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

Report Nos.: 50-413/85-37 and 50-414/85-33

Licensee: Duke Power Company
422 South Church Street
Charlotte, NC 28242

Docket Nos.: 50-413 and 50-414 License Nos.: NPF-35 and CPPR-117

Facility Name: Catawba 1 and 2

Inspection Conducted: August 6 - 9, 1985

Inspector: J. J. Lenahan August 21, 1985
J. J. Lenahan Date Signed

Approved by: Frank Jape 8/21/85
F. Jape, Section Chief Date Signed
Engineering Branch
Division of Reactor Safety

SUMMARY

Scope: This routine, unannounced inspection entailed 27 inspector-hours on site in the areas of review of Unit 2 hot functional test procedures, observation of thermal expansion test performance, the Unit 1 snubber surveillance program, licensee action on previous inspection finding, and followup on IE Bulletin 80-11.

Results: No violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

W. L. Anfin, Mechanical Maintenance Support Engineer
C. Cauthen, Assistant Engineer, Mechanical Maintenance
R. Dolan, Senior Design Engineer
J. P. Fredrick, Jr. Engineer, Mechanical Maintenance
*J. Gilreath, Assistant Engineer, Mechanical Maintenance
*J. W. Hampton, Station Manager
D. W. Isenhour, Hanger Technical Construction Support Supervisor
*W. W. McCollough, Maintenance Engineer
*K. W. Schmidt, Quality Assurance (QA) Projects Supervisor

Other licensee employees contacted included three engineers, and eight technicians.

NRC Resident Inspectors

*P. A. Skinner
P. K. Van Doorn

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on August 9, 1985, 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 following inspector followup item was identified during this inspection:

Inspector Followup Item 413/85-37-01 and 414/85-33-01, Load Ratings for Mechanical Snubbers under Faulted Conditions, paragraph 5.

3. Licensee Action on Previous Enforcement Matters

(Closed) Unresolved Item 413/84-105-01, Failure of Hanger Number 1-R-SV-1620 on Main Steam to Atmosphere Line. The inspector reviewed NCI CN-203 which the licensee initiated to repair the damaged hanger and inspect the area for further damage. The licensee performed a detailed investigation to determine the cause of the damaged hanger. The results of the investigation were documented on Catawba Nuclear Station Report No. C84-58-1. The inspector reviewed this report. This review disclosed that the licensee was unable to determine the exact time the hanger was damaged. From review of maintenance records, the licensee was able to determine that the hanger was damaged between October 5, 1984 and December 13, 1984. The most probable cause of damage was attributed to water hammer. Additional investigation of the

problem disclosed that the piping may have contacted a floor grating during heatup after the hanger had been repaired. This problem was resolved by cutting the grating away from the steam vent piping. The inspector examined the four SV lines in the interior and exterior dog house and verified that the hanger had been repaired, that the piping was not in contact with the grating or other obstructions, and that hangers on the SV system had not been redamaged since hanger number 1-R-SV-1620 had been repaired. The licensee's stress analysis group performed an operability review on hanger 1-R-SV-1620. This review, which is documented in Station Report No. 684-58 -1, disclosed that the system could have performed as designed with the support removed. Unresolved Item 413/84-105-01 is closed.

4. Unresolved Items

Unresolved items were not identified during the inspection.

5. Review Of Pipe Support (Snubber) Design Criteria (92706)

The inspector reviewed load capacity data sheets (LCDs 306) for Figures 306N and 307N mechanical snubbers furnished to the licensee by ITT Grinnell for use in pipe support design. Review of allowable design loads for PSA snubbers disclosed that maximum loading for Service Level D conditions (faulted condition, i.e., design base earthquake) were approximately fifty percent higher than those published in the manufacturer's technical catalog. The licensee will obtain further information from ITT Grinnell regarding the justification for the use of higher allowable design loads for Service Level D conditions. Pending further review by NRC, this was identified to the licensee as Inspector Followup Item 413/85-37-01 and 414/85-33-01, Load Rating for Mechanical Snubbers Under Faulted Condition.

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

6. Snubber Surveillance Program - Unit 1 (61729)

The inspector reviewed procedure number MP/0/A/7650/85, Visual Inspection of Snubbers and Corrective Maintenance, which controls snubber surveillance and inspection activities. Acceptance criteria utilized by the inspector appears in Technical Specification (TS) 3/4.7.8.

