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

Report Nos. 50-369/92-29 and 50-370/92-29

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

Facility Name: McGuire Nuclear Station 1 and 2

Docket Nos. 50-369 and 50-370 License Nos. NPF-9 and NPF-17

Inspection Conducted: December 20, 1992 - January 16, 1993

Inspector: Gary A. Harris for 1/27/93
P. K. Van Doorn, Sr. Resident Inspector Date Signed

Inspector: Gary A Harris for 1/27/93
T. A. Cooper, Resident Inspector Date Signed

Approved by: Robert E Martin for 1/28/93
G. A. Belisle, Section Chief Date Signed
Division of Reactor Projects

SUMMARY

Scope: This routine resident inspection was conducted in the areas of plant operations, surveillance testing, maintenance observations, and followup on previous inspection findings.

Results: In the areas inspected, no violations or deviations were identified. The inspector noted that the licensee's Total Quality Management philosophy is being utilized through activities such as Shift Supervisors meetings (paragraph 2.d) and quality improvement projects such as the work control improvement project (paragraph 4.b). The inspector also noted improved diesel generator reliability (paragraph 4.c).

REPORT DETAILS

1. Persons Contacted

Licensee Employees

D. Baxter, Support Operations Manager
A. Beaver, Operations Manager
J. Boyle, Work Control Superintendent
D. Bumgardner, Unit 1 Operations Manager
B. Caldwell, Training Manager
*W. Cross, Compliance Security Specialist
T. Curtis, System Engineering Manager
F. Fowler, Human Resources Manager
*G. Gilbert, Safety Assurance Manager
P. Guill, Compliance Engineer
*B. Hamilton, Superintendent of Operations
B. Hasty, Emergency Planner
*P. Herran, Engineering Manager
L. Kunka, Compliance Engineer
E. Geddie, Station Manager
*T. McMeekin, Site Vice President
R. Michael, Station Chemist
*T. Pederson, Safety Review Supervisor
*W. Pope, Instrument & Electrical Superintendent
*R. Sharpe, Regulatory Compliance Manager
B. Travis, Component Engineering Manager
R. White, Mechanical Maintenance Superintendent

Other licensee employees contacted included craftsmen, technicians, operators, mechanics, security force members, and office personnel.

NRC Resident Inspectors

*P. Van Doorn, SRI
T. Cooper, RI

*Attended exit interview

2. Plant Operations (71707)

a. Observations

The inspection staff reviewed plant operations during the report period to verify conformance with applicable regulatory requirements. Control room logs, shift supervisors' logs, shift turnover records and equipment removal and restoration records were routinely reviewed. Interviews were conducted with plant operations, maintenance, chemistry, health physics, and performance personnel.

Activities within the control room were monitored during shifts and at shift changes. Actions and/or activities observed were

conducted as prescribed in applicable station administrative directives. The complement of licensed personnel on each shift met or exceeded the minimum required by Technical Specifications (TS). The inspectors also reviewed Problem Investigation Reports (PIRs) and Operations Incident Reports (OIRs) to determine whether the licensee was appropriately documenting problems and implementing corrective actions.

Plant tours conducted during the reporting period included, but were not limited to, the turbine buildings, the auxiliary building, electrical equipment rooms, cable spreading rooms, and the station yard zone inside the protected area.

During the plant tours, ongoing activities, housekeeping, fire protection, security, equipment status and radiation control practices were observed.

On January 6, 1993, the inspector heard a loud banging sound while inspecting the Unit 1 Auxiliary Feedwater (CA) pump room. Moreover, portions of the CA discharge piping felt warm. The sound was believed to be cause by rapidly condensing steam. The inspector expressed concern to the control room Senior Reactor Operator (SRO) and later reviewed temperature indications for the four CA lines. The CA line temperatures for Steam Generator (SG) 1B read the highest at 190 degrees F. A monitor is set to alarm at 200 degrees F. The alarm is provided to indicate backleakage through the CA check valves; this backleakage could lead to steam binding of CA pumps. The licensee had operated the 1A CA pump the previous day. The licensee isolated the line to 1B SG for approximately 1/2 hour. The sound ceased and did not return.

b. Unit 1 Operations

The unit began the inspection period at 100 percent power and continued to operate at that power level, except for several brief periods of small power reduction to conduct testing.

c. Unit 2 Operations

The unit began the inspection period at 100 percent power and continued to operate at that power level, except for several brief periods of small power reduction to conduct testing.

d. Shift Supervisor Meeting

The inspector attended a Shift Supervisor (SS) meeting on January 8, 1993. The Shift Operations Manager conducted the meeting and, in keeping with the licensee's Total Quality Management (TQM) philosophy, openly sought input on various subjects from the operating crew members. Some of the subjects that were discussed included: diesel generator tagouts, utilization of operations test technicians, license class peer selection process, observation and

enhancement of simulator training, operations chemical inventory, and outage resource requirements.

e. Procedure Adherence Presentation

The licensee has continued to promote a "rule based" procedure adherence philosophy as opposed to a "knowledge based" philosophy. The licensee's rule based philosophy expects personnel to utilize their knowledge while implementing procedures but not to step out of the procedures or cease to follow them when difficulties arise. Exceptions are allowed for abnormal and emergency situations and appropriate guidelines are provided for these cases. The inspector observed a presentation by the Superintendent of Operations to an operations shift. The Superintendent thoroughly explained this philosophy and management's expectations.

