



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

Report No. 50-369/82-31

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 the McGuire site near Charlotte, NC

Inspector: R. R. Marston
R. R. Marston

4/23/82
Date Signed

Approved by: G. R. Jenkins
G. R. Jenkins, Chief
Emergency Preparedness Section
EPOS Division

9/23/82
Date Signed

SUMMARY

Inspection on August 30 - September 3, 1982

Areas Inspected

This routine, unannounced inspection involved 38 inspector-hours on site in the areas of emergency preparedness.

Results

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

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *W. M. Sample, Projects and Licensing Engineer
- *N. B. Barron, Operating Engineer
- R. M. Glover, Duke Emergency Response Coordinator
- *M. S. Glover, Emergency Preparedness Coordinator
- *T. L. McConnell, Technical Services
- T. J. Keane, Station Health Physicist
- *A. M. Deak, Assistant Chemist
- *E. B. Miller, Project Quality Assurance
- T. E. Parker, Training Supervisor
- C. M. Fish, Contract Services Coordinator
- P. E. Huntley, Health Physics Supervisor
- D. Mendezoff, Licensing Engineer
- B. McRee, Junior Health Physicist
- J. Culp, Shift Supervisor
- R. McDaniels, Shift Supervisor

Other licensee employees contacted included 1 technician and 1 operator.

NRC Resident Inspector

- P. Bemis, SRI
- *P. C. Hopkins, RI

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on September 3, 1982, with those persons indicated in paragraph 1 above.

3. Licensee Action on Previous Enforcement Matters

Licensee actions and commitments on the previously identified emergency preparedness improvement items, discussed in Duke's letter dated July 23, 1982, were reviewed. Appropriate findings are discussed in paragraphs 4 through 10 of this report.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Emergency Organization

The inspector reviewed Figure B-1, Minimum Staffing Requirements, in the Emergency Plan and noted that the Figure was in conformance with Figure B-1 of NUREG-0654. The Figure now shows initial staffing and two stages of augmentation. The two columns showing augmentation are headed - "45 minutes," and "75 minutes" rather than the NUREG-0654 criteria of 30 and 60 minutes. Discussions with licensee representatives indicated that due to initial shift staffing and expected augmentee arrival times, essential functions could be covered in a timely manner. The licensee representatives stated that existing procedures would assure full augmentation as close as possible to the 30 and 60 minute criteria, with complete augmentation within 45 and 75 minutes.

Based on the above findings, the previously identified improvement item in this area (50-369/82-06-01) is closed.

6. Emergency Plan Training

The inspector discussed the Emergency Plan training program with licensee representatives and reviewed lesson plans, lesson objectives, and class attendance lists.

a. General Employee Training

Station Directive 2.5.0, Training Program Implementation, establishes requirements for initial and recurring training for employees. The Personnel Office notifies Training of all new hires. All employees receive training in Emergency Response, Security, and Basic Health Physics. The lesson plan provides for training on a broad range of emergency conditions and responses including radiation related accidents. Based on the above findings, the previously identified improvement item in this area (50-369/82-06-05) is closed.

b. Emergency Response Training

Station Directive 2.5.1, Emergency Response Training Program, requires training annually of all Emergency Response personnel identified in the Emergency Plan, except for law enforcement personnel who are trained every two years. Training objectives and lesson plans for this program were reviewed. Based on the above findings, the previously identified improvement item in this area (50-369/82-06-02) is closed.

c. Search and Rescue

Search and Rescue operations are conducted by Fire Brigade personnel, accompanied by Health Physics personnel in radiological situations. Fire Brigade members receive annual training in Search and Rescue.

Lesson plans for the training were reviewed. Attendance rosters showed 80 people attended this phase of the training. Based on the above findings, the previously identified improvement item in this area (50-369/82-06-03) is closed.

d. Health Physics Training

Decontamination procedures have been incorporated into the Health Physics training program. The lesson plan was reviewed. The attendance rosters showed 60 people trained in 1982.

Offsite monitoring teams now receive annual training in all aspects of their role including the capability to make necessary measurements and calculations. The lesson plan for this training was reviewed. Six personnel were trained in April of this year.

Based on the above findings, the previously identified improvement items in this area (50-369/82-06-04; 50-369/82-06-06) are closed.

e. Post-Accident Sampling System Training

Fifty-three Chemistry Technicians were trained on operation of the post accident coolant sampling system. The course consisted of four hours of lecture, four hours of hands on training and a written exam.

Forty Health Physics Technicians completed training in both parts of the containment air sampling system training. Part I consisted of lecture and demonstration using both the Operation and Periodic Test Procedures. Part II consisted of the trainees performing walk-throughs of the operation of both the Sample Panel and the Control Panel. Each cycle was done twice.

