



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

Report Nos.: 50-369/87-27 and 50-370/87-27

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

Docket Nos.: 50-369 and 50-370

License Nos.: NPF-9 and NPF-17

Facility Name: McGuire 1 and 2

Inspection Conducted: August 10-14, 1987

Inspector: for Frank Jape 9/15/87
 P. A. Taylor Date Signed

Approved by: Frank Jape 9/15/87
 F. Jape, Chief Date Signed
 Testing Programs Section
 Division of Reactor Safety

SUMMARY

Scope: This routine, announced inspection was in the areas of licensee action on previous enforcement matters; IEB 86-02 Static "O" ring differential pressure switches; TI 2500/16 Seismic interactions incore flux mapping system and seal table and review of inspector followup items (IFI).

Results: No violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *D. N. Smith, Test Engineer, Performance
- *R. F. Banner, Associate Engineers, Compliance
- *S. E. LeRoy, Licensing Engineer, General Office
- *P. B. Nardoci, Associate Engineer, Compliance
- N. Atherton, Associate Engineer Compliance
- J. Lee, Design Engineer, General Office
- G. Gilbert, Operating Engineer, Operations
- D. Trapp, Engineer Mechanical Maintenance
- M. Hatley, Engineer, Mechanical Maintenance

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

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on August 14, 1987, 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

(Closed) Violation 370/86-16-01, Failure to determine "as-found" leak rate Unit 2 containment. The licensee specified corrective action concerning the violation in a letter dated September 4, 1986. Station memorandum dated March 9, 1987, S. E. Synder Performance Group to G. A. Copp Planning Section, established requirements to conduct pre-maintenance leak rate testing on containment isolation valves.

Station Directive 3.2.2, Identifying and Performing Plant Retesting, is scheduled to be issued September 1987. This document lists the containment isolation valves and details the planning and coordination requirements between Performance, Operations and Maintenance groups to ensure that pre-maintenance leak rate testing is accomplished as required.

(Closed) Violation 370/86-18-02, Failure to follow QA procedure QCK-1 where conditions adverse to quality are identified and resolved in a timely manner. This violation was related to several specimen access hole plugs that were found loose and lying on the core barrel support ledge. Subsequently, the upper internals and reactor vessel head were installed with loose objects left in the reactor vessel. The licensee concluded that the violation occurrence was due to personnel error in that the senior reactor operator failed to properly document and follow up on his observation of these objects. The inspector reviewed MP/O/A/7150/43, Upper Internals Removal and Replacement procedure which now has steps in the procedure to control the removal and reinstallation of the specimen access plugs. The procedure was revised on May 29, 1986.

(Closed) Violation 369/86-19-02, Failure to control material entering the primary coolant system. During an inspection inside the reactor vessel for debris from a damaged fuel assembly, two terry cloth towels were found beneath the lower core support plate. The inspector reviewed licensee corrective action which was to implement procedure MP/O/A/7150/12, Refueling Canal Cleanliness Watch. This procedure established a watch for the refueling canal area to ensure that all items taken over the refueling canal are tied off and items brought into the building are logged in and out. The watch also ensures that if anything is dropped into the system, action will be taken to remove it. The inspector reviewed training records and required reading conducted for all mechanical maintenance personnel. The training provided has given the mechanics more direction in their responsibilities for implementing the cleanliness programs. In addition, Station Directive 3.11 has been changed to clarify the cleanliness program requirements.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. (Closed) IE Bulletin 86-02, Static "O" Ring Differential Pressure Switches (92703)

The licensee responded to IE Bulletin 86-02 in a letter to the NRC dated July 28, 1986. The licensee stated that the model type D/P pressure switches identified in the bulletin were not installed at the McGuire facility. No further action is required.

6. (Closed) Part 21 Defective Detector Computer Code, August 83 Version for Core Maps

A letter, dated May 24, 1984, from Shanstrom Nuclear Associates reported to the NRC under 10 CFR Part 21 that the August 83 version of the detector code had been utilized for the D. C. Cook Unit 1. The letter also stated that Duke had purchased the August 83 detector code but had used an earlier version for current operational analysis for McGuire Units 1 and 2. The inspector held discussions with Duke's Nuclear Design Engineering group and noted that an April 82 detector code had been installed.

7. (Closed) TI 2500/16, Potential Seismic Interaction Between In-Core Flux Mapping System.

