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

Report Nos.: 50-321/88-08 and 50-366/88-08

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: March 7-11, 1988

Inspector: _____ 3/31/88
S. G. Tinger Date Signed

Approved by: _____ 4/1/88
for F. Jape, Section Chief Date Signed
Engineering Branch
Division of Reactor Safety

SUMMARY

Scope: This routine, unannounced inspection was in the areas of Complex Surveillance Testing and IE Bulletin follow-up.

Results: No violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*S. Bethay, Supervisor, Nuclear Safety and Compliance
*D. Brock, Project Engineer
*E. Burkett, Supervisor, Project Engineering
*P. Fornel, Manager, Maintenance
*O. Fraser, Manager, Quality Assurance
*R. Glisson, Supervisor, Maintenance Engineering
*R. Goodby, Supervisor, Maintenance Operations
A. Huber, Reactor Systems Engineer
T. Metzler, Maintenance Engineer
*D. Midlik, Senior Plant Engineer
*T. Powers, Manager, Engineering Support
*D. Read, Manager, Plant Support
*C. Sorensen, Instrument and Control Engineer
*L. Sumner, Manager, Operations
*S. Tipp, Manager, Nuclear Safety and Compliance

Other licensee employees contacted included engineers, technicians, operators, mechanics, and office personnel.

NRC Resident Inspectors

*P. Holmes-Ray
*J. Menning
*R. Musser

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on March 11, 1988, with those persons indicated in paragraph 1 above. The inspector described the areas inspected and discussed in detail the inspection findings. No dissenting comments were received from the licensee.

The licensee did identify some material as proprietary during this inspection, but this material is not included in this inspection report.

3. Licensee Action on Previous Enforcement Matters

This subject was not addressed in the inspection.

4. Unresolved Items

Unresolved Items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations. One unresolved item identified during this inspection is discussed in Paragraph 7.a.(2).

5. Follow-up on Previously Identified Items (92701)

a. (Closed) Inspector Follow-up Item (IFI) 321/86-13-01

During the Unit 1 1986 refueling outage, five Type C valves were repaired prior to first determining the as-found leak rate. The licensee committed to evaluate the effects of the omitted leak rate test data and report the results in the Containment Leakage Test Report. The inspector reviewed the 1986 Unit 1 Containment Leakage Test Report and the report did not address any of these five valves. Since issuance of this IFI, Unit 1 Technical Specifications (TSs) have been amended to delete the Type C containment leak checking requirement of three of the five valves, and since the 1986 Containment Leakage Test as-found condition failed, the leakage rate of the remaining two valves is not significant; therefore, IFI 321/86-13-01 is closed.

b. (Open) IFI 321/86-13-03 and IFI 366/86-13-01

This item identified Valve F021, High Pressure Core Injection (HPCI) turbine exhaust to torus, that could not be pressurized in the accident direction for leak rate testing purposes due to the design of Units 1 and 2 open ended HPCI turbine exhaust piping to the torus. The licensee had committed to reevaluate the local leak rate test program for both Units 1 and 2 in order to identify any additional non-conservative testing and resolve any identified problems. Since making this commitment, the licensee has requested Southern Services to evaluate the Hatch Nuclear Plant (HNP) local leak rate test program, and on August 1, 1986, Southern Services had completed the review and reported the results to the licensee. The licensee has taken some corrective action concerning the local leak rate test program but is still in the progress of evaluating the Southern Services report which includes resolving the proper direction to test Valve F021.

This item is to remain open until HNP has completed revaluation and resolution of Units 1 and 2 local leak rate test program.

6. Inspector Follow-up on IE Bulletin 85-BU-03: Motor Operated Valve Common Mode Failures During Plant Transients Due to Improper Switch Settings (50-321/85-BU-03 and 50-366/85-BU-03) (25573)

The purpose of this bulletin is for the licensee to develop and implement a program to ensure that switch settings for High Pressure Core Spray (HPCS) and Reactor Core Isolation Cooling (RCIC) Motor Operated Valves (MOVs) subject to testing for operational readiness in accordance with 10 CFR 50.55a(g) are properly set, selected and maintained. This program is required to review and document the design basis for the operation of each MOV, determine the correct switch settings, prepare or revise procedures to establish the correct switch settings, demonstrate MOV operability, and prepare or revise procedures to ensure that correct switch settings are maintained throughout the life of the plant.

The inspector discussed the HNP Bulletin 85-03 program with the responsible engineers and reviewed MOV Maintenance Procedures 52GM-MEL-022-0S, Limitorque Valve Operator Electrical Maintenance, and 53IT-TET-001-0S, Limitorque Valve Operator Diagnostic Testing (MAC) and Setup. The inspector also reviewed the completed data packages for MOVs 2E51-F03 and 2E41-F111 that were accomplished per Procedure 53IT-TET-001-0S.