Based on the above findings, the previously identified improvement items in this area (50-369/82-06-32; 50-369/82-06-34) are closed.

7. Emergency Facilities

a. Communications

Two additional commercial telephone lines were to be installed in the Crisis Management Center (CMC) for NPC use. At the time of the inspection, the installation had not been completed due to coordination problems between the licensee and the telephone company. A licensee representative called the inspector on September 9, 1982, and stated that the installation was complete. Based on the above findings, the previously identified improvement item in this area (50-369/82-06-07) is closed.

b. Post Accident Sampling Systems

The inspector evaluated this part of the licensee's program through discussions with licensee representatives and review of documentation.

The Health Physics organization had performed a time analysis of the Containment Atmosphere Sampling System operation by having technicians perform the operation according to the Procedure, while wearing protective clothing and Scott Air Packs. Radiation conditions were then postulated for several types of accidents and applied to the time analysis to determine potential doses that personnel could receive in taking samples under the various accident conditions.

Some initial estimates have been done for time and potential doses for the post accident coolant sampling system but a formal evaluation has not been completed.

The previously identified improvement item in this area (50-369/82-06-08) remains open pending completion of the evaluation related to coolant sampling.

c. Offsite Evacuation Assembly Areas

Management and control of evacuated personnel at offsite evacuation facilities was discussed with licensee representatives and Station Directive 3.8.1 was reviewed. The Station Directive specifies that the Emergency Coordinator in coordination with the Recovery Manager at the CMC shall provide instructions for further disposition of evacuated personnel and that the Recovery Manager shall provide for the care and disposition of those personnel required to remain at the evacuation facility for an extended period. Based on the above findings, the previously identified improvement item in this area (50-369/82-06-09) is closed.

8. Emergency Equipment

a. Emergency Kits

The inspector inspected the Emergency Kit at the Training Center and verified that personnel survey instruments and decontamination supplies were provided. A licensee representative stated that personnel survey instruments and decontamination supplies were also provided at Cowan's Ford Dam. Based on the above findings, the previously identified improvement item in this area (50-369/82-06-10) is closed.

The inspector inspected the Primary Access Point and the Training Center and verified that personnel survey instruments and decontamination supplies were available at both points. Replacement clothing was

also available as were plastic bags for solid waste. Licensee representatives stated that these supplies were also available at Cowan's Ford Dam. They also stated that liquid waste would go into the regular drain system and be diluted to 10CFR20 concentrations if necessary. Based on the above findings, the previously identified improvement item in this area (50-369/82-06-11) is closed.

The inspector verified that personnel decontamination supplies identified in the decontamination procedures are provided in the Auxiliary Building change room. Based on the above findings, the previously identified improvement item in this area (50-369/82-06-12) is closed.

The inspector noted that the Decontamination Procedure (Section 11.3 of the Health Physics Manual) was provided in the Decontamination Kits. Based on the above findings, the previously identified improvement item in this area (50-369/82-06-13) is closed.

The inspector reviewed Procedure PT/O/A/4600/11, Function Check of Emergency Vehicles and Equipment. The PT provides an inventory and maintenance system to assure that contents of kits are maintained and that the instrumentation is functional when needed and calibration is current. Based on the above findings, the previously identified improvement items in this area (50-369/82-06-14; 50-369/82-06-15) are closed.

The inspector reviewed the instrumentation provided in the emergency kits. G-M instruments have been provided in the Emergency Environmental and other Emergency Kits which are capable of detecting the plant personnel contamination release limits. Based on the above findings, the previously identified improvement items in this area (50-369/82-06-16; 50-369/82-06-17) are closed.

The inspector discussed the plant iodine sampling evaluation instrumentation with licensee representatives and reviewed Procedure HP/O/B/1009/06, Procedure for Quantifying High Level Radioactivity Release During Accident Conditions. The plant currently has five of the SAM-2 instrument systems for determination of airborne iodine concentrations. The SAM-2 instruments are used in the four offsite emergency kits and in the TSC emergency kit. The referenced procedure has been modified to provide a means to determine iodine concentrations using alternate instrumentation if the SAM-2 is not available. The E-520 instrument with the HP-260 probe is provided in the kits as a frisker, but the procedure provides a means of calculating iodine concentrations using this instrument. The instrument has adequate sensitivity to determine iodine concentrations as low as 1×10^{-7} $\mu\text{Ci/cc}$. Based on the above findings, the previously identified improvement item in this area (50-369/82-06-18) is closed.

b. Meteorological Equipment

The inspector reviewed PT/1/A/4600/03B and discussed the daily checks of the meteorological information with a licensee representative. Based on the above findings, the previously identified improvement item in this area (50-369/82-06-19) is closed.

