



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

Report No. 50-369/82-44

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

Facility Name: McGuire Nuclear Station

Docket No. 50-369

License No. NPF-9

Inspection at McGuire Nuclear Station

Inspector:

W. E. Cline
W. E. Cline

12/30/82
Date Signed

R. R. Marston
R. R. Marston

12/30/82
Date Signed

Accompanying Personnel: G. Bethke, K. Clark, W. Knox, L. Munson, D. Schultz,
K. Swinth

Approved by:

G. R. Jenkins
G. R. Jenkins, Chief
Emergency Preparedness Section

1/4/83
Date Signed

SUMMARY

Inspection on November 30 - December 2, 1982

Areas Inspected

This routine, inspection involved 224 inspector-hours on site in the areas of an emergency preparedness exercise.

Results

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

DETAILS

1. Persons Contacted

Licensee Employees

- *H. Tucker, Vice President - Nuclear Power Generation
- *M. McIntosh, Station Manager
- *G. Vaughn, Recovery Manager
- *R. M. Glover, Emergency Response Coordinator (Corporate)
- *M. S. Glover, Emergency Preparedness Coordinator (McGuire)
- T. Keane, Station Health Physicist
- B. McRee, Health Physicist
- L. Lewis, Corporate Health Physicist
- J. Stewart, Controller
- S. Frye, Controller

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

Other Organizations

- *C. Brown, State of North Carolina
- *J. T. Pugh, III, State of North Carolina

NRC Resident Inspector

- *W. Orders, Senior Resident Inspector

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on December 2, 1982, with those persons indicated in paragraph 1 above.

3. Licensee Action on Previous Enforcement Matters

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Exercise Scenario

The emergency response exercise scenario developed by the licensee met the requirements of 10CFR50.47(b)(14), 10CFR50, Appendix E, Paragraph IV.F and the specific criteria in NUREG 0654, Section II. N.3. The scenario contained simulated events which began with a site area emergency and escalated to a general emergency. The scenario had provisions for testing

such emergency program elements as accident assessment and classification, communications, emergency management, radiological monitoring, radiological protection and control, emergency medical care, and recovery. The scenario was coordinated with offsite agencies prior to the exercise.

The inspector observed that shortly after the exercise was initiated that the control room controller told the shift supervisor to classify the simulated accident condition as a site area emergency. The shift supervisor had not recognized that a site area emergency condition existed at the time he was informed of such by the controller. The controller stated that he told the shift supervisor to make such a classification in order to keep the exercise on schedule. The inspector emphasized the need to allow key personnel to make classification decisions during exercises. The licensee also mentioned this matter during the exercise critique. The inspector also noted that the lack of controllers and lack of scenario data for implant health physics teams resulted in the teams simulating many activities. The inspector questioned the experience gained by team members from exercise activities involving such a high degree of simulation and minimal or no controller data input.

6. Assignment of Responsibility

This area was reviewed in accordance with the requirements of 10CFR50.47(b)(1), 10CFR50, Appendix E, Paragraph IV.A and specific criteria in NUREG 0654, Section II.A.

The inspectors observed licensee actions in assigning organizational and functional responsibilities for personnel in the control room, TSC, OSC, Crisis Management Center (CMC), and the Corporate Recovery Center. At each of these locations staffing of the emergency organization appeared to be in accordance with established procedures.

7. Emergency Organization

This area was reviewed in accordance with the requirements of 10CFR50.47(b)(2), 10CFR50, Appendix E, Paragraph IV.D, and the specific criteria in NUREG 0654, Section II.A.

Management of the simulated incident was initially handled in the control room by the shift supervisor. The shift supervisor was the interim emergency director until he was relieved by the Station Manager. Actions were taken promptly to establish the TSC and the CMC following declaration of the Site Area Emergency. The OSC was also established and staffed shortly after the declaration of the site area emergency. The Station Manager conducted briefings of key TSC staff members within approximately 30 minutes after activation of the TSC. Briefing of the remainder of the TSC staff was conducted by the individual group supervisors. The CMC Recovery Manager assumed overall accident management control approximately two and one half hours after the declaration of the site area emergency. It appeared that after the CMC assumed control from the TSC that some functional groups were not actually ready to perform missions, e.g., it took

approximately an additional 45 minutes before the CMC took control of monitoring teams, 45 minutes lapsed before essential data was posted on the CMC status board, and it took about 30 to 60 minutes to activate the local government ringdown phones.