No violations or deviations were identified.

3. Surveillance Testing (61726)

Observed

Selected surveillance tests were analyzed and/or witnessed by the resident inspection staff to ascertain procedural and performance adequacy and conformance with the applicable TS.

Selected tests were witnessed to ascertain that current written approved procedures were available and in use, that test equipment in use was calibrated, that test prerequisites were met, that system restoration was completed and acceptance criteria were met.

The selected tests listed below were reviewed or witnessed in detail:

PROCEDURE	EQUIPMENT/TEST
PT/2/A/4252/01B	2B CA Pump Performance Test
PT/1/A/4208/01B	1B NS Pump Performance Test
PT/1/A/4209/02A	Chemical and Volume Control System Train A Valve Stroke Timing
PT/2/A/4456/02B	VS Train B Valve Stroke Timing
PT/2/A/4253/02B	Feedwater Train B Valve Stroke Timing

No violations or deviations were identified.

4. Maintenance Observations (62703)

a. Observation

Routine maintenance activities were reviewed and/or witnessed by the resident inspection staff to ascertain procedural and performance adequacy and conformance with the applicable TS.

The selected activities witnessed were examined to ascertain that, where applicable, approved procedures were available and in use, that prerequisites were met, that equipment restoration was completed and maintenance results were adequate.

The selected maintenance activities listed below were reviewed or witnessed in detail:

WORK ORDER	ACTIVITY
92089493	Coolant Refrigerant Low Pressure Switch Calibration - 'B' Control Room Chiller
92089493	Hot Gas Bypass Temperature Switch Calibration - 'B' Control Room Chiller
92089493	Condenser Water Differential Pressure Switch Calibration - 'B' Control Room Chiller
92089474	Control Room Air Handling Unit Belt Replacement
92089465	2B Residual Heat Removal Miniflow Switch Calibration
93001373	Perform Preventive Maintenance on Power Range Neutron Flux Monitor N43
93001375	Perform Preventive Maintenance on Power Range Neutron Flux Monitor N44

b. Work Control Quality Control Improvement Project

The licensee began a review of the work control process as a quality improvement project. These projects were implemented in accordance with the TQM philosophy. The licensee has completed the initial review and is beginning the implementation phase. Implementation will be accomplished first at the licensee's Oconee Nuclear Station. The inspector attended a presentation that provided an overview of the project and current status. Project objectives included: Do More, Better, with Less; Reengineer Work Control Process (fundamental rethinking, dramatic quality improvements, dramatic reduction in inefficiencies); Enhance

Quality of Work Package Delivered to Craft; Improved Coordination Between Groups; Simplify Documentation Requirements; Improve Effectiveness of Personnel; and Consistent Implementation Between Sites.

Key changes that were planned for implementation included: use of troubleshooting teams for on-the-spot minor repairs; use of multi-skilled work teams; site-wide master scheduling; use of the latest technologies such as pen computers and electronic libraries; and developing performance indicators to accurately measure the efficency of the work control process. While these changes are geared toward cost savings, other benfits that could be realized included: improved work planning, increaseed system availability, and fewer work package transfers between groups.

c. Diesel Generator Reliability Status

The inspector reviewed the most recent (4th quarter 1992) Diesel Generator (DG) reliability data. The 12 month cumulative unavailability for all four DGs was below 1 percent; below the industry median; and below the 1995 industry goal of 2 percent. No DGs failures have occurred during the last 20 tests. Failures in the last 100 tests were 4,2,2 and 2 for DGs 1A, 1B, 2A and 2B respectively. No failures occurred in 1992. The licensee attributes the improving reliability to the dedicated diesel maintenance crews. The licensee has also assigned a full time system engineer to the DGs and will use component engineers as needed. The improving reliability of the DGs represents a significant effort to achieve risk reduction and improved plant safety.

No violations or deviations were identified.

5. Followup on Previous Inspection Findings (92701, 92702)

The following previously identified item was reviewed to ascertain that the licensee's response was applicable, and licensee actions were in compliance with regulatory requirements and corrective actions have been implemented. Selective verification included record review, observations, and discussions with licensee personnel.

(Closed) Violation 370/91-31-01: Failure to Provide Adequate Procedures for Volumetric Leak Rate Calibration Resulting in Inoperability of Both Trains of Annulus Ventilation. The licensee response for this item was submitted on March 2, 1992. Corrective actions included maintenance and operation procedure revisions, training of appropriate personnel, changes to work controls for the task, and the installation of Control Room alarms for the annulus doors.

6. Exit Interview

The inspection scope and findings were summarized on January 14, 1993,

with those persons indicated in paragraph 1 above. The licensee representatives present offered no dissenting comments, nor did they identify as proprietary any of the information reviewed by the inspectors during the course of their inspection.