



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

Report No. 50-369/81-02

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

Docket No. 50-369

Facility Name: McGuire Unit 1

License No. CPPR-83

Inspection at: McGuire, site near Cornelius, North Carolina

Inspected by:

A. F. Gibson  
for G. L. Troup

2-9-81

Date Signed

Approved by:

A. F. Gibson  
A. F. Gibson, Section Chief, FF&MS Branch

2-9-81

Date Signed

Date of Inspection: January 12-16, 1981

Areas Inspected:

This routine, unannounced inspection involved 34 inspector-hours onsite in the areas of radioactive waste management and radiation protection including effluent control, ALARA considerations, preoperational test results review and review of previously identified.

Results:

Of the areas inspected, no items of noncompliance or deviation were identified.

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## DETAILS

### 1. Persons Contacted

#### Licensee Employees

- M. D. McIntosh, Station Manager
- A. D. Harrington, Training and Safety Coordinator
- \*T. J. Keane, Station Health Physicist
- R. P. Michael, Station Chemist
- R. Propst, Radwaste Chemistry Coordinator
- B. Smith, Maintenance Supervisor
- J. W. Foster, Health Physics Coordinator
- G. F. Terrell, Health Physics Coordinator
- J. M. Ferguson, Associate Health Physicist
- R. S. Delonis, Junior Health Physicist
- M. Glover, Technical Associate
- G. Singletary, Associate Engineer
- D. Motes, Junior Engineer
- A. Batts, Assistant Engineer
- \*D. B. Lampke, Associate Engineer

Other licensee employees contacted included 2 technicians.

#### NRC Resident Inspectors

- \*T. J. Donat
- \*M. J. Graham

\*Attended exit interview.

### 2. Exit Interview

The inspection scope and findings were summarized on January 16, 1981 with those persons indicated in Paragraph 1 above. Regarding the previously identified open items concerning updating the FSAR on describing the radwaste systems, the inspector stated that the licensee would have to perform 10CFR50.59 safety evaluations for those items which are different from the FSAR description if the FSAR is not changed. The inspector also stressed the necessity of confirming the design adequacy of the stack sample probe prior to any releases of radioactive material. These comments were acknowledged by Mr. Keane.

### 3. Licensee Action on Previous Inspection Findings

Not inspected.

### 4. Unresolved Items

Unresolved items were not identified during this inspection.

## 5. Preoperational Test Results

- a. The inspector reviewed six completed preoperational test procedures. The review included verification of proper review and approval of changes, review and approval of the completed test, identification and correction of identified deficiencies, completed results and retest as appropriate after deficiency correction or modification. No discrepancies were noted.
- b. Test procedures reviewed were:
  1. TP 1/A/1450/11A & 11B, "Electric Hydrogen Recombiners"
  2. TP 0/B/1500/01, "Nuclear Solid Waste Disposal System Functional Test"
  3. TP 1/A/1450/19, "Preoperational Filter Test for Containment Purge Air Exhaust Filter Trains 1A and 1B"
  4. TP 1/A/1450/22, "Preoperational Filter Test for Containment Air Release and Addition System Filter Units 1A and 1B"
  5. TP 1/A/1450/18, "Preoperational Filter Test for Spent Fuel Pool Ventilation Exhaust Filter Train"
- c. The three test procedures for filter testing were revised to delete the charcoal absorber residence time test. A licensee representative informed the inspector that the residence time evaluation was being performed by Design Engineering as the residence time is a computation based on the physical parameters of the absorbers and is not a performance test. The inspector stated that these evaluations would be reviewed later. (81-02-01)

## 6. Radioactive Effluent Control

- a. (Open) Flow Recorder on Effluent Line (79-12-11)

This item was originally discussed in RII Rpt. No. 50-369/79-12, paragraph 10.e and dealt with the need to install a flow recorder on the liquid effluent line to determine the volume of waste released. A licensee representative informed the inspector that modification requests have been submitted to correct the response for both the liquid and gaseous recorders but the work has not been completed.

- b. (Open) Liquid Waste Monitor Too Close to Isolation Valve (79-12-12) and (Open) VCUDT Monitor too close to Isolation Valve (80-27-01)

These two items relate to a condition where the automatic isolation valve on the effluent line is too close to the in-line monitor to close in time to prevent the release of waste which is greater than the

release specification. A licensee representative informed the inspector that a remote operator is being installed on a valve downstream of both monitors. The operator will be controlled by the output signal from both monitors so that a high alarm from either monitor will shut the valve and terminate discharges. This work is incomplete.

c. (Open) Correction of FSAR on Liquid Discharge Points (78-41-01)

This item was originally discussed in RII Rpt. No. 50-369/78-41, paragraph 3 and dealt with FSAR Section 11.2.7, which states that "all liquid waste to be discharged to the environment flows through the radiation monitor following the waste monitor tanks". The FSAR has not been updated to reflect the actual plant installation with two separate discharge paths, each with a monitor.

d. (Open) Stack Design Basis of Stack Sampling Probe (78-41-02)

This item was originally discussed in RII Rpt. No. 50-369/78-41, paragraph 6 and dealt with the design basis and verification of the stack sampling probe. As stated in the report, a licensee representative made the commitment to perform a velocity profile at the stack to confirm the design basis of the probe. During the inspection a licensee representative informed the inspector that the profile had not been performed. The inspector emphasized that the profile was necessary to demonstrate that the probe design provides representative sampling of the exhaust and that such a demonstration is necessary before radioactive materials are released. This item remains open.

e. (Open) Effluent Flow Rate Monitor on the Unit Vent (79-12-13)

This item was originally discussed in RII Rpt. No 50-369/79-12, paragraph 10.g dealt with the need to install a flow rate monitor on the unit vent to measure the volume of air released so that plant effluents can be determined. Technical Specifications Table 3.3-13 requires that the vent flow rate monitor be installed by July 1, 1981 and that, in the interim, the flow rate will be determined by summing the flow measured on all inputs. The inspector asked a licensee which procedure covered the recording of the flows; the licensee representative stated that this would be reviewed, and if not already included in a procedure, would be specified.

