



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

Report No.: 50-369/78-28

Docket No.: 50-369

License No.: CPPR-83

Licensee: Duke Power Company  
Power Building  
422 South Church Street  
P. O. Box 2178  
Charlotte, North Carolina

Facility Name: McGuire Nuclear Station

Inspected at: McGuire Unit 1, Cornelius, North Carolina

Inspection conducted: August 1-6, 1978

Inspectors: M. V. Sinkule  
W. T. Cottle

Approved by: R. C. Lewis  
R. C. Lewis, Chief  
Reactor Projects Section No. 2  
Reactor Operations and Nuclear Support Branch

9/14/78  
Date

Inspection Summary

Inspection on August 1-6, 1978 (Report No. 369/78-28)

Areas Inspected: Routine, unannounced inspection of safety review functions; plant tour; hydrostatic testing of primary pressure boundary; status of preoperational testing; receipt and storage of new fuel; and outstanding items. The inspection involved 80 inspector-hours on site by two NRC inspectors.

Results: Within the six areas inspected no items of noncompliance or deviations were identified in five areas. One noncompliance item was identified in one area (infraction - failure to provide administrative controls to prevent the use of hydrogenous fire fighting materials in the new fuel storage area, paragraph II.6, 78-28-01).

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DETAILS I

Prepared by:

M. V. Sinkule  
 M. V. Sinkule, Reactor Inspector  
 Reactor Projects Section No. 2  
 Reactor Operations and Nuclear  
 Support Branch

9/14/78  
 Date

Dates of Inspection: August 1-6, 1978

Reviewed by:

R. C. Lewis  
 R. C. Lewis, Chief  
 Reactor Projects Section No. 2  
 Reactor Operations and Nuclear  
 Support Branch

9/14/78  
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1. Persons Contacted

- \*M. McIntosh, Station Manager
- \*M. Sample, Technical Services Engineer
- \*G. Cage, Superintendent of Operation
- \*D. Raines, Superintendent of Maintenance
- \*R. Wilkerson, Administrative Services Superintendent
- T. Owens, Station Chemist
- C. Rogers, I&E Engineer
- D. Simmons, Assistant Engineer
- T. McConnell, Technical Services Superintendent
- N. Rutherford, Director of Nuclear Safety Review Board
- D. Bradshaw, Operations Engineer
- G. Gilbert, Operations Engineer
- J. Knuti, Shift Supervisor
- J. Culp, Assistant Shift Supervisor
- L. Weaver, Performance Engineer
- G. Figuepoa, Maintenance Planning Engineer
- \*D. Franks, QA Engineer

The inspector also conducted interviews with several other technical support personnel and reactor operations personnel.

\*Indicates those present during the exit interview on August 4, 1978.

2. Licensee Actions on Previous Inspection FindingsUnresolved Item

(Closed) (78-21-06): Reportability of "Kerotest" valves.

The inspector conducted discussions with licensee personnel and reviewed a letter from Westinghouse dated July 1, 1977,

to ascertain whether a design deficiency in 2 inch or smaller "Kerotest" valves was reportable per 10 CFR 50.55e. The licensee concluded that the deficiency would not have prevented the system from performing its intended safety function and the extent of the work necessary to correct the deficiency was minimal.

3. New Unresolved Items

None

4. Management Interview

A meeting was held on August 4, 1978, with the Station Manager and members of his staff (attendees denoted in paragraph 1). The results of the inspection for period August 1-4 were discussed.

A telephone interview was held on August 6, 1978, with the Technical Services Engineer to discuss the results of the inspection for August 4-6.

5. Response Time Testing

IE Report 50-335/78-21 discusses the licensee's plans for the response time testing of Reactor Protective System (RPS) and Engineered Safety Features Actuation System (ESFAS). The inspector conducted discussions with licensee personnel who restated their intentions with regard to response time testing as follows:

- a. One channel will be tested in place to determine end to end response time for that channel. Components from associated channels will be bench tested to determine response. Reinstallation of these components will be accomplished using controlled quality techniques.
- b. Resistance Temperature Detectors (RTD) will be response time tested in place for all channels. The remainder of the circuits will be tested and the response time will be added to the detector response times.
- c. Certain detector response are excluded from response time testing as specified in the Technical Specifications.