IE Notice 85-45, dated June 6, 1985, was issued to inform licensees that a potential generic problem may exist because portions of the flux mapping system that have not been seismically analyzed are located directly above the in-core instrumentation tubing/seal table. The inspector verified that the licensee had received the notice and action had been undertaken to review its application to the McGuire facility. The licensee had conducted inspections and performed a seismic interaction analysis. The analysis verified that there would be no seismically induced interaction between the movable incore frame assembly and the seal table. However, two recommendations were made as a result of the analysis and are currently being reviewed for implementation. The recommendations are to upgrade the classification of existing restraints to QA condition 4 (Presently classified as nonsafety-related) and to install lower restraints at the isolation valve level.

8. Previously Identified Inspector Followup Item (92701)

(Closed) IFI 369/83-46-03; 370/83-53-03, Review temperature effects on tank levels. The licensee changed periodic test procedure 4150/01B to remove temperature corrections to the inventory changes in the nuclear drain tank, pressurizer relief tank and volume control tank when calculating reactor coolant system leakage. The temperature corrections were removed because tank level as measured by the differential cells are calibrated at fixed temperatures.

(Closed) IFI 370/83-03-01, Discrepancy between ESF test procedure and diesel generator test description in FSAR Table 14.1.3.1. The FSAR table described D/G tests for a loss of normal power for each D/G utilizing one D/G at a time. This testing was accomplished as part of the 18 month Technical Specification surveillance testing for each D/G. Appropriate amendments to the FSAR Table were made dated December 1983.

(Closed) IFI 370/83-15-04, Procedures to inspector ropes, hooks and grapples on fuel handling equipment. The inspection of this equipment has been incorporated into the following procedures: MP/O/B/7650/90, 91 and 04.

(Closed) IFI 369/84-29-01, Positive Displacement (PD) Pump Control of Pressurizer Level at 30% Power. Appropriate IFI number for this item should have been for Unit 2. The testing of pressurizer pressure and level control was included in TP2/A/ 2650/25 using the PD pump. The same controls were previously tested by the centrifugal changing pumps in TP/2/A/2600/11 and the PD pump procedure has been deleted.

(Closed) IFI 369/85-24-01 and 370/85-25-02, Adequacy of review of completed test results. The inspector had identified a concern with the test procedure completion verification process in that main steam safety valve set point test procedure (PT/O/A/4250/01) had gone through two

levels of review and some of the steps in the test procedure had not been signed off for three of the safety valves. To correct this problem, the licensee has issued changes to the test procedures as well as other safety valve test procedures to require additional reviews and job completion sign off steps which will improve the review process.

(Closed) IFI 370/85-25-01, Determination of Unit 2 delta T decrease. This IFI will be closed since Unresolved Item 370/85-41-01 was opened when LER 370/85-24 was issued by the licensee concerning this subject. Unit 2 delta T decrease was first noted following startup on its second fuel cycle (cycle 2) in May 1985. LER 370/85-24 was written November 13, 1985 describing the event and planned corrective actions.

Since Unit 2 is in fuel cycle 4 the inspectors requested that data collected since cycle 2 be made available for review. Such data should include delta T circuitry calculations, calorimetric calibrations, trends noted during power operations, delta T stability. In addition, a final assessment from the licensee as to root causes, effectiveness of on-going programs and their use in the future. This area remains open under the aforementioned unresolved item.

(Closed) IFI 369/86-16-01 and 370/86-16-02, Review results of licensee examinations of maintenance records to determine Unit 2 "as-found" leak rate. The licensee provided the additional data in letters dated September 30 and December 1, 1986. This information was needed to complete our evaluation relating to Violation 370/86-16-01, Failure to Determine the Containment "As-Found" Leak Rate. Region II issued a letter, dated February 24, 1987, completing our review in this area.

(Closed) IFI 369/86-18-01 and 370/86-18-01, Licensee to review overall program on housekeeping to control objects from falling into critical systems. The licensee reviewed all generic procedure requirements that effect refueling activities. Changes were made to the following procedures as necessary to address securing materials used over the reactor vessel or spent fuel pool.

- PT/O/A/4150/14, Post Irradiation Examination Controlling Procedure
- PT/O/A/4550/03c, Core Verification
- PT/O/A/4550//23, Rod Control Cluster (RCCA) Examination
- PT/O/A/4550/03B, Spent Fuel Pool Inventory
- PT/O/A/4550/24, Fuel Assembly Examination

(Closed) IFI 369/86-19-01, Followup corrective actions on fuel assembly damage. Damage to a fuel assembly was discovered during the refueling outage following cycle 3 on June 26, 1986. Several fuel pins in the fuel assembly were breached with an estimated 50 to 150 fuel pellets released. The damage is believed to have occurred from the vibrations and fuel rod rotation induced by water jetting through core baffle joints. The damage fuel assembly (D-03) was remove to the spent fuel pool and the loose fuel

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