

U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos: 50-321, 50-366

License Nos: DPR-57, NPF-5

Report Nos: 50-321/99-06, 50-366/99-06

Licensee: Southern Nuclear Operating Company, Inc. (SNC)

Facility: E. I. Hatch Plant, Units 1 & 2

Location: P. O. Box 2010
Baxley, Georgia 31515

Dates: August 22 - October 2, 1999

Inspectors: J. Munday, Senior Resident Inspector
J. Canady, Resident Inspector
T. Fredette, Resident Inspector

Approved by: P. Skinner, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Enclosure

EXECUTIVE SUMMARY

Hatch Nuclear Plant, Units 1 & 2
NRC Inspection Report 50-321/99-06, 50-366/99-06

This integrated inspection included aspects of licensee operations, engineering, maintenance, and plant support. The report covers a six-week period of resident inspection.

Operations

- The licensee identified two examples where operators did not fully utilize clarifying information contained in the Bases section of the Technical Specifications or the Technical Requirements Manual when implementing required operator actions. Following these two events the licensee initiated Beginning of Shift Training to clarify the specifications and provide lessons learned (Section O4.1).

Maintenance

- The investigation for determining the root cause of the Molded Case Switch (MCS) failure for EDG support loads was methodical and thorough. Conservative decision making was demonstrated through the timely replacement of the remaining MCSs (Section M2.1).

Report Details

Summary of Plant Status

Both Unit 1 and Unit 2 operated at essentially 100% Rated Thermal Power for this report period except for short durations during routine testing.

I. Operations

O4 Operator Knowledge and Performance

O4.1 Utilization of Technical Specifications and Technical Requirements Manual Bases (71707)

On September 5, the licensee determined that operators did not perform all the actions identified in the Technical Requirements Manual (TRM) for a main turbine master trip solenoid that failed on July 25, 1999. The TRM Bases stated that the master trip solenoid valves, identified as electrical trip solenoid valves, must be operable for the overspeed protection system to be considered operable. The licensee initiated deficiency card (DC) 9906440 to develop corrective actions.

On September 12, Suppression Chamber Sample Valve, 2P33-F014, failed to close within the required time. Technical Specification (TS) action statement 3.6.1.3.A.1 required that the affected penetration be isolated with another valve or blind flange within four hours. The licensee closed a manual valve within four hours to isolate the penetration. However, the TS Bases that discussed this action statement stated that the valve used to isolate the penetration must meet the same leakage test requirements as the inoperable valve. The manual valve used to isolate the penetration did not meet the same leakage requirements as valve 2P33-F014. When the licensee identified this error, the penetration was isolated with a valve that met the leakage requirements. The licensee initiated DC 9905387 to develop corrective actions.

Based on these two examples indicating that operators did not fully utilize clarifying information contained in the TS or TRM Bases when implementing required operator actions, the licensee initiated Beginning of Shift Training (BOST) to clarify the specifications and provide lessons learned. The inspectors concluded that the licensee promptly addressed usage of TS and TRM Bases by initiating BOST and two DC's.

O8 Miscellaneous Operations Issues

O8.1 (Closed) Inspector Followup Item (IFI) 50-366/99-10-01: Review of the Reactor Core Isolation Cooling System Instrument and Controller Calibration and Operability Surveillance Test (92901, 92903)

The inspectors reviewed the procedures and data packages associated with Reactor Core Isolation Cooling (RCIC) controller tuning activities accomplished as part of the Unit 2 RCIC system outage conducted September 13-15 and observed training on the

behavior of the RCIC controller when operated at less than design pressure. The inspectors determined that controller tuning activities and operator training were sufficient to ensure correct operation of the RCIC system.