No items of noncompliance or deviations were identified, however, this item will be pursued in more depth during a future inspection (78-28-05).

## 6. Safety Committee Review

Discussions were conducted and Administrative procedures were reviewed to verify that review groups have been established as required by FSAR 13.4.2, draft Technical Specifications (TS) 6.5.1 and 6.5.2, and ANSI N18.7-1972. A Station Review Committee (SRC) has been established, however, the draft TS do not require that the reviews be conducted by a committee, but by qualified individuals. The committee essentially has been established for the purpose of conducting the initial reviews of station procedures. The inspector reviewed the minutes of the SRC for the past 90 days; Standard Directives (SD) 1.5.0, 4.2.1, 4.4.0, Administrative Policy Manual (APM) 2.6.2.1, 2.6.2.2.2, .3, .5, .6; and the written charter for the Nuclear Safety Review Board. The following discrepancies were identified:

- a. APM 2.6 does not insure that the provisions of the minimum frequency between meetings specified in draft T.S. 6.5.2.6 and FSAR 13.4.2.1 will be met for the Nuclear Safety Review Board (NSRB). (78-28-02)
- b. Administrative controls have not been established to insure that the onsite review requirements for TS 6.5.1.3, 6.5.1.8, and 6.5.1.9 will be met. (78-28-03)
- c. Mechanisms have not been described in Administrative Controls or the written charter of the NSRB for initiating review activities as specified in ANSI N18.7-1972. (78-28-04)
- d. No meetings of the NSRB have been held as of this date. Discussions with a licensee representative indicated that the first meeting will be held in September 1978. Further review will be required during future inspections to complete the review of the licensees review program and the implementation of it. (78-24-05)

Licensee representatives stated during the exit interview that certain administrative controls in this area were still under development.

No noncompliance items or deviations were identified.

7. Calibration of Measuring and Test Equipment

The inspector reviewed the procedure for calibration of standards utilized for calibration of installed plant instrumentation and had no further questions.

DETAILS II

Prepared by:

M. V. Sinkule for  
 W. T. Cottle, Reactor Inspector  
 Reactor Projects Section No. 2  
 Reactor Operations and Nuclear  
 Support Branch

9/14/78  
 Date

M. V. Sinkule  
 M. V. Sinkule, Reactor Inspector  
 Reactor Project Section No. 2  
 Reactor Operations and Nuclear  
 Support Branch

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 Date

Dates of Inspection: August 1-6, 1978

Reviewed by:

R. C. Lewis  
 R. C. Lewis, Chief  
 Reactor Projects Section No. 2  
 Reactor Operations and Nuclear  
 Support Branch

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 Date

### 1. Persons Contacted

- \*M. McIntosh, Station Manager
- \*G. Cage, Superintendent of Operations
- \*D. Rains, Superintendent of Maintenance
- \*R. Wilkinson, Superintendent of Administration
- D. Harrington, Training and Safety Coordinator
- \*D. Franks, Quality Assurance Engineer
- \*M. Sample, Technical Services Engineer
- G. Figueroa, Maintenance Planning Engineer
- L. Massey, Assistant Shift Engineer
- N. McCraw, Engineer
- G. Gilbert, Operations Engineer
- J. Lynn, Engineer
- N. Rutherford, Director Nuclear Safety Review Board
- E. Miller, Construction Engineer
- L. Weaver, Performance Engineer
- D. Bradshaw, Operations Engineer

The inspector also talked with and interviewed several other licensee employees, including members of the operations and technical staffs and corporate QA personnel.

\*Denotes those attending the exit interview.

2. Licensee Action on Previous Inspection Findings

Not inspected.

3. Unresolved Items

No new unresolved items were identified during this inspection.

