



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

Report Nos.: 50-321/84-41 and 50-366/84-41

Licensee: Georgia Power Company
P. O. Box 4545
Atlanta, GA 30302

Docket Nos.: 50-321 and 50-366

License Nos.: DPR-57 and NPF-5

Facility Name: Hatch 1 and 2

Inspection Conducted: September 21 - November 20, 1984

Inspectors:

V. G. Stutko for
R. V. Crljenjak, Senior Resident Inspector

11/29/84
Date Signed

V. G. Stutko for
P. Holmes-Ray, Resident Inspector

11/29/84
Date Signed

Approved by:

V. G. Stutko for
V. W. Panciera, Section Chief
Division of Reactor Projects

11/29/84
Date Signed

SUMMARY

Scope: This inspection involved 308 inspector-hours on site on the areas of Technical Specification compliance, operator performance, overall plant operations, quality assurance practices, station and corporate management practices, corrective and preventive maintenance activities, site security procedures, radiation control activities, and surveillance activities.

Results: Of the areas inspected, 2 violations were identified (paragraphs 5, 6, and 9).

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *H. C. Nix, Site General Manager
- T. Greene, Deputy Site General Manager
- *L. Sumner, Operations Manager
- *P. Fornel, Site QA Manager
- S. B. Tipps, Superintendent of Regulatory Compliance
- *C. Jones, Engineering Manager

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

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on November 16, 1984, with those persons indicated in paragraph 1 above.

3. Licensee Action on Previous Enforcement Matters

The following items have been reviewed by the inspectors and are considered resolved.

- a. (Closed) Violation (366/84-07-01) - Inadequate Procedure for N₂ System Operation.
- b. (Closed) Violation (321/84-13-01) - Failure to Return Systems/Components to Specified Conditions Following Maintenance.
- c. (Closed) Violation (321/84-30-01) - Failure to Follow Procedures/Instructions While Performing Maintenance.
- d. (Closed) Violation (321-366/83-09-01) - Insufficient Administrative and Managerial Controls with Regard to Cable Tray Systems.
- e. (Closed) Violation (366/81-14-02) - Technical Specification 3.3.3 - Emergency Core Cooling Actuation.
- f. (Closed) Unresolved (321,366/84-19-01) - Plant Service Water System Missing Pipe Supports - The inspector has completed a review of As-Built Drawing B-P-81-058-381 Rev. A and has determined that the referenced supports are not required by current plant drawings.

4. Unresolved Items

On September 25, 1984, Georgia Power informed the NRC of an inconsistency between the strength of the bolting materials assumed in the seismic analysis and those actually installed in the four Unit 2 residual heat removal service water (RHRSW) pumps - two per loop. This raised a concern regarding the evaluated impact on RHR system operability during an operating basis earthquake (OBE), in that the installed bolts could experience stresses in excess of yield if the pumps were operating during an OBE. This calculated overstress condition would result because the licensee relocated a large seismic restraint to facilitate pump maintenance. The modification was not performed on Unit 1.

On September 26, 1984, the licensee submitted information to the NRC staff which justified continued power operation of Unit 2 during the bolt replacement (ref. Georgia Power letters NED 84-510, 512 dated September 26 and 27, 1984). The NRC staff (RII and NRR) concurred that continued power operation during bolt replacement was a safe course of action. This was primarily because the pumps are not operated during power operation. Under this condition, there are no operating stresses, and the earthquake stresses are well below the yield stress of the bolts.

The discovery by Johnston Pump Company of the bolting material error on the Unit 2 RHRSW pumps has initiated a review by the Nuclear Plant Support Department-Hatch Mechanical group of the history of the design modifications and seismic qualifications of Johnston service water pumps supplied for E. I. Hatch Nuclear Plant.

