 2.

Corrective actions have been implemented. The level switches have been modified using locking devices to secure the probes to prevent similar failures. The 1C SSAC drive motor overload has been replaced and is being evaluated for generic implications.

The inspectors identified an additional weakness involving this event. The identified weakness was the licensee's failure to issue an approved procedure for operation of the new SSACs prior to turning over the modified air systems to the operations department. (New air compressors had recently been installed on Unit 1 as part of a Design Change Request.) This became evident on August 9, 1990 when, in response to the decreasing pressure in the instrument and service air systems, a control room operator referred to the system operating procedure for the air system. The procedure did not address operation of the new compressors nor did it reflect any of the recent modifications or additions. As this was the current procedure, and did not accurately reflect the plant configuration, the operator used a proposed revision which was approved "For Validation Use Only" in responding to the event. Procedure 10AC-MGR-003-OS, Rev. 12, "Preparation and Control of Procedures," states that the validation procedure may be performed in the plant one time only. It appears that there are weaknesses in the way DCR's are implemented since section 7.4.3.6 of procedure 42EN-ENG-001-OS, Rev. 7, "DCR Processing," specifically states that procedures required for safe operation of the plant be issued for use prior to having any of the associated equipment declared operable. The procedure goes on to say that if this requirement can not be met, the equipment shall be maintained in an inoperable status. The licensee is evaluating corrective actions necessary to preclude a similar occurrence. Placing important plant systems in operation without appropriate operating procedures is considered a significant weakness. Pending completion of the licensee's corrective actions and subsequent NRC review, this matter will be tracked as IFI 321,366/90-18-01, DCR Procedure Implementation.

One IFI was identified.

3. Maintenance Observation (62703) Unit 2

During the report period, the inspectors 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. Replacement of valve 2B21-N056A, in accordance with MWO 2-90-2199	08/07/90
b. Troubleshooting of a vibration problem on the 2A Diesel Fire Pump, in accordance with MWO 1-88-2362	08/08/90

<u>Maintenance Activity</u>	<u>Date</u>
c. Repair of an ATTS panel States Block Link, in accordance with MWO 2-90-1426	08/08/90
d. Human Factors modifications to HPCI control room instruments, in accordance with MWO 2-90-1140 and 2-90-1141	08/14/90
e. Corrective maintenance/modification to the level probes to the cooling water surge tanks for the Unit 2 air compressors, in accordance with MWO 2-90-2257	08/16/90

No violations or deviations were identified.

4. Surveillance Testing Observations (61726) Unit 2

The inspectors observed the performance of selected surveillances. The 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. Condenser Vacuum Instrument FT&C, in accordance with procedure 57SV-B21-005-2S, Rev. 2	08/07/90
b. ATTS Panel 2H11-P926 Channel FT&C, in accordance with procedure 57SV-SUV-012-2S, Rev. 7	08/08-09/90
c. Security Power System Weekly Test, in accordance with procedure 34IT-OPS-003-0S, Rev. 0, Ed 1	08/15-16/90
d. APRM Functional Test, in accordance with procedure 34SV-C51-002-2S, Rev. 4, Ed 1	08/26/90

<u>Surveillance Testing Activity</u>	<u>Date</u>
e. RHR Pump Operability, in accordance with procedure 34SV-E11-001-2S, Rev. 3	08/27/90
f. Diesel Generator 2A Monthly Test, in accordance with procedure 34SV-R43-001-2S, Rev. 10, Ed 1	08/28/90
g. RCIC Pump Operability, in accordance with procedure 34SV-E51-002-2S, Rev. 5, Ed 1	09/05/90
h. RCIC Leakage Inspection, in accordance with procedure 52SV-E51-001-2S, Rev. 3	09/05/90
i. ATTS Panel 2H11-P927 Channel FT&C, in accordance with procedure 57SV-SUV-013-2S, Rev. 6	09/06/90

No violations or deviations were identified.

