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

Report No.: 50-369/78-24

Docket No.: 50-369

License No.: CPPR-83

Licensee: Duke Power Company
Attn: Mr. William O. Parker, Jr.
Vice President, Steam Production
P. O. Box 2178
422 South Church Street
Charlotte, North Carolina 28242

Facility Name: McGuire Unit 1

Inspection at: McGuire Site, Cornelius, North Carolina

Inspection conducted: July 17-20, 1978

Inspector: D. J. Perrotti

Reviewed by:

J. W. Hufham, Chief
Environmental and Special Projects Section
Fuel Facility and Materials Safety Branch

9/12/78
Date

Inspection Summary

Inspection on July 17-20, 1978 (Report No. 50-369/78-24)

Areas Inspected: A routine, unannounced, preoperational inspection in emergency planning to determine the status of completion of the licensee's coordination with offsite support agencies, emergency facilities, equipment and procedures, means for determining a release, fire and smoke detector system, and emergency training and drills. The inspection involved 22 inspector-hours onsite by one NRC inspector.

Results: No items of noncompliance or deviations were disclosed during the inspection.

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DETAILS I

Prepared by:

*D. J. Perrotti**9/13/78*

Date

D. J. Perrotti, Radiation Special.
Environmental and Special Projects
Section
Fuel Facility and Materials Safety
Branch

Dates of Inspection: July 17-20, 1978

Reviewed by:

J. W. Huffman
J. W. Huffman, Chief
Environmental and Special Projects
Section
Fuel Facility and Materials Safety
Branch

9/15/78

Date

1. Persons Contacteda. Duke Power Company at McGuire

*M. D. McIntosh, Plant Manager
*T. L. McConnell, Technical Services Superintendent
*W. M. Sample, Technical Services Engineer
*T. J. Keane, Station Health Physicist
J. Foster, Health Physics Supervisor
D. Harrington, Training and Safety Coordinator
*M. E. Pacetti, Test Engineer
*L. E. Weaver, Performance Engineer
T. Parker, Training Supervisor
E. Estep, Assistant Engineer
*G. W. Cage, Operations Superintendent
*R. J. Wilkinson, Administrative Superintendent

b. Other Duke Power Personnel

M. M. Majure, Environmental Lab Group
L. Lewis, System Health Physicist
G. A. Copp, Associate Engineer

c. Other Individuals Contacted

Dr. E. Baken, Director of Emergency Services, Charlotte
Memorial Hospital
W. F. Shovelin, Assistant Director, Gaston Memorial Hospital
J. D. Adair, Associate Director, Gaston Memorial Hospital
J. Reager, Chief, Gilead Volunteer Fire Department

*Denotes those present at the exit interview.

2. Licensee Action on Previous Inspection Findings

No licensee action on previously identified inspection findings were reviewed during this inspection.

3. Unresolved Items

There were no unresolved items disclosed during this inspection.

4. Coordination With Offsite Agencies

a. Appendix E to 10 CFR 50, Section IV, paragraph D, specifies that the emergency plan shall contain procedures for notifying, and agreements reached with, local, state and federal officials and agencies for the early warning of the public and for public evacuation or other protective measures should such warning, evacuation, or other protective measures become necessary or desirable, including identification of the principal officials by title and agency. Section 4.3.2 of the Emergency Plan identifies the offsite agencies providing support for the McGuire plant, and Section 4.4.b states that written agreements have been made with local, state and federal authorities.

b. The inspector discussed the coordination with offsite agencies with licensee representatives and verified, by reviewing Appendix 9.1 to the Emergency Plan, that written agreements had been arranged for the agencies identified in Section 4.3.2 of the Emergency Plan. The inspector asked about updating of the agreement letter for Charlotte Memorial Hospital, which was dated August 9, 1972. A licensee representative stated that new letters would be implemented to contact each agency on a six-month interval in order to confirm the arrangement and telephone number. The inspector indicated that this matter would be followed on a routine basis. The inspector contacted offsite agency representatives, identified in paragraph 1, in order to discuss the emergency planning coordination with the licensee. The following paragraphs are the result of those contacts:

Charlotte Memorial Hospital - The inspector met with the Director of Emergency Services on July 18, 1978. The inspector was informed that the licensee had arranged for a meeting with hospital representatives approximately one year ago. The inspector was also informed that while there had been no emergency plan training furnished by Duke Power Company, approximately sixty nurses from an

eight county area attended a one day symposium on emergency treatment of radiation accident victims. This symposium was held on May 23, 1978, at Charlotte Memorial Hospital. The inspector commented that hospital radiological emergency procedures, emergency equipment and decontamination supplies would be reviewed and verified during a subsequent inspection.