8. Emergency Response Support and Resources

This area was observed to determine that arrangements for emergency response support and other resources had been made pursuant to 10CFR50.47(b)(3), 10CFR50, Appendix E, Paragraph IV.A, and the specific criteria in NUREG 0654, Section II.C.

Assistance by offsite agencies was provided during the course of the exercise. Offsite agencies providing support included Cornelius Volunteer Fire Department, Gilead Volunteer Fire Department, North Mecklenburg Rescue Squad, and Charlotte Memorial Hospital. The offsite emergency support resources appeared to respond and provide services and support in accordance with the terms of the agreements between the licensee and the offsite agencies.

The inspector noted that the inplant fire brigade appeared to be well trained and organized. The team assembled and responded promptly after being notified of the simulated fire. It was noted that there was an approximate 10 minute delay between the initial notification of the TSC of the fire condition and the notification of the fire brigade. The licensee also noted this delay and agreed to evaluate appropriate actions.

Representatives from the State of North Carolina worked in a liaison role in the CMC to provide status updates to the State EOC. The observers noted that some confusion existed between the licensee and the State regarding incident management actions taken by each party. The CMC was unaware that the North Carolina governor's office had declared a state of disaster until approximately 4 hours after the declaration. The State did not appear to be receiving timely information concerning the radiological status of the plant.

Both the State of North Carolina and the licensee recognized this problem area and agreed to take remedial actions. (50-369/82-44-01).

9. Emergency Classification

This area was reviewed in accordance with the requirements of 10CFR50.47(b)(4), 10CFR50, Appendix E, Paragraph IV.C, and specific criteria in NUREG 0654, Section II.D.

The inspector noted that the licensee's emergency classification scheme was consistent with the scheme specified in NUREG 0654. During the exercise, only two emergency classifications were used, namely, a site area emergency and a general emergency. Based on the simulated conditions, the accident appeared to be classified appropriately. As noted in paragraph 5 above, the control room controller did instruct the shift supervisor to classify the

initial accident condition as a site area emergency in order to keep the exercise on schedule.

10. Notification Methods and Procedures

This area was reviewed in accordance with the requirements of 10CFR50.47(b)(5), 10CFR50, Appendix E, Paragraph IV.D and specific criteria in NUREG 0654, Section II.E.

The inspector noted that some of the telephone numbers listed for offsite support agencies were not current. This caused delays in making the required notification from the control room and the TSC. The licensee also noted this problem and agreed to take corrective action. It appeared to the observers that some of the initial and followup messages for dissemination to offsite agencies were not authorized for release by the station health physicist as required by procedures. The need for tighter controls in this area was stressed to licensee management representatives.

It was also noted that initial notification to the dispatcher (Production Duty Man) was delayed about 30 minutes because of busy phones. The licensee also noted this problem and agreed to evaluate remedial actions. The inspector also noted that one offsite support agency requested that the TSC communicator call an alternate number and provide the initial notification information. The communicator complied with the request and as a result delayed the initial notification of subsequent agencies. The merits of having one telephone number and one official point of contact for each offsite agency was discussed with licensee representatives. The licensee representatives acknowledged the inspector's comments.

11. Emergency Communications

This area was reviewed in accordance with the requirements of 10CFR50.47(b)(6), 10CFR50, Appendix E, Paragraph IV.E and specific criteria in NUREG 0654, Section II.F.

The inspectors observed communications within the licensee's emergency response facilities (control room, TSC, OSC, and CMC), between the licensee and offsite agencies, and between the environmental surveillance teams and the site. The inspectors also observed information flow among the various groups within the licensee's emergency organization.

It was noted that the physical layout of the TSC impeded the flow of information and did not facilitate briefing of the TSC staff. The licensee also noted this problem and agreed to take corrective action. Some routine technical information (but information of some value to decision-makers) appeared to be filtered from upper management e.g., dose projections had to reach Protective Action Guide (PAG) level before being posted on status boards or being reported to the emergency coordinator. The inspector pointed out the value of providing such information to decision makers. The licensee acknowledged the inspector's comments.