During the inspection, the licensee was in the process of performing the first inservice visual snubber inspection, which is required by TS 4.7.8.(b) to be performed after four months, but within ten months of commencing Power Operation. Power Operation commenced on January 21, 1985. The inspection of all 630 snubbers installed in the Unit 1 Reactor Building had been completed. None were found to be visually inoperable.

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

7. Thermal Expansion Test - Unit 2 (70370)

The inspector examined the thermal expansion test procedures and examined prerequisite system conditions. Acceptance criteria utilized by the inspector appear in Final Safety Analysis Report (FSAR) Section 3.9.2.1.2 and FSAR Table 14.2.12.1.

a. Review of Thermal Expansion Test Procedures

The inspector examined test procedure number TP/2/A/1150/08 Thermal Expansion Testing on ASME Code Piping. This procedure covers testing of Duke Classes A, B, and C piping (ASME Classes 1, 2, and 3 piping, respectively) with the exception of the primary loop NSSS piping. The inspector verified test prerequisites were specified, test instructions and objectives were clearly stated, and acceptance criteria were specified. The test acceptance criteria requires that snubbers not be within 1/2-inch of either piston stop during the test, that spring load settings be within plus or minus ten percent of the values given on the as-built drawings, and that piping and components not contact any interferences which may restrict piping expansion.

The inspector also examined procedures which control thermal expansion testing of the primary loop piping. These procedures were as follows:

(1) Specification Number CNS-1144.05-00-0017, Specification for Shimming of Major NSSS Equipment Supports and Reactor Coolant System - Thermal Exposure Monitoring, Unit 2

(2) Construction Procedure Number CP-762, Thermal Monitoring - Unit 2

b. Review of Thermal Expansion Test Prerequisite Conditions

During the inspection the licensee was in the process of filling and venting the reactor coolant system for the hot functional test. The inspector observed six licensee technicians (hanger support Quality Control (QC) inspectors) checking snubber and spring can cold load settings and identifying interferences on various systems which had been filled and vented. The inspector interviewed the technicians regarding acceptance criteria and verified that they were cognizant of their inspection duties.

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

c. Piping Vibrations - Unit 2 (70370)

The inspector reviewed test procedures TP/2/A/1200/21, Steady State Piping System Operation Vibration Measurement, and TP/2/A/1200/26, Post Transient Piping Survey. These procedures provide preoperational retest instructions for measuring piping vibrations during steady state

and transient conditions. Acceptance criteria utilized by the inspector appear in FSAR Section 3.9.2.1.1 and proposed Revision 13 of FSAR Table 14.2.12-1. Revision 13 of the FSAR was submitted to NRC Region II by the licensee in a letter dated August 2, 1985. The inspector verified that test prerequisites and acceptance criteria were specified, and that test instructions and objectives were clearly stated.

Within the areas inspected no violations or deviations were identified.

8. Followup on IE Bulletin 80-11

(Closed) IE Bulletin 80-11 - Masonry Wall Design, Unit 2

IE Bulletin (IEB) 80-11 was issued to Catawba and other construction sites for information only. This Bulletin was received and evaluated by the licensee in order to respond to an NRC Office of Nuclear Reactor Regulation information request which was transmitted to all licensees with plants under construction in a letter dated April 21, 1980. This information request asked for data on the design and construction of Category I masonry walls in plants under construction. NRR documented review of the licensee's response to this information request in paragraph 3.8.3 of the Safety Evaluation Report.

In order to preclude problems of the type addressed by IEB 80-11, the licensee designed all walls in the proximity of safety-related equipment to meet seismic design criteria. The walls were inspected by QA/QC inspectors to verify that they were constructed in accordance with details shown on the construction drawings. In addition, attachment of equipment to the masonry block wall was not permitted, except in a few cases where the loads were very light. These attachments were approved on a case-by-case basis.

The inspector reviewed drawing numbers CN 1202-1, 1202-2, 1204-1, 1204-2, and 1205-1, Concrete Block Wall Plans, procedure number M-11, Inspection of Concrete Masonry Wall Erection and construction procedure CP-184, Control and Identification of Masonry Block and Masonry Reinforcement. The inspector examined masonry block wall inspection records documented on QA Form M11-A for various masonry walls erected in the diesel generator and auxiliary buildings. The inspector walked down the diesel generator building and portions of the auxiliary building on elevation 554, 560, 577 and 594 and examined the masonry walls. The inspector verified that there were no attachments to the masonry walls, except for a few cases where small cabinets, 1-inch diameter electrical conduit, or lighting fixtures had been attached. IE Bulletin 80-11 is closed.

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