## 7. ALARA Considerations

- a. In RII Report Nos. 50-369/78-14 and 50-369/79-12 several concerns were identified relating to arrangement of demineralizers and associated piping and other identified problems related to reducing occupational exposures. In response to a meeting held on January 5, 1979 between NRC officials and Duke Power Company, a letter, dated March 21, 1979 from Duke Power Company to Region II delineated responses to specific

concerns relating to ALARA considerations of the demineralizer arrangement and associated piping. Several of the items were previously reviewed and discussed in RII Report Nos. 50-369/80-02, paragraph 3, 50-369/80-21, paragraph 5 and 50-369/80-34, paragraph 5.

- b. The inspector reviewed the corrective actions stated in the Duke Power Company letter, discussed changes made or being made with the cognizant supervisors and toured the various areas to observe the status of the changes. The following is a summary of the previously identified ALARA Considerations.

- (1) (Open) Spent Resin Sluice Pump (79-12-03)

The shielding for the pump has not been installed.

- (2) (Closed) Shielding of Filter Housings (79-12-09)

The fabricated shields have been received and installed on the reactor coolant filters. The shields for the seal injection filters are being installed. The inspector had no further questions.

- (3) (Open) Surveillance Requirements for Snubbers (80-21-01)

Several mechanical snubbers, which were installed as replacements for hydraulic snubbers, are located in potential high radiation areas. Periodic surveillance of these snubbers would result in high personnel exposures. During the inspection a licensee representative informed the inspector that maintenance and health physics personnel had inspected the areas and had developed a list of snubbers which would be submitted for waiver of the Technical Specifications surveillance requirements.

## 8. Decontamination Facility

- (Closed) Decontamination Room Sink Valve (80-12-01)

This item was originally discussed in RII Rpt. No. 50-369/80-12, paragraph 5 and dealt with the installation of a sink drain valve in a location inaccessible for both operation and maintenance. The inspector observed that the drain valves had been replaced with a different type of valve which is more easily maintained and that the operability has been improved. After discussing the intended use of the drain valves and sink with the cognizant supervisor the inspector had no further questions.

## 9. Radwaste Addition Facility

- (Open) Exhaust Monitor Sample Lines (80-21-02)

This item was originally discussed in RII Rpt. No. 50-369/80-21, paragraph 7.b and dealt with the unsatisfactory installation of sample lines due to numerous bends and long, horizontal runs. A licensee representative



informed the inspector that the sample lines would be modified to provide adequate sampling after the facility has been turned over to Steam Production by Construction.

#### 10. Other Previously Identified Items

- a. (Open) Revise FSAR to Reflect Current Health Physics Organization (80-02-01).

FSAR Section 12.3.1 was revised by Amendment 39; however, the health physics organization described does not reflect the organization as shown in the organization chart dated January 1, 1981. The inspector stated that the organization and functions shown in the organization chart should be reflected in the FSAR description.

- b. (Closed) Specification of Job Function Requiring ANSI-Qualified Technicians (80-02-02).

A licensee representative informed the inspector that Section 7.5, "Tasks Requiring ANSI-Qualified Technicians" has been prepared and is included in the Station Health Physics Manual. The inspector reviewed Section 7.5 and had no further questions.

- c. (Open) Waste Solidification Program (80-12-05)

The Process Control Program document was approved by the Station Manager on August 21, 1980. However, procedure CP/O/B/8600/13, "Solidification and Preparation for Shipment" is in draft and has not been approved.

- d. (Closed) Assessing Containment Activity (80-26-07)

The inspector reviewed procedure HP/O/B1009/02, "Alternative Methods for Determining Dose Rate within the Reactor Building" and discussed the bases for the alternative methods with the preparer. The inspector had no further questions. This item is closed.

- e. (Open) Containment Atmosphere Monitors Installation (80-27-02)

A licensee representative informed the inspector that a design change has been authorized which will install larger sample lines and reroute the lines to reduce the overall length and eliminate many bends. Work on this change has not started.

#### 11. TMI Action Plan Requirements

- a. NUREG-0694, "TMI-Related Requirements for New Operating Licenses" and NUREG-0737, "Clarification of TMI Action Plan Requirements" specify requirements and schedules for implementing the TMI Action Plan modifications/requirements. Item II.F.1 requires that procedures for estimating gaseous releases if the effluent monitors are off scale be

prepared. Item III.D.3.3 requires that means be provided to determine the presence of radioiodine in plant areas without installed monitors.

- b. The inspector reviewed procedure HP/O/B/1009/06, "Procedure for Quantifying High Level Gaseous Radioactivity Releases During Accident Conditions". The inspector noted that the procedure did not include provisions for determining the particulate release rate and had questions concerning the determination of radioiodine releases. Change 1 to the procedure, which was approved on January 1, 1981, incorporated the particulate release determination and resolved the other comments. The inspector had no further questions.
- c. The inspector reviewed procedure HP/O/B/1009/12, "In Plant Particulate and Iodine Monitoring Under Accident Conditions". The inspector had no questions on the procedure and stated that availability of equipment would be verified during a later inspection.