The inspectors observed that the dose projection status boards in the TSC were not posted until late in the afternoon of the first day of the exercise yet information was available at least 4 hours earlier. Status boards in the CMC were often not posted in a timely manner. The licensee also recognized these problem areas and indicated further evaluation would be conducted.

The offsite monitoring teams had trouble using portable radios. The personnel did not appear to be familiar with the operation of the radio and had difficulty in transmitting information, especially technical data. Additional training in use of radios and proper communication protocol is necessary (50-369/82-44-02).

12. Public Information and Education

This area was reviewed in accordance with the requirements of 10CFR50.47(b)(7), 10CFR50, Appendix E, Paragraph IV.D, and the specific criteria in NUREG 0654, Section II.G.

The inspector noted that information concerning offsite emergency activities by the State and local government was not always available. Often the information which was available was not timely. The inspector emphasized the need to increase efforts to obtain timely inputs from State and local information sources when information is not forthcoming.

During the inspection, the inspector reviewed licensee plans and procedures concerning rumor control and the licensee's emergency response brochure. The inspector noted that improvements had been made in the area of rumor control and in the public emergency response brochure. The previously identified improvement items in these areas (50-369/82-06-45 and 50-369/82-06-52 and 50-369/82-06-53) are closed.

13. Emergency Facilities and Equipment

This area was reviewed in accordance with the requirements of 10CFR50.47(b)(8), 10CFR50, Appendix E, Paragraph IV.E, and the specific criteria in NUREG 0654, Section II.H.

The inspectors observed the activation and staffing of the emergency response facilities, and observed use of equipment at these facilities. Emergency response facilities used by the licensee during the exercise included the control room, TSC, OSC, CMC, and the Recovery Center (Duke Power General Offices).

As noted in Paragraph 11 above, the layout of the TSC interfered with effective information flow within the TSC. Work space in the CMC appeared to be adequate. Arrangement of the OSC also appeared adequate for the level of support effort involved in the exercise. It was noted that only one telephone was located in the OSC area. During an actual accident situation additional telephone service may be required.

14. Accident Assessment

This area was observed in accordance with the requirements of 10CFR50.47(b)(9), 10CFR50, Appendix E, Paragraph IV.B, and the specific criteria in NUREG 0654, Section II.I

The inspector observed accident assessment roles in the Control Room, TSC, and CMC. During the early stages of the simulated accident, it was noted that control room personnel did not initiate and sequentially follow the immediate action stated in the licensee's procedure EP/1/A/5000/01.

The inspector emphasized the importance of initiating the immediate action, and further indicated that the licensee should take steps necessary to ensure that control room personnel are familiar with the procedure and know when to implement it (50-369/82-44-03).

The technical support groups in the TSC obtained and analyzed plant operation information. They provided recommendations to the Emergency Coordinator. They also provided information to the CMC staff. It was noted that TSC status boards were occasionally not posted with timely information. Some TSC staff members appeared to be confused when wind direction data was posted with values greater than 360° (e.g., 410°, 379°, and 394°).

The CMC staff coordinated with support groups in the general office on matters involving technical recommendations. It was noted that CMC status boards were not always updated in a timely manner.

Dose projections were conducted by both the TSC and CMC staff. Projected doses were not provided to the State until projections exceeded established PAG's. The merits of providing the State projection values which are less than PAG levels were discussed with the licensee. Representatives from the State of North Carolina Radiological Protection program indicated that such dose projection values would be helpful in the State's planning efforts. The licensee has agreed to meet with State officials in order to identify areas for closer cooperation and improvement.

15. Protective Response

This area was observed to determine that guidelines for protective actions during an emergency, consistent with federal guidance, are developed and in place, and protective actions for emergency workers, including evacuation of non-essential personnel, are implemented promptly as required by 10CFR50.47(b)(10) and specific criteria in NUREG 0654, Section II.J.

The inspectors observed the licensee's program for personnel accountability and protective action decision-making. The inspector noted that upon sounding of the site assembly alarm, personnel proceeded to designated assembly points. Initial accountability appeared to be completed in approximately 30 minutes. No continuing accountability was performed following the initial accounting.