Gaston Memorial Hospital - The inspector met with representatives of Gaston Memorial Hospital on July 19, 1978. The inspector was informed that there had been no contact with the licensee since the letter of agreement had been arranged on September 12, 1974. The inspector was also informed that the radiological emergency procedures were out of date and were being revised. The inspector discussed this matter with licensee representatives during the exit interview and pointed out the need for emergency training of and contact with Gaston Memorial Hospital personnel, even though Gaston Memorial was the back-up facility. A licensee representative stated that while Gaston Memorial was the back-up facility for McGuire, it would be the primary medical facility for the Catawba plant, a Duke Power site near Rock Hill, South Carolina. The inspector had no further comments.

Gilead Volunteer Fire Department - The inspector contacted, by telephone, the fire chief of the Gilead Volunteer Fire Department on July 20, 1978. The inspector was informed that the last contact with the plant had been approximately one and one-half years ago, however, the fire department was anxious to visit the site for an orientation tour and familiarization training. This matter was discussed with licensee representatives at the exit meeting.

Time did not permit contacting the remaining principal offsite support agencies. The inspector informed licensee management representatives that all the agencies would be contacted to verify the licensee's coordination with the agencies, and, in addition, the plan would be reviewed for the procedures for notification for early warning of the public, as required by Appendix E to 10 CFR 50.

- c. The coordination with offsite agencies was defined by the inspector as an outstanding item pending the inspector's contacting the remaining principal offsite support agencies, review of notification procedures, and completion of appropriate familiarization and radiation training for the offsite support groups.

5. Emergency Facilities and Equipment

a. Emergency Kits (Including Vehicle and Boat)

- (1) A general equipment list is contained in Appendix 9.4 of the Emergency Plan. Section 7.3 of the Emergency Plan specifies a monthly audit of equipment, quarterly calibration and monthly testing of survey instruments. Section 6.3.2 of the Emergency Plan states that a vehicle and boat are available on site for warning and mobile assessment purposes. Health Physics Procedure HP-0-B-1009-02 specifies the equipment required for the vehicle and boat.
- (2) The inspector discussed the emergency equipment with a licensee representative. The inspector was informed that Health Physics procedures would be implemented to inventory equipment and to verify testing and calibration of instruments. However, the kits, vehicle, boat, and equipment were not complete or in place at the present time.
- (3) The inspector defined the incomplete emergency kits, including the boat and vehicle as an outstanding item.

b. Respiratory Protective Equipment

- (1) Appendix 9.4 of the Emergency Plan defines respiratory protective equipment as part of the emergency equipment available on site.
- (2) The inspector discussed respiratory protective equipment with a licensee representative. The inspector was informed that all the equipment was not in place. The inspector reviewed prep test procedure TP-1-B-1450-13, Breathing Air System, that covered operation and maintenance of the breathing air compressor. The inspector asked about the air quality, and was informed that the

chemistry department would probably be responsible for testing of the breathing air quality.

- (3) The inspector defined the respiratory protective equipment as an outstanding item pending placement of the required respiratory protective equipment, satisfactory completion of preop test TP-1-B-1450-13, and testing of breathing air quality.

c. Seismic Instrumentation

- (1) Section 6.3.1 of the Emergency Plan specifies that natural phenomena monitoring capabilities will include seismic activity. Section 3.7.4 of the FSAR specifies the seismic instrumentation to be available on site, and instruments in the control room for monitoring seismic activity.
- (2) The inspector was informed that all the seismic instrumentation was not yet completely installed, and that testing of the system would be done under IP-0-A-3150-01, Peak Recorder Accelerometer System Check, IP-0-B-3150-02, Peak Shock Recorder and Annunciator System Check, and IP-0-E-3150-03, TS-3A Triaxial Seismic Switch Calibration. The inspector was informed that these procedures had not been approved yet.
- (3) The inspector defined the seismic instrumentation as an outstanding item pending completion of installation of the system and approval and satisfactory completion of the test procedures.

d. Fire Detection Equipment

- (1) Section 6.3.1 of the Emergency Plan specifies that fire detection devices are located throughout the station. Section 7.7.1.13 of the FSAR describes the system, and states that a periodic test of the overall system and individual detectors will be performed to assure high reliability.
- (2) The inspector was informed that the fire and smoke detectors were installed and had been tested by using smoke from a cigarette near the detectors. The inspector asked about a

preop test procedure which would verify the availability and proper operation of the smoke detector system, including annunciation in the control room. The inspector was informed that there was no procedure at the present time to test the entire system. However, at the exit meeting a licensee management representative agreed to establish a procedure for testing of the fire detection system.

