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

Report No. 50-369/80-41

Docket No. 50-369

Licensee: Duke Power Company

Facility Name: McGuire Nuclear Station, Unit 1

License No. CPPR-83

Inspection at McGuire site near Charlotte, North Carolina

Inspector: G. R. Jenkins for D. L. Andrews — 1/30/81 Date Signed

Accompanying Personnel: G. R. Jenkins, T. A. Kevern, R. Van Niel, D. M. Rohrer, A. G. Wagner, J. Skolds, M. L. Smith, L. R. Peterson, E. E. Hickey

Approved by: G. R. Jenkins, Section Chief, FF&MS Branch — 1/30/81 Date Signed

SUMMARY

Dates of Inspection: December 4 - 7, 1980

Areas Inspected: This routine announced inspection involved 142 inspector-hours onsite in the area of a coordinated radiological emergency exercise.

Results: In the area inspected, no violations or deviations were identified.

DETAILS

1. Persons Contacted

*W. O. Parker, Jr., Vice President, Steam Production
*H. B. Tucker, Manager, Nuclear Production
*R. M. Glover, Corporate Emergency Planning Coordinator
*M. D. McIntosh, Station Manager
*G. W. Cage, Operations Superintendent
W. M. Sample, Projects and Licensing Engineer
G. A. Copp, Nuclear Engineer
*T. J. Keane, Station Health Physicist
*M. S. Glover, Technical Associate, Emergency Planning

Other licensee employees contacted included 12 technicians, 10 operators, 10 mechanics, 3 security force members, and 4 office personnel.

Other Organizations

D. Kelly, North Carolina Crime Control and Public Safety
J. Richardson, Federal Emergency Management Agency
J. Myers, Regional Coordinator, North Carolina Civil Preparedness Agency
R. Baker, M.D., Charlotte Memorial Hospital
W. Root, Physicist, Charlotte Memorial Hospital

NRC Resident Inspector

*T. J. Donat
*M. J. Graham

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on December 6, 1980. The exit interview was held concurrently with the critique of the emergency exercise.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Technical Support Center (TSC)

The TSC was activated and staffed shortly after the beginning of the exercise with the Station Manager assuming the position of Emergency Coordinator. The TSC appeared to have adequate space for those assigned and the staff was considered adequate to suport the Emergency Coordinator during an emergency condition. It was noted that the noise level became excessive during portions of the exercise although it was not evident that the noise level significantly interfered in the TSC operations. A licensee representative stated that when the TSC was fully completed and furnished as planned, the noise level should be somewhat abated.

a. Communications - There appeared to be adequate telephone and radio communications equipment for effective operation of the TSC; however, a few minor problems were noted during the exercise.

(1) There was not a direct line between the control room and the TSC requiring the Emergency Coordinator to go to the control room on occasion when both of the inplant telephone lines to the control room were busy. This did not appear to cause any major difficulties in effective TSC operations but consideration should be given to establishing a direct dedicated communications line from the TSC to the control room.

(2) Due to the number of telephones in the TSC it was often difficult to determine which one was ringing. A light indicator or some other means of rapidly identifying a ringing phone should be employed in the TSC. A licensee representative stated that this problem had already been recognized and that corrective actions were being considered.

(3) The portable radios used to communicate with the fire emergency scene did not operate well from the TSC. The control room had good communications with the fire team but overall, there was poor information flow from the fire scene to the TSC. Some portable radio operators were apparently unfamiliar with standard radio protocol and contributed to the problem by unnecessary conversation and poor technique.

(4) Some of the telephone extensions rang at more than one location within the TSC causing some initial confusion. A licensee representative stated that the telephones were newly installed and all the bugs had not been worked out yet.

The area of TSC communications will be reviewed during subsequent inspections (50-369/80-41-01).

b. Visual Aids - A plant status board was initiated and maintained throughout the exercise; however, the board showed only current plant status. An observer noted that additional displayed information such as graphic plots of trends and some historical incident information would have been useful. The Emergency Coordinator held periodic briefings with the TSC staff so the lack of displayed information was not detrimental to the overall TSC operation.

c. Operational Aspects - During the exercise a procedure was prepared for an unconventional method of cooldown using the C and D steam generators. It was noted that the procedure for the simulated cooldown was lacking in sufficient detail concerning specific plant conditions required for implementation, exact equipment lineups and availability needed, evaluation of radiological consequences, limitations on the rate of cold water addition to the steam generators, and precautions to be observed in implementing the procedure and during cooldown. There appears to be a need for guidance in the preparation and review of procedures by the TSC staff (50-369/80-41-02).

6. Radiation Monitoring Teams

Onsite and offsite monitoring teams were dispatched in accordance with the provisions of the emergency plan. Some of the teams had equipment malfunctions during the exercise but these were resolved in a timely manner and there was little delay in the performance of assigned functions. Communications between the teams and the TSC were good; however, when the second base station, at the Crisis Management Center, was activated there was some confusion among the monitoring teams as to which facilty was controlling team activities. The inspector noted that the radio operators at the Crisis Management Center should refrain from unnecessary radio contact with the monitoring teams until control has actually been shifted from the TSC. Monitoring team members appeared to be familiar with their instrumentation and monitoring procedures. The inspector had no further questions in the above areas.