Protective measures (sheltering versus evacuation) decision-making was handled by the Recovery Manager in the CMC. Recommendations were provided to the State of North Carolina. The inspector noted that closer supervisory attention needed to be given to dose projection information. Late in the exercise, it was observed that the licensee's offsite monitoring teams were located in a projected high radiation zone (projection ranging from 46 to 4100 Rem, thyroid), yet approximately 45 minutes lapsed before information indicating they could possibly be affected was passed to the team.

16. Radiological Exposure Control

This area was reviewed pursuant to the requirements of 10CFR50.47(b)(11) and the specific criteria in NUREG 0654, Section II.K.

The inspector observed that the health physics supervisors located in the OSC seemed to be keeping up with personnel radiation exposures but were not making written records of the exposure. It was also noted that no emergency plans, emergency plan implementing procedures, RWP Forms, or health physics manuals were located in the OSC. All these materials had to be obtained elsewhere and brought to the OSC. The inspector pointed out the need for pre-positioning such resource materials.

During a tour of the CMC, no air sampling equipment was noted. Minimal radiation detection equipment was observed at the CMC during the early phases of the simulated accident. One survey meter was noted as not having a calibration certification sticker.

The offsite monitoring teams were observed. The inspector noted that three out of four of the teams had difficulty using the SAM-II monitoring equipment. This appeared to be primarily due to lack of familiarity with the instrument and the licensee's written procedures. After instruction was provided by a senior licensee staff member, the teams were able to use the equipment. This area requires improvement. All offsite monitoring team members should be given training in monitoring procedures and use of specialized monitoring equipment (50-369/82-44-04).

17. Medical and Public Health Support

This area was observed to determine that arrangements are made for medical services for contaminated injured individuals as required by 10CFR50.47(b)-(12), 10CFR50, Appendix E, Paragraph IV.E, and specific criteria in NUREG 0654, Section II.L.

The medical drill involved the simulated injury of a monitoring team member who had been radiologically contaminated (simulated). The simulated accident victim was transported to the Charlotte Memorial Hospital by the North Mecklenburg Rescue Squad. During the course of the medical drill, it was noted that the health physicist assigned at the scene did not conduct radiological surveys of all personnel who assisted in rescue efforts. It was also noted that the health physicist dispatched from the plant to assist

the ambulance/hospital staff was unable to pick up the pre-positioned emergency kit because he had no key with which to access the locked area in which it was stored. The Charlotte Memorial Hospital Staff appeared to be knowledgeable of decontamination techniques. Appropriate access and egress control were instituted at the hospital.

18. Recovery Planning

This area was reviewed pursuant to the requirements in 10CFR50.47(b)(13), 10CFR50, Appendix E, Paragraph IV. H, and the specific criteria in NUREG 0654, Section II.M.

The bulk of the recovery planning effort was held in the general office in Charlotte. Some environmental monitoring activities were conducted in support of the State of North Carolina's recovery/re-entry efforts. Some information flow problems were noted at the Recovery Center in the general office between the various support groups and management. Often, reports to management were given in general terms and lacked specific details about technical remedies or options. Some support groups did not refer to established recovery plans or procedures for guidance. The inspectors noted that the Administrative and Logistics Group could have been used more effectively by tasking them with specific actions.

19. Exercise Critique

The licensee's critique of the emergency exercise was observed to determine that shortcomings identified as part of the exercise were brought to the attention of management for corrective action as required by 10CFR50.47(b)-(14), 10CFR50, Appendix E, Paragraph IV.F, and specific criteria in NUREG 0654, Section II.N.

A formal critique was held on December 2, 1982 with exercise controllers, key participants, licensee management, State of North Carolina representatives, and NRC representatives. Weaknesses identified during the exercise were discussed and corrective action plans were discussed. Licensee action on these matters will be reviewed during a future inspection.

A public critique was held on the evening of December 2, 1982. Representatives from Duke Power, the State of North Carolina, local government agencies within the 10 mile EPZ, FEMA, and the NRC presented views on the exercise.

20. FEMA Report

A copy of the FEMA report pertaining to the evaluation of offsite agency activities during the exercise will be forwarded by a report transmittal when the report is finalized.