



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30303

Report Nos.: 50-321/84-40 and 50-366/84-40

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 25-28, 1984

Inspector: Frank Jape 10/10/84
for P. T. Burnett Date Signed

Approved by: Frank Jape 10/10/84
F. Jape, Section Chief Date Signed
Engineering Branch
Division of Reactor Safety

SUMMARY

Scope: This routine, unannounced inspection entailed 21 inspector-hours on site in the area of post-refueling startup tests.

Results

No violations or deviations were identified.

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REPORT DETAILS

1. Licensee Employees Contacted

- *T. Greene, Deputy General Manager
- *L. Sumner, Manager of Operations
- *C. T. Jones, Manager of Engineering
- *P. E. Fornel, WA Site Manager
- T. A. Cooper, Nuclear Engineer/ Senior STA

Other licensee employees contacted included one STA, two operators, four mechanics, two security force members, and four office personnel.

NRC Resident Inspectors

- *R. V. Crlenjak, Senior Resident Inspector
- *P. Holmes-Ray, Resident Inspector

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on September 28, 1984, with those persons indicated in paragraph 1 above. No followup items were identified.

3. Licensee Action on Previous Enforcement Matters

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Post-Refueling Startup Tests (72700, 61702, 61703, 61704, 61706)

a. Administrative Procedures

The following administrative procedures, which could directly affect the quality of the results of the test program, were reviewed:

- (1) HNP-917 (Revision 0, approved December 15, 1983), Control of Computer Software
- (2) HNP-918 (Revision 0, approved December 15, 1983), Control of Software of the VAX Minicomputer

These procedures are addressed to safety-related or regulatory-compliance-related software regardless of origin. Three origins are recognized: site developed, Southern Company developed and vendor developed. Regardless of origin, the plant review board is charged with review of software specifications as well as modifications to the specifications.

The procedures also require that software be bench marked or compared with hand calculations. A recent (undated), preliminary report on three software packages for the VAX was reviewed.

The jet pump integrity program was found fully acceptable and to yield better accuracy than hand calculation.

The minimum critical power ratio (MCPR) calculation yielded correct or conservative results except for Unit 2 in the flow greater than 50%, power less than 30% condition. A standing order was written requiring MCPR be calculated by hand in that condition. The licensee is discussing the generic aspect of the deficiency with the software vendor.

The average planar linear heat generation rate (APLHGR) calculation was found to be correct or conservative. Twenty program calculations were compared with hand calculations, and the program was accurate in all cases.

b. Startup Testing and Core Performance Procedures

The following procedures were reviewed for content and performance.

(1) HNP-2-9406 (Revision 0), Startup Testing

This procedure was in progress. It was reviewed at the STA desk in the control room and found to be up-to-date. Data package 2 for LPRM response verification was complete.

(2) HNP-2-9209 (Revision 2), Core Loading Verification

Data package 1 was completed on August 8, 1984. Fuel bundle location, orientation and seating were verified to be correct. A core map and a VTR tape of the core are part of the record package.

(3) HNP-2-9403 (Revision 2) Control Rod Friction Testing

This test was performed on the 17 control rods for which the drive units were repaired or replaced during the recent outage. One rod failed the test on August 20, 1984, but passed on August 23, 1984, after the drive unit was replaced. All data packages were reviewed by the inspector.

- (4) HNP-2-9019 (Revision 5), Determination of MCPR Limit

The procedure was completed acceptably on August 27, 1984.

- (5) HNP-2-9402, Control Rod Scram Testing

The records (data package 1) indicate that all 139 rods were tested successfully on September 6, 1984. The computer printout of rod notch versus time was examined for about 20 rods selected at random. All times met the technical specification limits. The licensee's analysis also addressed rods grouped in 2 x 2 arrays. Each array was evaluated for average, fastest, and slowest scram time in the group.

- (6) HNP-2-9003 (Revision 9), Core Thermal Limit Surveillance

The procedure and completed data package for September 6, 8 and 12, 1984 were found to be acceptable.

- (7) HNP-1-9015 (Revision 10) APRM Adjustment to Core HNP-2-9015 (Revision 8) Thermal Power

The Unit 2 procedure reflect changes from the APRM, rod block monitor, technical specification program. Adjustments responding to the core maximum fraction of limiting power density (CMFLPD) were eliminated. Unit 2 data packages for September 12 and 13, 1984, were acceptable.

c. Other Procedures

The following procedures were reviewed for content only:

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| (1) | HNP-1-9017 (Revision 2) | Reactivity Anomaly |
| | HNP-2-9017 (Revision 2) | Calculation |
| (2) | HNP-1-9001 (Revision 8) | Core Heat Balance - Power Range |
| | HNP-2-9001 (Revision 4) | |

Only minor unit specific differences exist between the two procedures. The review confirmed that a proper equation is in use.

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| (3) | HNP-1-9005 (Revision 12) | LPRM Calibration Current |
| | HNP-2-9005 (Revision 7) | Calibration |
| (4) | HNP-1-5012 (Revision 12) | LPRM Calibration |
| | HNP-2-5012 (Revision 10) | |

No violations or deviations were identified.

6. Independent Inspection (92706)

Prior to the inspection the licensee had identified the Unit 2 RHR service water pumps as being technically inoperable. Stainless steel bolts had been used to join the flanged sections of the pump casings, but higher-tensile-strength, carbon-steel bolts were required to meet the seismic analysis. From time-to-time the corrective maintenance activities (re-bolting, rigging, hoisting and re-installation) on the pumps were witnessed.

Control room activities for both units were observed.

No violations or deviations were identified.