- (3) The inspector defined the fire detection system as an outstanding item pending approval and satisfactory completion of the preop test procedure.

e. Emergency Control Center

- (1) Section 6.1 of the Emergency Plan defines the control room as the principal onsite Emergency Control Center and describes shielding, ventilation and communications available to operations personnel. The station manager's office in the administration building is designated as the alternate onsite control center. Section 6.1 also specifies that an offsite Emergency Control Center is established in the Duke Power Steam Production Department in Charlotte, North Carolina.
- (2) The inspector discussed the requirements for the principal onsite Emergency Control Center with a licensee representative. The inspector was informed that preop test procedures TP-1-A-1450-05, Control Room Heating, Ventilation and Air Conditioning (HVAC), and TP-1-A-1450-16, Control Room Area Chilled Water System Equipment Check, would be completed to verify the isolation capability of the main control room.
- (3) The inspector defined the Emergency Control Center as an outstanding item.

f. Control of Conduit Openings in Main Control Room
(Unit 2 Side)

- (1) Following the discussion of the main control room HVAC preop test, the inspector commented on maintaining control of the conduit openings

on the Unit 2 side of the control room with regard to a requirement for the control room to maintain positive pressure during an isolation condition. With the construction of Unit 2 side underway, the conduit openings, on the Unit 2 side of the control room would prevent complete isolation of the control room. The inspector stated that this matter would be followed during subsequent inspections.

- (2) The inspector defined the control of conduit openings in the main control room (Unit 2 side) as an outstanding item.

g. Emergency Communications

- (1) Section 6.2 defines the various communication systems that are available onsite and offsite during an emergency.
- (2) The inspector was informed that the communication systems were not completed, and that preop test procedure TP-1-B-1350-01 would verify availability and operability of the communication systems.
- (3) The inspector defined the incomplete communication systems as an outstanding item pending approval and satisfactory completion of the communications preop test procedure, and verification of other communication systems required by the Emergency Plan.

h. Emergency Lighting

- (1) Section 9.5.3.6 of the FSAR describes the emergency lighting system and specifies a preop test to verify operability and to assure sufficient lighting is provided by the system at selected stair and corridors in the reactor, auxiliary and turbine buildings.
- (2) The inspector was informed by a licensee representative that installation and testing of the emergency lighting system was not completed, but that it would be conducted under preop test procedure TP-1A-1350-23.

- (3) The inspector defined the incomplete emergency lighting system as an outstanding item pending the approval and satisfactory completion of preop test TP-1A-1350-23.

i. Medical Treatment and Decontamination Facility

- (1) Sections 6.5 and 5.5.2 of the Emergency Plan describe the first aid and decontamination facilities and equipment and supplies that are available on site.
- (2) The inspector was informed by a licensee representative that the first aid room in the Radiation Control Area and the decontamination area had been designated, but the rooms and equipment were incomplete at the present time.
- (3) The inspector defined the incomplete first aid room and decontamination facility as an outstanding item.

6. Means For Determining A Release

a. Emergency Process and Area Monitoring Systems

- (1) Section 6.3.1 of the Emergency Plan specifies that the radiological monitoring capabilities include process and effluent monitoring systems and an area monitoring system. Sections 11.4 and 12.1.4 of the FSAR describe the monitoring systems available on site.
- (2) The inspector was informed that the monitoring systems were not installed or tested as yet, but would be conducted under preop test procedures TP-1B-1600-01A, Process Radiation Monitoring System, TP-1A-2600-15, Effluent Radiation Monitoring Test, and TP-1B-1600-01B, Area Monitoring System.
- (3) The inspector defined the incomplete process and area monitoring systems as an outstanding item pending verification of installation of the emergency type monitors, and approval and satisfactory completion of the preop tests stated above.