The inspector reviewed calibration procedures for the equipment providing essential meteorological parameters, and reviewed a representative set of calibration results. Based on the above findings, the previously identified improvement item in this area (50-369/82-06-20) is closed.

The inspector verified that a tone alert radio was in use in the Secondary Alarm Station (SAS), and reviewed Security Procedure EXAO-12, CAS/SAS Operations. The Procedure requires a documented test of the radio once per week, and that severe weather information be recorded and passed on to the shift supervisor as soon as possible. A licensee representative stated that a weather alert radio would be installed in the control room soon. Based on the above findings, the previously identified improvement item in this area (50-369/82-06-21) is closed.

The inspector reviewed procedure PT/0/A/4600/11 and verified that it was revised to require a monthly check of Charlotte National Weather Service Station data and a comparison with plant data. Based on the above findings, the previously identified improvement item in this area (50-369/82-06-22) is closed.

The inspector inspected control room meteorological instrumentation and determined that it was readable as installed. Based on the above findings, the previously identified improvement item in this area (50-369/82-06-23) is closed.

9. Assessment

a. Dose Assessment

The inspector reviewed applicable procedures and discussed this area with licensee representatives. Procedure AP/0/A/5500/28 has been replaced by HP/0/B/1009/05, First Response Evaluation of Offsite Dose from a Reactor Coolant Leak Inside Containment, which is used as a backup to the computer code for initial dose projections. The procedure further references Procedures HP/0/B/1009/08, Evaluation of a Reactor Coolant Leak Inside Containment, and HP/0/B/1009/09, Release of Radioactive Materials Through Unit Vent Exceeding Technical Specifications. These referenced procedures provide for dose assessment as well as trend recording and analysis and cross check of dose calculations between the TSC and the Crisis Management Center (EOF). Health Physics Manual, Section 18.2, Environmental Monitoring for Emergency Condi-

tions, and Crisis Management Plan Implementing Procedure 5.3.14, Environmental Monitoring for Emergency Conditions Within The Ten Mile Radius of McGuire Nuclear Station, provide for use of offsite survey data for verification of dose assessment.

Based on the above findings, the previously identified improvement items in this area (50-369/82-06-24; 50-369/82-06-25; 50-369/82-06-26; 50-369/82-06-27) are closed.

Procedure HP/O/B/1009/04, Procedure for Estimating Food Chain Doses Under Post Accident Conditions, has been implemented. This procedure provides methods for calculation of doses ingested from the food chain. Dose assessment procedures provide for doses from airborne contamination. Based on the above findings, the previously identified improvement item (50-369/82-06-28) and Safety Evaluation Report item (50-369/81-09-09) in this area are closed.

b. Radiological Surveys

The inspector inspected the Environmental Emergency Kits and verified that labels for samples and operating instructions for the SAM-2 instruments were provided in the kits. Based on the above findings, the previously identified improvement items in this area (50-369/82-06-29; 50-369/82-06-30) are closed.

10. Emergency Procedures

a. Radiological Surveys

The inspector reviewed Health Physics Manual, Section 18.1. The procedure provided for inplant monitoring, communications, and dosimetry. Exposure control was provided for in the Emergency Plan, Section K-1, and the Health Physics Manual, Section 2.1. Under McGuire Nuclear Station's concept of conducting surveys the inplant teams will conduct surveys in the Protected Area using inplant survey procedures and the Environmental teams will conduct surveys outside the Protected Area using Offsite Monitoring Procedures. Based on the above findings, the previously identified improvement items in this area (50-369/82-06-31; 50-369/82-06-37) are closed.

The Health Physics Manual, Section 18.2 provides for emergency dosimetry for the monitoring teams and provides for turnover of transportation and equipment to relieving teams. The Crisis Management Plan Implementing Procedure 5.3.14 also provides for turnover to relieving teams. Based on the above findings, the previously identified improvement item in this area (50-369/82-06-36) is closed.

b. Chemistry

The inspector reviewed Procedure OP/O/A/6200/48, Operating Procedure for the Operation of the Post Accident Liquid Sample System. Paragraph 7.7 makes provision for chloride analysis in a post accident situation. Based on the above findings, the previously identified improvement item in this area (50-369/82-06-33) is closed.

c. Issue and Control

The inspector discussed control and issue of the Crisis Management Plan Implementation Procedures with licensee representatives and reviewed applicable documentation. The CMP Implementing Procedures were provided controlled distribution in May 1982. Procedure revisions are identified by a vertical line beside the revised material and the revision number and date are marked on each page. Based on the above findings, the previously identified improvement items in this area (50-369/82-06-35; 50-369/82-06-47; 50-369/82-06-51) are closed.

d. Evacuation

The inspector discussed station evacuation routes with licensee representatives and inspected the routes to the primary and secondary evacuation assembly areas. Security procedures also provide for Security and local law enforcement personnel to direct plant personnel to the appropriate evacuation center. Based on the above findings, the previously identified improvement item in this area (50-369/82-06-38) is closed.