4. Exit Interview

The inspector met with management representatives (denoted in paragraph 1) on August 4, 1978. The inspector summarized the scope and findings of the inspection for the period August 1-4, 1978. The station manager outlined the corrective action for the noncompliance (78-28-01) as follows:

- a) Plant memorandum was sent to each member of the fire brigade on August 4, 1978. The memorandum stated that the use of hydrogeneous fire fighting materials was prohibited in new fuel storage areas.
- b) Signs were posted in the new fuel storage areas on August 3, 1978, prohibiting the use of hydrogeneous fire fighting materials.
- c) Proper fire extinguishers were placed in the new fuel storage areas on August 3, 1978.

(The corrective action was verified by the inspector prior to leaving the site on August 6, 1978.)

Telephone interviews were held on August 6 and 8, 1978, with the Technical Services Engineer. The results of the inspection for the period August 4-6 were discussed.

5. Plant Tour

The inspector conducted a tour of the facility for plant familiarization, to determine construction status, and observe preoperational testing activities including preparations for the Reactor Coolant System hydrostatic test.

No items of noncompliance or deviations were identified.



6. New Fuel Receipt and Storage

An inspection was conducted of licensee's activities in the receipt and storage of new fuel under NRC Materials License No. SNM-1773. The inspector observed the inspection and storage of two fuel assemblies, conducted a tour of the fuel storage areas, and reviewed plant procedures governing receipt and storage activities. Specifically, the following activities were reviewed for compliance with the Special Nuclear Material (SNM) license, licensee's physical security commitments, and applicable codes and standards:

- a) Inspection of shipping containers.
- b) Review of shipping records and documents.
- c) Control of storage environment.
- d) Integrity of security controls.
- e) Physical handling of fuel assemblies.
- f) Implementation of specific storage requirements in Special Nuclear Material license.

The inspector found that contrary to licensee's commitment in the SNM license application, administrative controls were not implemented to preclude the use of hydrogeneous fire fighting materials in the New Fuel Storage Vault and the Spent Fuel Storage Pool even though these areas were being utilized for dry storage of fuel assemblies. In addition, there were no dry chemical or CO<sub>2</sub> type fire extinguishers provided in these areas as required by the license application. Since section 9 of SNM-1773 incorporates the statements, representations, and conditions specified in the license application into the license requirements, this represents an apparent noncompliance with the Special Nuclear Material license. This item is designated an infraction (78-28-01). Prior to the conclusion of this inspection the inspector verified that the licensee had taken corrective action to correct the above described apparent item of noncompliance. Specifically, the inspector reviewed a directive to fire brigade personnel dated August 4, 1978, specifying that hydrogeneous fire fighting materials will not be used in the fuel storage areas. In addition, the licensee stated that



signs have been posted in these areas restricting the use of water and CO<sub>2</sub> fire extinguishers have been placed in the area.

No other items of noncompliance or deviations were identified.

7. Technical Specifications

The inspector reviewed the current draft of the proposed Radiological Technical Specifications. It was brought to the licensee's attention that the specifications addressing control rod position indication operability requirements are not compatible with the standard Westinghouse method of measuring rod drop times. The licensee will review the rod drop time measurement test methodology and, if required, will initiate efforts to incorporate a special test exception into the applicable Technical Specification sections.

The inspector had no other comments in this area.

8. Reactor Coolant System Hydrostatic Test

The inspector reviewed the governing procedures for the hydrostatic test of the Reactor Coolant System (Construction procedure #653 and Steam Production TP/1/A/1150/01). The inspector pointed out that the minimum surface temperature for the bottom of the reactor vessel specified in the construction procedure did not meet the minimum hydrostatic test temperature requirement of 10 CFR 50 Appendix G. Licensee's representatives investigated the error and revised the minimum temperature to comply with the Appendix G limit of RTndt + 60°F. The inspector reviewed the limitations and precautions specified in each of the procedures for inclusion of adequate provisions to protect against system overpressurization and component damage. The inspector had no questions in this area.

The inspector verified that the official hydrostatic test pressure gauge, the test relief valves, and temperature monitoring instrumentation were installed per the test procedures and were within their specified calibration intervals.

The inspector witnessed selected portions of test preparations including initial runs of reactor coolant pumps, primary system heatup, system valve lineups and valve lineup verifications.

No items of noncompliance or deviations were identified.