Preliminary results of the investigation have indicated that the problem occurred during seismic analyses performed for the Unit 2 RHRSW pumps support relocations proposed for DCR 79-492. To support this DCR, Bechtel Power Corporation initiated a requisition to Georgia Power Company for a review of the pump's seismic analyses supplied by the Johnston Pump Company and had McDonald Engineering perform the seismic analyses. In these analyses, assumptions were made which required material revisions. These needed material revisions were not specifically brought to the attention of Johnston Pump Company and were subsequently overlooked when the analyses were reviewed by Bechtel. Thus, Georgia Power Company was not aware that material revisions were required.

The material discrepancy identified on the Unit 2 RHRSW pumps was found by Johnston Pump Company during a review of the seismic analysis and bill of materials. This review by Johnston was in conjunction with the proposed modifications to change the carbon steel pump to stainless steel bowls.

Georgia Power Company requested that Southern Company Services perform a Part 10 CFR 21 evaluation on this issue. Currently, Southern Company Services' Nuclear Safety and Fuel Group and the Hatch Nuclear Support Group are obtaining the information necessary to complete the requested evaluation. As part of this evaluation, the Southern Company Services Quality

Assurance Department will be requested to determine if there has been a quality assurance program breakdown within Johnston Pump, Bechtel Power Corporation, and/or the Southern Company Services Hatch Nuclear Support Group.

An audit team comprised of representatives from Southern Company Services, Inc., Nuclear Plant Support Department-Hatch, Quality Assurance, and Nuclear Safety and Fuel is responsible for continuing this review of the documentation and methodology used to review this documentation by Johnston Pump Company and Bechtel.

Until the above described audit is complete and the root causes known this item is unresolved (366/84-41-03).

5. Plant Tours (Units 1 and 2)

The inspectors conducted plant tours periodically during the inspection interval to verify that monitoring equipment was recording as required, equipment was properly tagged, operations personnel were aware of plant conditions, and plant housekeeping efforts were adequate. The inspectors also determined that appropriate radiation controls were properly established, critical clean areas were being controlled in accordance with procedures, excess equipment or material was stored properly and combustible material and debris were disposed of expeditiously. During these tours the inspectors looked for the existence of unusual fluid leaks, piping vibrations, pipe hanger and seismic restraint settings, various valve and breaker positions, equipment caution and danger tags, component positions, adequacy of fire fighting equipment, and instrument calibration dates. Some tours were conducted on backshifts.

The inspectors routinely conduct partial walkdowns of ECCS systems. Valve and breaker/switch lineups and equipment conditions are randomly verified both locally and in the control room. During the inspection period, the inspectors conducted a complete walkdown in the accessible areas of the Unit 2 Standby Liquid Control System to verify that the lineups were in accordance with licensee requirements for operability and equipment material conditions were satisfactory.

Within the areas inspected, no violations or deviations were identified.

Twice during the reporting period, the resident inspectors noted an abnormal reading on the Core Spray (CS) train A discharge pressure instrument on the Unit 2 control room board. The instrument is expected to read approximately 50-100 psi at all times when the CS system is not in operation. The pressure on the system is maintained by a jockey pump which maintains the system full of water, preventing water hammer upon CS system actuation. The first low pressure reading was due to a failed pressure instrument; however, on October 3, 1984, the resident inspector again identified a low pressure reading and again questioned the control room operators as to the cause. The investigation by the licensee determined that when returning the system to operation after a routine instrument calibration on October 1, 1984, the

individuals responsible for system realignment improperly aligned the jockey pump discharge valves. This investigation also showed that an independent verification of the valve alignment had been conducted but failed to identify the error. This is one example of personnel error/failure to follow procedures and is considered to be a violation (321/84-41-01).

6. Plant Operations Review (Units 1 and 2)

The inspectors periodically reviewed shift logs and operation records, including data sheets, instrument traces, and records of equipment malfunctions during the inspection interval. This review included control room logs and auxiliary logs, operating orders, standing orders, jumper logs and equipment tagout records. The inspectors routinely observed operator alertness and demeanor during plant tours. During normal events, operator performance and response actions were observed and evaluated. The inspectors conducted random off-hours inspection during the reporting interval to assure that operations and security remained at an acceptable level. Shift turnovers were observed to verify that they were conducted in accordance with approved licensee procedures.