The inspector discussed the evacuation time estimates with a licensee representative and reviewed the document entitled, "Evacuation Time Estimates," by PRC Voorhees. The document showed the assumptions made in preparing the estimate and a summary of the calculation methods. Based on the above findings, the previously identified Safety Evaluation Report Item in this area (50-369/81-09-05) is closed.

e. Decontamination

The inspector reviewed Health Physics Manual, Section 18.3, and determined that decontamination capability at or near the monitoring points used during a site evacuation is specified. Based on the above findings, the previously identified improvement item in this area (50-369/82-06-39) is closed.

The inspector reviewed pertinent sections in the Health Physics Manual. Section 6.1, Decontamination Precautions and Limits, specifies allowable skin contamination levels with radioiodine, and Section 11.3, Personnel Contamination Monitoring and Decontamination, provides decontamination procedures for skin contamination with radioiodine. Based on the above findings, the previously identified improvement item in this area (50-369/82-06-11) is closed.

f. Search and Rescue

Station Directive 3.8.1, Site Assembly and Evacuation, specifies rescue team organization and methodology. Search and rescue is performed by fire brigade personnel at the discretion of the Emergency Coordinator. Fire brigade personnel are trained in rescue methods and are accompanied by Health Physics personnel during radiological situations. Based on the above findings, the previously identified improvement items in this area (50-369/82-06-40; 50-369/82-06-42) are closed.

g. Security

The inspector discussed the security function during emergency conditions with licensee representatives and reviewed Security Procedures which specify security actions during emergencies. Based on the above findings, the previously identified improvement item in this area (50-369/82-06-43) is closed.

h. Repair and Corrective Action

Station Directive 3.8.2, Station Emergency Organization, discusses personnel and management and control of teams dispatched from the Operational Support Center (OSC). Health Physics Manual, Sections 16.1, 16.2, and 16.4 provide radiological safety considerations. Based on the above findings, the previously identified improvement item in this area (50-369/82-06-44) is closed.

i. Crisis Management Center (CMC) Emergency Kits

Crisis Management Plan Implementing Procedure 5.3.16 assigns responsibility for inventory of the CMC Emergency Kits. The inspector reviewed the inventory listings. Licensee representatives stated that operational checks and calibrations of instruments in the kits are done by Catawba personnel using Catawba procedures. Calibration records are also maintained at Catawba. Based on the above findings, the previously identified improvement item in this area (50-369/82-06-46) is closed.

j. Correction of References in Emergency Procedures

The inspector reviewed Health Physics Manual, Section 18.1, PT/O/A/4600/11, and Procedures HP/O/A/1009/08, 09, and 10. A reference in Health Physics Manual, Section 18.1 to "Personnel Monitoring for Monitoring Conditions," has been corrected to refer to Section 18.3. References in Procedures HP/O/A/1009/08, 09 and 10 have been corrected to reference Health Physics Manual, Section 18.2, instead of Procedure HP/O/B/1009/04. The inventory lists in PT/O/A/4600/11 for Environmental Team Kits and Fuel Handling Team Kits now list the TLDs which are provided for the kits. Based on the above findings, the previously identified improvement items in this area (50-369/82-06-48; 50-369/82-06-49; 50-369/82-06-50) are closed.

k. Audits

The inspector reviewed Section P of the Crisis Management Plan and the audit report issued by Quality Assurance for the 12/81-1/82 audit of the Emergency Preparedness program. The plan requires an annual audit of the program starting with the 4th quarter of 1981. The audit report provided results of the initial audit. The previously identified Safety Evaluation Report item in this area (50-369/81-09-06) is closed.

l. Notification

The inspector reviewed the Emergency Plan Implementing Procedures, EP/O/A/5000/05, 06, 07, and 08 and verified that the procedures now specify that prompt notification of an emergency to offsite authorities means within about 15 minutes. Two Shift Supervisors were asked about the meaning and gave satisfactory responses. Based on the the above findings, the previously identified improvement items in this area (50-369/82-06-54; 50-369/82-06-55) are closed.