The following findings were identified during the inspector review of the HNP Bulletin 85-03 program:

a. Bulletin 85-03 requires that the applicable HPCS and RCIC MOVs be demonstrated operable by testing the valve while at the maximum differential pressure expected during an accident condition or provide justification for any cases where testing at the maximum differential pressure can not practicably be achieved. HNP has identified 23 valves in Unit 1 and 22 valves in Unit 2 that fall under Bulletin 85-03 jurisdiction with plans to test two valves in each unit at the maximum differential pressures achievable. The inspector informed the licensee management that justification for not testing the remaining bulletin valves at differential pressure must be provided to the NRC. To further discuss this issue, the licensee is preparing to meet with Regional and Headquarters NRC personnel.

b. Bulletin 85-03 requires that a program be developed to establish the methods for selecting and setting switches (i.e., torque, torque bypass, position limit, overload) and report the details of this program to the NRC. The inspector reviewed the licensee's program for selecting and setting switches and verified that the licensee did have a program to accomplish this; however, with the exception of torque switches the licensee has not reported to the NRC their program for selecting and setting the remaining switches utilized in HNP MOVs. The inspector informed the license management of this additional information that is required to be reported to the NRC.

c. Bulletin 85-03 requires that each MOV be stroke tested (not necessarily at the maximum differential pressure) in order to verify proper switch settings. Procedure 53IT-TET-001-0S performs MOV stroke testing with MAC test equipment installed on the valve actuator. During the review of the procedure, the inspector noted that the only switch setting recorded in the procedure during MAC stroke testing was the torque switch and corresponding thrust. The limit switches and torque bypass switch actuation settings were stored in the MAC data bank but not verified correct or recorded in the procedure. Since 85-03 requires that all switch settings be verified, the inspector expressed the need to licensee management to record all switch trip results in the procedure data sheets.

d. Procedure 53IT-TET-001-0S provides instructions for setting torque, torque bypass, and position limit switches. HNP MOV logic is set up to deenergize the MOV motor when a valve is opened by actuation of the open limit switch. If the open limit switch is set incorrectly the valve could inadvertently be backseated which could result in valve damage. After adjusting the open limit switch the valve should be tested for backseating by first electrically opening the valve, and then taking manual control and counting the handwheel turns it takes to fully open the valve on the backseat. Procedure 53IT-TET-001-0S set the open limit switches on MOVs but did not subsequently check for valve backseating. Also, this procedure was not clear on the required open limit switch setting for fast speed actuators. The inspector informed the licensee management of these findings.

No deviations or violations were identified.

7. Complex Surveillances - Units 1 and 2 (61701)

a. Main Steam Isolation Valve (MSIV) Leak Rate Testing Unit - 1

MSIV Timed Closure Testing - Unit 2

The scope of this inspection was to ensure that the required testing was being performed in order to validate the MSIVs function to limit the release of radioactive material to the environment and limit vessel inventory loss during an accident. The inspector reviewed the MSIV leak rate results obtained during Unit 1 1987 spring refueling outage and the Unit 2 MSIV timed closure test results obtained during the 1987 third and fourth quarters. The acceptance criteria for MSIV leakage rates and closure times are contained in HNP TSs and in Section XI of the ASME Boiler and Pressure Vessel Code.

One of the purposes of HNP Procedure 42SV-TET-001-1S, Primary Containment Periodic Type B and C Leakage Tests, is to perform MSIV leak rate testing. The inspector reviewed the sections of this

procedure that applied to MSIV leak rate testing. The inspector verified that the MSIVs were leak rate tested at a pressure of 28 psig, that the final leak rate was less than 11.5 scfh per valve, and that the test interval of every operating cycle as specified in HNP TS 4.7.A.2.h were being adhered to. The inspector verified that Procedure 42SV-TET-001-1S complied with Section XI of the ASME Boiler and Pressure Vessel Code requirements regarding test frequency, when to take corrective action, methods to measure leakage, test medium and direction of test pressure application. One Section XI requirement that was not being adhered to was the requirement to increase test frequency based on an increasing leak rate but still within specification. The licensee provided to the inspector a waiver to this requirement granted by the NRC. The inspector reviewed the completed procedure data packages for MSIV leak rate testing in order to verify that MSIV testing was accomplished per the applicable procedure instructions. The data packages for the MSIV leak rate tests document the valve line-ups utilized for accomplishing the test. The inspector found several instances where the valve line-ups utilized to accomplish the leak rate test were not correctly documented on the data sheets. One instance involved not properly transcribing the valve line-up from the clearance to the data sheet valve line-up, and the other instance involved not utilizing the exact valve line-up specified by the procedure for accomplishing the leak rate test. Since these discrepancies did not adversely affect the MSIV leak rate test results the inspector did not site a violation; however, these items were discussed with licensee management.