b. Meteorological Instrumentation

- (1) Section 6.3.1 of the Emergency Plan specifies that natural phenomena monitoring includes wind speed and direction, temperature and vertical gradient. Section 2.3.3 of the FSAR describes the meteorological instrumentation available on site.
- (2) The inspector discussed the meteorological instrumentation with a licensee representative from the Duke Power Environmental Group. The Environmental Group has been responsible for installation, calibration and testing of this equipment. The inspector was informed that the met tower had been in operation for several years and that calibration of the sensors has been done quarterly. The inspector was also informed that the monitors for wind speed and direction and ambient and differential temperature had been installed in the control room, but were secured at the present time for repairs to one of the monitors. When the repairs are completed, the entire system would be tested and turned over to the plant maintenance department.
- (3) The inspector defined the meteorological system as an outstanding item pending verification of the readouts in the control room and satisfactory completion of the turnover program.

c. Other Decisional Aids

- (1) Section 6.3.2 of the Emergency Plan specifies that natural phenomena monitoring includes meteorological nomographs, local area maps, and population distribution data.
- (2) The inspector was informed by a licensee representative that the nomographs, maps, and population data were in the process of being prepared.
- (3) The inspector defined the incomplete decisional aids as an outstanding item.

7. Response to IE Bulletin 77-08: Emergency Ingress and Egress - Locking Systems

- a. IE Bulletin 77-08 requires the licensee, in part, to

survey the facility and facility plans as to whether or not prompt emergency ingress into electrically locked safety-related areas by essential personnel could be assured during loss of power, and if unimpeded emergency egress from all parts of the facility could be assured with respect to hardware and security system installations. In addition, the licensee was required to review existing emergency plans and procedures to assure that prompt emergency ingress and unimpeded emergency egress was fully and effectively addressed for any postulated occurrence. A written report was required for any facility that did not meet the requirements of action items 1 and 2 of the bulletin.

- b. The inspector verified through discussions with licensee representatives that a response was forwarded to the Commission on May 1, 1978. However, the personnel access containment air locks were not considered in the initial review of the facility. This matter is being looked into. The inspector verified, by review, that the site Emergency Plan does not address the matter of emergency ingress and egress. This was pointed out at the exit meeting to licensee management representatives.
- c. The inspector defined this matter as an outstanding item.

8. Emergency Plan Training

- a. Section 7.1.1 of the Emergency Plan defines the training provided for offsite and onsite personnel, and the special training for key personnel.
- b. The inspector briefly discussed Emergency Plan, first aid and fire fighting training with licensee representatives. On July 18, 1978, the inspector observed a training film on "Emergency Response by the Individual", presented to 23 security guards. During discussions with the Training Coordinator, the inspector pointed out that all of the pertinent training courses listed below would be followed during subsequent inspections:
 - (1) Emergency Coordinator
 - (2) Emergency Monitoring Team
 - (3) Fire Brigade
 - (4) Operators
 - (5) General Employees

- (6) Construction
- (7) First Aid
- (8) Offsite Support Agencies

c. The inspector defined emergency training as an outstanding item.

9. Emergency Implementing Procedures

- a. Appendix 9.3 of the Emergency Plan describes the preparation, use, review and distribution of the "Emergency Procedures".
- b. The inspector discussed the Emergency Procedures with a licensee representative. The inspector was furnished an updated list of Emergency Procedures, but was informed that not all the procedures had been written and approved. The inspector asked for a complete package up to date, approved procedures as soon as possible so that they could be reviewed.
- c. The inspector defined the Emergency Procedures as an outstanding item, pending the approval of the required procedures by the plant safety committee, and review of the procedures by the inspector.

10. Tests and Drills

- a. Appendix E to 10 CFR 50, Paragraph IV.I. specifies that the Emergency Plan shall contain provisions for testing, by periodic drills, of radiation Emergency Plans to assure that employees of the licensee are familiar with their specific duties, and provisions for participation in the drills by other persons whose assistance may be needed in the event of a radiation emergency. Section 7.1.2 of the Emergency Plan requires quarterly drills to develop and maintain the proficiency of operating personnel, and simulated emergency drills on an annual basis for outside agencies.
- b. The inspector discussed the radiation emergency drill with licensee representatives. The inspector emphasized that this exercise should include implementation of the site emergency organization, and that the drill should provide release determinations, site evacuation,

accountability of plant personnel, and verification of communications with offsite agencies. A licensee representative stated that no drills have been scheduled to date.

- c. The inspector defined the radiation emergency drill as an outstanding item pending successful completion of the exercise.

11. Exit Interview

The inspector met with licensee management representatives (denoted in paragraph 1) at the conclusion of the inspection on July 20, 1978. The inspector summarized the purpose and scope of the inspection and findings. The inspector discussed with licensee management representatives all of the outstanding items.