UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

Report No: 50-370/83-03

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

Docket No: 50-370

License No: CPPR-84

Facility Name: McGuire 2

Inspection at McGuire site near Charlotte, North Carolina

Inspectors: M. Thomas — 2/9/83
M. Thomas — Date Signed

M. Thomas for — 2/9/83
H. E. P. Krug — Date Signed

P. A. Taylor — 2/9/83
P. A. Taylor — Date Signed

Approved by: F. Burnar for — 9 Feb 83
F. Jape, Section Chief — Date Signed
Engineering Programs Branch
Division of Engineering and Operational Programs

SUMMARY

Inspection on January 12-20, 1983

Areas Inspected

This routine, unannounced inspection involved 108 inspector-hours on site in the areas of preoperational test witnessing - ESF, plant procedures (operating and administrative), and followup on previous inspector identified item.

Results

Of the three areas inspected, no violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

   Licensee Employees

   *G. E. Vaughn, General Manager of Nuclear Stations
   *M. D. McIntosh, Station Manager
   *R. J. Wilkinson, Superintendent of Adminstration
   *W. M. Sample, Project and Licensing Engineer
   *D. Mendezoff, Licensing Engineer
   H. B. Barron, Operations Engineer, Unit 2
   J. W. Boyle, Unit 2 Test Engineer
   R. Banner, ESF Test Coordinator
   L. Firebaugh, Assistant Operations Engineer

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

   NRC Resident Inspector

   W. Orders, Senior Resident Inspector

   *Attended exit interview

2. Exit Interview

   The inspection scope and findings were summarized on January 20, 1983, with those persons indicated in Paragraph 1 above. The licensee acknowledged the inspection findings without significant comments.

   - Inspector Followup Item 370/83-03-01, Discrepancy between the ESF test procedure and diesel generator test description in FSAR Table 14.1.3-1

3. Licensee Action on Previous Enforcement Matters

   Not inspected.

4. Unresolved Items

   Unresolved items were not identified during this inspection.

5. Independent Inspection Effort (92706) - Unit 2

   The inspectors toured the control room and portions of the auxiliary building to verify that on-going activities were being accomplished in accordance with procedures.

6. Preoperational Test Witnessing (70315, 70316) - Unit 2

The inspectors witnessed portions of preoperational test TP/2/A/1200/03D, "Engineered Safety Features Functional Test." In general, the test must demonstrate the actuation and operation of the engineered safety features (ESF) system components in the safety injection mode, demonstrate that all ESF components respond correctly on normal and emergency power, and demonstrate diesel generator (D/G) performance and sequenced loading during a loss of normal site power. The test is divided into the following six sections:

- Section 12.1 of the procedure demonstrates that with normal power available, all ESF valves move to their safety position when the safety injection and containment isolation test buttons are actuated.

- Section 12.2 demonstrates train separation by manually disabling Train B and testing Train A components by initiating a blackout on Train A immediately followed by a safety injection and containment isolation signal.

- Section 12.3 is the same as Section 12.2, with Train A disabled, and Train B tested.

- Section 12.4 tests both trains simultaneously. With normal power available, a safety injection and containment isolation signal is actuated.

- Section 12.5 tests both trains at the same time responding to a simultaneous blackout and safety injection signal.

- Section 12.6 is a blackout actuation only. The D/G are operated for 24 continuous hours (2 hours at 10% above full rated load and 22 hours at rated load) and the blackout actuated within 5 minutes after completion of the 24 hour run.

The inspectors witnessed Sections 12.2, 12.3, 12.5, and 12.6 to observe overall test personnel performance, verify that an approved procedure was available and in use, test equipment was properly calibrated, and deficiencies identified during testing were properly documented.

During the performance of Sections 12.3 and 12.6, problems developed which caused the test to be terminated before completion. In the first attempt on Section 12.3, D/G 2B tripped on low lube oil pressure. After investigating the problem licensee personnel determined that lube oil pressure was adequate and the trip was caused by excessive air in the lube oil pressure sensing lines. The lines were vented and several trial starts on the diesel were successful. During the second attempt on Section 12.3, the test was terminated when containment spray pump 2B did not sequence load on the

emergency bus as required by the test procedure. Licensee personnel determined from investigation of this problem that a jumper installed for the containment spray pump was not making proper contact. This was corrected and the test was re-run successfully. During the first attempt to perform Section 12.6, the test was terminated when breaker 2ETA-16, which is the normal incoming feeder breaker for the essential bus failed to trip. Licensee personnel determined that the problem was caused by a stuck contact in the D/G 2A load shed and sequencer cabinet. The contact was replaced and Section 12.6 was successfully retested.

During the performance of Section 12.6 licensee personnel determined that the test did not satisfy Technical Specification (TS) surveillance requirement 4.8.1.1.2.d.7.b., which requires that a blackout and safety injection signal be actuated within 5 minutes after completing the 24 hour run on the diesels. A change was made to the ESF test procedure which included performing another 24 hour run on the diesels and then perform Section 12.5 again in order to satisfy the TS requirement.

During the inspection licensee personnel stated there was a discrepancy between Section 12.6 of the ESF test and the test description for the diesel generator functional test in FSAR Table 14.1.3-1. The FSAR test description states that D/G loading will be demonstrated for a simulated loss of normal power for each of the two D/Gs, utilizing only one diesel at a time, whereas, in Section 12.6 both diesels are tested at the same time. Licensee personnel stated that the discrepancy is being reviewed and the FSAR will be revised to describe the way the test was performed. This will be tracked as inspector followup item 370/83-03-01, pending resolution of the discrepancy.

No violations or deviations were identified in the areas inspected.

7. Plant Procedures (42400) - Unit 2

The inspectors reviewed the following documents to determine that administrative controls are adequate for implementing and maintaining the procedure program for Unit 2.

- Section 13.5 of the McGuire FSAR
- Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation)
- ANSI N18.7, Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants
- Duke Power Company Administrative Policy Manual for Nuclear Stations, Section 4.2, Operating Procedures
- McGuire Station Directive 3.1.28, Operations Handling of Procedures
- McGuire Station Directive 4.2.1, Handling of Station Procedures

The above documents were reviewed to verify that administrative controls have been established for the preparation, review, approval, and revision of procedures. No violations or deviations were identified in the areas inspected.

8. Followup on Previously Identified Inspection Findings - Unit 2

(Closed) Inspection Followup Item 370/82-39-01, concerning the discrepancy between the FSAR and the ESF test procedure. Licensee personnel stated that the ESF test description in the FSAR will be revised to conform to the test procedure. The inspector reviewed the proposed change which the licensee stated will be included in the next FSAR revision. The proposed change has been reviewed by NRR and verbal approval of the change given to the licensee. This was confirmed per a telephone conversation between the inspector and the Licensing Project Manager for McGuire on January 10, 1983. This item is closed.