On August 10, 1984, the licensee issued Standing Order 84-21, Reportability of Spurious Reactor Protection System/Engineered Safety Features (RPS/ESF) Actuations, to clarify the reporting requirements of 10 CFR 50.72.

On September 8, 1984, in Unit 2, an automatic isolation of the Reactor Water Cleanup system occurred due to high differential flow signal. This actuation of an ESF did not get reported until September 26, 1984, when a licensee review of a deficiency report determined the event to be reportable.

On November 6, 1984, the Standby Gas Treatment system automatically started upon a Group-2 isolation signal (ESF actuation) that was caused by a blown fuse. When resetting the Group-2 isolation an actuation of the RPS occurred. On the morning of November 7, 1984, the resident inspector noticed the log entry describing the two events (automatic startup of the Standby Gas Treatment System and actuation of the RPS) and asked if they had been reported. No report had been made. A report was made on November 7, 1984.

These are two examples of failure to make timely reports and are considered to be a violation (321,366/84-41-02).

7. Technical Specification Compliance (Units 1 and 2)

During this reporting interval, the inspectors verified compliance with selected limiting conditions for operations (LCO's) and results of selected surveillance tests. These verifications were accomplished by direct observation of monitoring instrumentation, valve positions, switch positions, and review of completed logs and records.

Within the areas inspected, no violations or deviations were identified.

8. Physical Protection (Units 1 and 2)

The inspectors verified by observation and interviews during the reporting interval that measures taken to assure the physical protection of the facility met current requirements. Areas inspected included the organization of the security force, the establishment and maintenance of gates, doors and isolation zones in the proper condition, that access control and badging was proper, and procedures were followed.

Within the areas inspected, no violations or deviations were identified.

9. Review of Nonroutine Events Reported by the Licensee (Units 1 and 2)

The following Licensee Event Reports (LERs) were reviewed for potential generic impact, to detect trends, and to determine whether corrective actions appeared appropriate. Events which were reported immediately were also reviewed as they occurred to determine that Technical Specification were being met and that the public health and safety were not compromised. The following LER's are considered closed:

Unit 1: 83-105, 84-04*, 84-05*, 84-10, 84-18*

Unit 2: 84-03*, 84-06, 84-07, 84-13, 84-19, 84-21, 84-22*, 84-24, 84-26, 84-27*

*In-depth review performed.

On October 6, 1984, with the reactor mode switch in the run position, during an attempt to perform preventive maintenance on Unit 1's RHR Service Water Pumps (1E11-C001B and 1E11-C001D), plant personnel mistakenly disconnected the motor leads for Unit 2's RHR Service Water Pumps (2E11-C001B and 2E11-C001D). Plant personnel discovered this event after they had disconnected the motor leads from pump 2E11-C001D and had disconnected 2 of the 3 motor leads from pump 2E11-C001B. The applicable LCO Action statement was entered and an equipment clearance was initiated immediately and plant personnel reconnected the pumps' motor leads. The redundant "A" loop of RHR service water remained operable. The two affected pumps were returned to service on October 6, 1984, approximately 6½ hours after the motor leads were removed.

On January 15, 1984, with the plant in cold shutdown for reactor recirculation pipe replacement, operating personnel were in the process of lowering the reactor's water level by using the Reactor Water Cleanup (RWCU) pump to dump water to the main condenser. At the beginning of this process, a RWCU high differential flow isolation signal occurred. This signal is a Primary Containment Isolation System (PCIS) valve group 5 isolation signal, and it should have closed the RWCU system isolation valves, 2G31-F001 and 2G31-F004 (EIIS-CE). The RWCU inboard isolation valve 2G31-F001 closed; however, the RWCU outboard isolation valve 2G31-F004 (EIIS-CE) did not close.