The inspector reviewed Unit 2 Procedures 34SV-B21-002-2S, Main Steam Isolation Valve Trip Test, and 42SP-012787-OV-1-2S, MSIV Supplemental Closure Time Test in order to verify compliance with HNP TSs and Section XI of the ASME Boiler and Pressure Vessel Code Requirements. These procedures provide two different methods for timing MSIV full closures. HNP Unit 2 TS 3/4.4.7 requires two MSIVs per main steam line be operable with closing times $\geq$3 and $\leq$5 seconds. Section XI of the ASME Boiler and Pressure Vessel Code specifies MSIV test frequency, stroke time, accuracy of stroke time measurement, when corrective action is required, test intervals, and when test intervals are required to be increased. During the third and fourth quarters of 1987 the inboard MSIV in A main steam line failed to close within three to five second time interval. The inspector reviewed the Limited Continued Operation sheets required as a result of these failed tests and verified compliance with TS 3/4.4.7 conditions for continued operations with inoperable MSIVs.

As previously mentioned, Procedures 34S-B21-002-2S and 42SP-012787-OV-1-2S provide two different methods for timing MSIV closures. The following findings were identified during the review of these procedures:

(1) Procedure 34SV-B21-002-2S utilizes a strip chart recorder that measures the time interval from MSIV switch actuation to actuation of the "valve closed" limit switch set at the 90% stem travel position. The time for the valve stem to travel the additional 10% to the fully closed position is mathematically calculated by determining valve velocity obtained from the strip chart recorder and multiplying the valve velocity by the distance of the stem travel during the last 10% of the valve stroke. The distance of stem travel for the last 10% of the valve stroke is obtained from preoperational test data. The inspectors concern is that since the preoperational test data has been obtained, maintenance on the MSIVs has resulted in limit switch adjustment, therefore the preoperational test data relating limit switch position to stem distance may no longer be accurate.

(2) Procedure 42SP-012787-OV-1-2S is used in Unit 2 when the "valve open" limit switch is inoperable and measures the time interval from MSIV switch actuation to actuation of "valve closed" limit switch set at the 90% closed stem travel position. The last 10% of valve stem travel is not timed. Unlike the previous test method, this method does not measure the time interval from initiation of the actuating signal to the end of the actuating cycle as required by Section XI of the ASME Boiler and Pressure Vessel Code

In order to resolve these concerns, more information regarding preoperation limit switch setpoint accuracy, method of MSIV closure testing in Unit 1, and calibration of stop watches is required. This is identified as unresolved item 366/88-08-01, Timing MSIV Closure Methods.

No violations or deviations were identified.

b. Main Steam Safety Relief Valve (SRV) Surveillances - Unit 2

During the Unit 2 1988 refueling outage, all SRVs were sent to Wyle Laboratories and tested for disk to seat bonding, steam lift set point, and seat leakage. Wyle Laboratories also disassembled, cleaned, repaired and retested all SRVs. The inspector reviewed the results of SRV testing performed by Wyle Laboratories and verified compliance with HNP TS 4.0.5 which requires SRVs to be set point checked and seat leak checked in accordance with Section XI of ASME Boiler and Pressure Vessel Code. Of the eleven SRVs tested, the as-found set pressures for seven exceeded the ± 1% TS set point tolerance range. None of the SRVs failed to open during the Wyle Laboratories testing.

Target Rock SRV pilot disk to seat bonding has been a problem for SRVs at HNP and other Boiling Water Reactor utilities. As an attempt to solve this problem, five of the eleven Hatch Unit 2 SRVs disks

were replaced with disks made of a new material, PH138MO stainless steel. The remaining SRVs disk were of the old material, Stellite-6. These recent SRV test results indicate that disk to seat bonding is still occurring in both the PH138MO and Stellite-6 disks. Until this bonding problem is resolved, HNP is removing all SRVs each refueling outage and having Wyle Laboratories test for as-found set point and seat leakage, disassemble, clean, repair and retest the valves.

HNP did not report the SRVs results that exceeded the TS ± 1% lift set point tolerance range via a Licensee Event Report (LER). In General Electric Report No. NSEO-09-0283, Over Pressure Protection Analysis with Upwards Set Point Drifts for Edwin I. Hatch Units 1 and 2, dated February 1983 an over pressure accident where SRV set points drift upward to 200 psig is analysed. The results indicate that the design limit would not be exceeded. The set point drift data obtained during the Unit 2, 1988 refueling outage did not exceed 200 psig. Since the situation has been previously analysed reporting via an LER is not required.

No violations or deviations were identified.