II. Maintenance

M2 Maintenance and Material Condition of Facilities and Equipment

M2.1 Molded Case Switch (MCS) Failures and Replacements

a. Inspection Scope (62707) (37551)

The inspectors reviewed applicable work packages, procedures and procurement documentation, and followed up on maintenance and engineering activities for two safety-related MCS failures.

b. Observations and Findings

In January 1999, the licensee identified the cause of a loss of power to the 2C Emergency Diesel Generator (EDG) standby lube oil pump and jacket cooling pump was a failed safety-related MCS (ITE Type ESH100) which supplied electrical power to the EDG skid-mounted components. The EDG was declared inoperable and the failed MCS was replaced. The failed MCS was sent to a test laboratory for failure analysis. As a result of the failure analysis, the licensee conducted thermographic inspection of the remaining MCSs. No additional problems were found during these thermographic inspections.

On September 12, an identical MCS associated with the 1C EDG failed. The EDG was declared inoperable and the failed MCS was replaced. Due to the January MCS failure, the licensee conducted additional thermographic inspections of the remaining EDG MCSs. Based on thermographic inspection findings, the licensee decided to replace these MCSs.

The licensee initiated a root cause investigation team which examined the failed MCSs. The investigation team concluded that the root cause of the switch failures was due to a problem with the manufacturing process. The licensee initiated a 10 CFR 21, "Reporting of Defects and Noncompliance" evaluation for this issue. The evaluation had not been completed by the end of this inspection period.

c. Conclusions

The investigation for determining the root cause of the MCS failure for EDG support loads was methodical and thorough. Conservative decision making was demonstrated through the timely replacement of the remaining MCSs.

M2.2 Failure of Two Primary Containment Isolation Valves (62707)

On September 7, while transferring Reactor Protection System Bus 2B to an alternate power source, Reactor Recirculation Sample Valve, 2B31-F020, did not close within the required time. Maintenance and engineering personnel determined that the most probable cause was a malfunctioning air solenoid. The solenoid was removed and disassembled. No abnormalities with the solenoid internal components were found, however, foreign material was found clinging to the external threads of the solenoid air exhaust port. The licensee concluded that this foreign material potentially blocked the air exhaust port and prevented the valve from closing within the required time. The licensee stated that maintenance was not performed on these solenoids; therefore, this foreign material originated in either the air supply system or the valve operator. A new solenoid was installed and valve 2B31-F020 was satisfactorily stroke tested. The licensee documented this failure in DC 9906458.

On September 12, the Torus Sample Supply Valve, 2P33-F014, failed to open during testing. The licensee disassembled the solenoid and no abnormal indications were observed. A new solenoid was installed and valve 2P33-F014 was satisfactorily stroke tested. The licensee documented this failure in DC 9906549.

Both of these solenoids were normally energized ASCO NP8320-series valves. The licensee identified that only these two valves, out of thirty-six valves installed, have failed in the last six years. Based on this low failure rate, the inspectors concluded that these two solenoid failures were isolated instances.

V. Management Meetings and Other Areas

X1 Exit Meeting Summary

The inspectors presented the inspection results to members of licensee management at the conclusion of the inspection on October 13, 1999.

The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

Betsill, J., Assistant General Manager - Operations
 Davis, D., Plant Administration Manager
 Googe, M., Performance Team Manager
 Hammonds, J., Engineering Support Manager
 Kirkley, W., Health Physics and Chemistry Manager
 Lewis, J., Training and Emergency Preparedness Manager
 Madison, D., Operations Manager
 Moore, C., Assistant General Manager - Plant Support

Roberts, P., Outage and Planning Manager
 Thompson, J., Nuclear Security Manager
 Tipps, S., Nuclear Safety and Compliance Manager
 Wells, P., General Manager - Nuclear Plant

INSPECTION PROCEDURES USED

IP 62707: Maintenance Observations
 IP 71707: Plant Operations
 IP 92901: Followup - Plant Operations
 IP 92903: Followup - Engineering

ITEMS OPENED, CLOSED, AND DISCUSSED

Closed

50-366/99-10-01	IFI	Review of the Reactor Core Isolation Cooling System Instrument and Controller Calibration and Operability Surveillance Test (Section O8.1)
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