The cause of the RWCU outboard isolation valve 2G31-F004 to not close was incorrect installation of the RWCU dump flow transmitter (2G31-N012, EIIS-CE) during completion of a Design Change Request (DCR 83-285) on December 21, 1983. Test shop personnel who replaced the existing transmitter with a new transmitter inadvertently connected the sensing lines up backwards to the new transmitter. The RWCU dump flow transmitter was reinstalled correctly and returned to service on December 17, 1984.

The above listed examples of personnel error/failure to follow procedures along with the example in paragraph 5 are considered a violation (321,366/84-41-01).

10. Bulletin/Circular Review

(Closed) Circular 78-11 (321,366/78-CI-11) - Recirculation M-G Set Overspeed Steps - Georgia Power engineering staff has reviewed the records for Units 1 and 2 for performance of procedure HNP-3455, "Recirculation M-G Sets High Speed Stops," and verified that the desired setpoint of 102.5% was used and that the correct Kf has been used (as of July 16, 1982). This circular is considered closed.

(Closed) Bulletin 84-03 (321,366/84-BU-03) - Refueling Cavity Water Seal - Based on Georgia Power Company's letter NED-84-500, dated September 27, 1984, to the NRC and the resident inspectors' review this bulletin is considered closed.

11. Evaluation of Unit 1 Equipment Operability Determination

An inspection to evaluate the licensee's ability to determine equipment operability for Unit 1 was conducted on October 29 - 30, 1984. The scope of the evaluation included:

- a. Technical Specification (TS) definition of operability; and,
- b. The licensee's program for determining operability of TS systems.

To verify implementation of the licensee's program, a selection of three TS Limiting Conditions for Operation (LCO) requirements was made and reviewed to determine if surveillance requirements provide reasonable assurance that the system is operable and if the licensee's program supplements the listed surveillance requirements to assure equipment is operable.

Findings:

- a. The TS definition of operable, "A system or component shall be considered operable when it is capable of performing its intended function in its required manner", is less comprehensive than the following more modern definition as seen in Unit 2 TS: "OPERABLE - OPERABILITY - A system, subsystem, train, component or device shall be OPERABLE or have OPERABILITY when it is capable of performing its

specified function(s). Implicit in this definition shall be the assumption that all necessary attendant instrumentation, controls, normal and emergency electrical power sources, cooling or seal water, lubrication or other auxiliary equipment that are required for the system, subsystem, train, component or device to perform its function(s) are also capable of performing their related support function(s)."

- b. The program for determining operability for TS systems is found in Procedure HNP-831, Technical Specifications (Tech Specs) Surveillance Program. This program uses computer generated lists of those surveillances due, including all the frequencies of testing. This list is run off by departments and distributed each week. As the surveillance is completed the lists are annotated and returned for computer updating. The system has performed with few errors.
- c. LCO's for Core Spray (CS) system, Residual Heat Removal Service Water (RHRSW) system and High Pressure Coolant Injection (HPCI) system were reviewed to determine if systems and procedures were in place to assure operability. It was found that the program and procedures were adequate. The procedures were cross referenced when loss of one component would require surveillance testing of a component in another system. For example: if HPCI is out of service then Reactor Core Isolation Cooling (RCIC), Automatic Depressurization System (ADS), CS and the RHR-Low Pressure Coolant Injection (LPCI) mode must be operable and the TS specifies what surveillance is required. The surveillance procedures, in the purpose section, state that operability of these systems must be verified prior to removing HPCI from service.

One supplemental system was found which helps assure TS systems are operable. HNP-823, Calibration Program for Instrumentation not covered by Tech Specs, provides for periodic calibration of instruments used to monitor Tech Spec parameters (e.g., Standby Liquid Control tank level instrument).

Summary:

Plant Hatch Unit 1 has a satisfactory program to determine operability of equipment based on Technical Specification requirements. This program is implemented by a computerized surveillance program and procedures which are adequate to prove operability. Supplementing this is a program for calibration of instruments used to monitor Limiting Conditions for Operation.