7. Fire and Personnel Emergency

A simulated fire in the Radwaste facility was conducted in which two individuals were simulated to have serious injuries and external radioactive contamination. The plant fire brigade responded in a timely manner and appeared to have adequate equipment for the simulated conditions. Offsite fire assistance was requested and the Gilead Volunteer Fire Department and the Cornelius Volunteer Fire Department responded. Both companies arrived at the site in minimal time, although it was noted that the offsite companies had prewarning of the assistance request. An observer noted that there was some confusion at the fire scene when both offsite fire companies arrived onsite. A licensee representative stated that the normal procedure is to hold some of the responding offsite units at the entrance to the protected area and

provide briefing and augmentation of the onsite fire team as needed from that staging point. For the purpose of this exercise all responding fire units were brought onsite, after first stopping at the usual staging point, to provide training and orientation to all responding units.

a. Health Physics Support - Since the fire was simulated in a potentially contaminated area, health physics support to the fire team was requested. Health physics personnel responded promptly and appeared to have adequate instrumentation available; however, the health physics team was unable to obtain a timely air sample to assess the extent of the airborne hazard due to the lack of power available to operate the sampler. Fire fighters wore contained air breathing gear but there was some uncertainty as to what distance from the facility there existed an airborne hazard. This area should be reviewed and appropriate action taken to insure adequate operational equipment is available to assess radiological hazards in an emergency (50-369/80-41-03).

b. Medical Support - The Plant Nurse responded to the medical emergency along with first aid personnel. Offsite medical assistance was requested and two units responded promptly. The simulated injured were stabilized and transported to Charlotte Memorial Hospital for further treatment. The inspector accompanied the ambulances to the hospital to observe the actions of emergency room personnel upon the arrival of the two simulated injured, contaminated individuals. The hospital response appeared to be well planned and was conducted efficiently. The physician in charge of the emergency room response team stated that he was pleased with the actions of all concerned. The inspector had no further questions in the above area.

c. Management Support - The coordination of activities was generally good. The Emergency Coordinator went to the scene of the fire and medical emergency, maintaining contact with the TSC by portable radio. Problems encountered in radio transmissions from the fire scene to the TSC are discussed in paragraph 5.a.(3) above. Most of the coordination of the fire and and medical emergency teams was conducted by the shift supervisor from the control room, possibly because of the communications problem noted above. There was some question as to whether all emergency actions, including the fire and medical teams, should be coordinated by the Emergency Coordinator at the TSC or by the shift supervisor as was done in this case. The plant procedures are not clear for the situation existing at the time of this simulated emergency. The above area should be reviewed and appropriate action taken to establish a clear management function in this area (50-369/80-41-04).

8. Crisis Management Center (CMC)

The Emergency Operations Facility (EOF) described in NUREG 0654 is termed the CMC by Duke Power Company. All functions of the EOF are included in the CMC plan. The CMC was activated as required by the McGuire Emergency Plan and was fully staffed in a timely manner.

a. Communications - CMC communication appeared to be good with all interfacing onsite and offsite locations. It was noted that the CMC did not have direct radio contact with the North Carolina State Emergency Operating Center at the Air National Guard Facility. A licensee representative stated that the radio system is being upgraded and that radio contact with the State should be available when that is complete. During the period just prior to the transfer of control from the TSC to the CMC, the CMC caused some confusion among the offsite monitoring teams by unnecessary conversation during routine radio operational checks as noted in paragraph 6 above. Radio operators should be indoctrinated in protocol and terminology during an emergency. Additional confusion was caused by other Duke Power Company transmissions on the emergency frequency by individuals not involved in the McGuire exercise. A licensee representative stated that this problem should be resolved with the radio system upgrade noted above. The inspector had no further questions in the above area.

b. Assessment Actions - An NRC observer noted that the technique and methodology used for potential offsite consequences appeared to be adequate and provided for sufficient verification to insure timely and accurate offsite dose projections. The inspector had no further questions in this area.

c. Facility Operations - It was noted that a status board was maintained in the Recovery Manager's office which provided adequate information and was updated regularly. It appeared that complete information on the status of the emergency was provided the staff through the status board and other postings. At the time of the declaration of both the site emergency and general emergency conditions there was some confusion and disagreement between the Emergency Coordinator in the TSC and the Recovery Manager in the CMC concerning the authority and procedure for declaring each of the two emergency classes. The procedures are not clear in this area and this functional repsonsibility and authority needs to be clarified (50-369/80-41-05).

9. Exercise Scenario

It was noted that the exercise scenario did not comply with the criteria contained in NUREG 0654, Rev. 1, Section II.N.1.a., in that there was no simulated offsite radiological release; however, the scenario was developed prior to the issuance of revision 1 to the NUREG and had been reviewed for

adequacy by Region II personnel. Since the potential release served to activate and exercise all offsite response agencies including an actual voluntary precautionary evacuation of residents it is not felt that this detracted in any way from the adequacy of the exercise to demonstrate emergency preparedness. The "actions expected" section of the scenario information sheets, distributed periodically to players, should be deleted in preparing future scenarios as the notations in this section, in a few cases, provided direction to the players involved which may not have been apparent to them in an actual emergency. Maintaining exercise continuity through the use of "key messages" appears to be a useful concept. The inspector had no further questions in the above area.