5. Action on Previous Inspection Findings (92701) Units 1 and 2

(Closed) URI 321,366/90-09-01, Questionable Reporting Practices

This URI was opened subsequent to the April 26, 1990 event during which an inadvertent loss of the Unit 1 RPS "B" Bus caused a loss of shutdown cooling (on Unit 1) and the automatic startup of the "B" trains of the SGBT system on Units 1 and 2. Following these events, the licensee determined that the isolation of shutdown cooling and the auto-start of the 1B and 2B trains of the SGBT system were not Engineered Safety Feature Actuations and, therefore, not reportable in accordance with the applicable portions of 10CFR Parts 50.72 and 50.73. The decision not to report these actuations reflected the licensee's position that there is not an actuation unless the appropriate parametric sensor, the initiation logic, and the actual actuation component (valve, pump, fan, etc.) are all three subjected to the signal which caused the actuation. Thus, if a signal were inadvertently inserted midway in the logic portion of the circuitry, and resulted in an ultimate system operation, the event would not be reportable. Additionally and more specifically, if a systems fail-safe response to an inadvertent loss of power is an actuated condition, then again the event is not reportable.

Subsequent to this event, review of this issue by NRR, AEOD, and Region II indicated that the intent of 10 CFR 50.72(b)(2)(ii) and 10 CFR 50.73(a)(2)(iv) were not being met by the licensee's position. The staff's position was forwarded to the licensee under separate cover dated September 7, 1990. Simply stated, the NRC's position is that for any reason (except expected responses to testing) the actuation components operate, then there was an ESF actuation, albeit inadvertent. On August 21, 1990, upon receiving verbal communication on the staff's position on this issue, the licensee agreed to, henceforth, follow this guidance on ESF reportability. The inspector has verified, through interviews with the cognizant members of the plant staff (SOSs and the Manager of Nuclear Safety and Compliance) and observation of a recent ESF actuation event, that the licensee is presently in conformance with the staff's position. LER 50-321/1990-016 which addressed a similar unplanned ESF actuation was submitted by the licensee on September 13, 1990.

10 CFR 50.72(b)(2)(ii) requires, in part, that the licensee shall notify the NRC Operations Center within four hours of any event or condition that results in manual or automatic actuation of any Engineered Safety Feature. Additionally, 10 CFR 50.73(a)(2)(iv) requires the licensee to submit a Licensee Event Report within 30 days after the discovery of any event or condition that results in manual or automatic actuation of any Engineered Safety Feature. The failure to report the April 26, 1990 ESF actuation event is considered to be a violation of 10 CFR 50.72(b)(2)(ii) and 10 CFR 50.73(a)(2)(iv) and will be tracked as Violation 321,366/90-18-02: Failure to Report an ESF Actuation. Since the licensee has implemented appropriate corrective action, no response will be required. Violation 321,366/90-18-02 is considered closed. URI 50-321,366/90-09-01 is also closed.

6. Exit Interview (30703)

The inspection scope and findings were summarized on September 18, 1990, with those persons indicated in paragraph 1 above. The licensee did not identify as proprietary any of the material provided to or reviewed by the inspectors during this inspection. Dissenting comments were not received from the licensee.

<u>Item Number</u>	<u>Status</u>	<u>Description/Reference Paragraph</u>
321,366/90-18-01	Opened	IFI - DCR Procedure Implementation (Paragraph 2)
321,366/90-18-02	Opened and Closed	VIOLATION - Failure to Report an ESF Actuation (Paragraph 5)
321,366/90-09-01	Closed	URI - Questionable Reporting Practices (Paragraph 5)

7. Acronyms and Abbreviations

AEOD	-	Analysis and Evaluation of Operational Data
APRM	-	Average Power Range Monitor
ATTS	-	Analog Transmitter Trip System
CCW	-	Component Cooling Water
CFR	-	Code of Federal Regulations
DC	-	Deficiency Card
DCR	-	Design Change Request
DOP	-	Dioctyl Phthalate Test
ECCS	-	Emergency Core Cooling System
Ed	-	Editorial (Changes)
ESF	-	Engineered Safety Feature
FT&C	-	Functional Test and Calibration
HP	-	Health Physics
HPCI	-	High Pressure Coolant Injection
IFI	-	Inspector Followup Item
LER	-	Licensee Event Report
MWO	-	Maintenance Work Order
NRR	-	Nuclear Reactor Regulation
PEO	-	Plant Equipment Operator
RCIC	-	Reactor Core Isolation Cooling
Rev.	-	Revision
RHR	-	Residual Heat Removal System
RHRSW	-	Residual Heat Removal Service Water System
SBGT	-	Stand-By Gas Treatment
SOS	-	Superintendent On Shift (Operations)
SSAC	-	Station Service Air Compressor
STA	-	Shift Technical Advisor
TS	-	Technical Specifications
URI	-	Unresolved Item