



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

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Report No. 50-369/80-01

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

Facility: McGuire Nuclear Station

Docket No. 50-369

License No. CPPR-83

Inspection at McGuire Nuclear Station, Lake Norman, North Carolina

Inspector: *R. D. Martin for* *4/2/80*  
T. J. Donat Date Signed

Approved by: *R. D. Martin* *4/2/80*  
R. D. Martin, Section Chief, RONS Branch Date Signed

SUMMARY

Inspection on February 5-8, 1980

Areas Inspected

This routine, unannounced inspection involved 25 inspector-hours on site in the areas of Preoperational Test Program Assessment, review of previous inspection findings, and review of plant licensing status.

Results

Of the 4 areas inspected, no items of noncompliance or deviations were identified.

## DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*M. D. McIntosh, Station Manager
- \*W. M. Sample, Technical Services Engineer
- \*G. M. Cage, Superintendent of Operation
- \*D. J. Rains, Superintendent of Maintenance
- \*L. E. Weaver, Performance Engineer
- \*M. E. Pacetti, Test Engineer
- \*D. M. Franks, Site Quality Assurance Engineer
- \*D. B. Tompke, Assistant Engineer
- G. A. Copp, Associate Engineer, Licensing
- D. C. Holt, System Engineer, Licensing

Other licensee employees contacted included operators, mechanics and office personnel.

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on February 8, 1980 with those persons indicated in Paragraph 1 above. The inspector summarized the areas inspected and the status of the plant's construction, testing and licensing activities. The licensee discussed his intention with respect to issuing site emergency procedures and his need for a written description of the role and size of the NRC response in the event of a radiological emergency.

### 3. Licensee Action on Previous Inspection Findings

Not inspected.

### 4. Unresolved Items

Unresolved items were not identified during this inspection.

### 5. Preoperational Test Program Status

The inspector reviewed the status of the preoperational test program on Unit 1 and the tentative schedule of the remaining preoperational tests. As of February 1, 1980, the status of the preoperational test program was:

- a. Six of nine tests common to both units have not been completed although all have been started.

- b. Of the Unit 1 preoperational tests to be done before fuel loading (165 tests)
- 98 tests are completed and in final record storage.
  - 6 tests have been completed and are in the review process before being entered into the record storage vault.
  - 5 tests have been completed but need deficiency resolution before being submitted for final review.
  - 11 tests are awaiting the next hot functional test program in order to have plant conditions necessary for their repetition or completion.
  - 16 tests are in progress at the present time.
  - 15 tests are waiting for plant conditions or system turnovers before they can be performed.
  - 6 tests involve nonsafety related equipment
  - 8 tests have not been written and/or approved for performance.
- c. The integrated ESF functional test, TP/1/A/1200/03/A is presently scheduled for the week of February 18, 1980. The hot functional test program will be repeated starting the week of May 5, 1980.

6. Review of Previous Open Items

- a. Open Item 79-39-01, concerned the performance of the normal operating pressure blowdown of the Unit 2 Upper Head Injection accumulators. The licensee indicated that performance of this test on Unit 1 had resulted in some damage to the disks and seats of the Unit 1 isolation valves.

In inspection report 79-39 the inspector acknowledged the vendor had, in a letter dated November 5, 1979, identified to the licensee revised acceptance criteria for the low pressure blowdown test. Meeting only this revised criteria would mean that the piping and flow resistance of the Unit 2 Upper Head Injection system was sufficiently similar to the Unit 1 installation that level setpoints established for Unit 1 would also be applicable to Unit 2. The vendor therefore recommended that the licensee delete the high pressure blowdown test. The inspector noted in his report that, as described in Regulatory Guide 1.79, the verification of isolation valve operation under maximum differential pressure conditions had not been addressed by the vendor or by the licensee.

The licensee has stated that they do not agree to the applicability of regulatory guide 1.79 in this case, but felt that a modified test

program to verify that the isolation valves closed within an acceptable time and that seat leakage measurement under maximum differential pressure after closing would be acceptable. The inspector stated he would present the problem to headquarters for their resolution. Pending further guidance this will still be followed as open item 79-39-01.

- b. Open Item 78-35-01 concerned thermal expansion and snubber measurements during the hot functional test program. The licensee asked the inspector what inspection requirements existed for snubber displacement during hot functional testing and during plant operation. The inspector and licensee found that this item had already been discussed previously in inspection report 78-35 where it had been suggested that both cold and hot positions be verified initially as well as overall operability. The need for the licensee to determine the total movement of the high energy piping systems as well as all systems inside containment was identified by the inspector. Also the licensee's FSAR commitments for a thermal expansion measurement program were reviewed. The inspector arranged to have TVA-Sequoyah personnel release a copy of their thermal expansion measurement test procedure and forward it to Duke Co.-McGuire Station personnel. The licensee agreed that a detailed thermal expansion measurement program could yield significant engineering information and that they would perform a detailed review of the TVA-Sequoyah procedure. The inspector stated he would consider thermal expansion measurement procedures as an open item 80-01-01 to be followed during subsequent inspections.

7. Review of NUREG 0660 "Near Term Operating List" Subset

The inspector met with plant management and corporate licensing personnel to assess their perception of the NUREG 0660 TMI-2 Task Action Plan subset of the NTOL requirements. The licensee had a copy of draft 1 dated 12/15/79 of the document and the discussion used it as the reference. The following is a synopsis of the licensee's comments:

- a. The shift technical advisor function could be adequately filled by a person with a Senior Reactor Operator license after he had received additional education in thermodynamics, test transfer, and plant dynamics.
- b. Shift Manning - The licensee feels that some special recognition should be given to facilities with common/adjacent control rooms as is the case at McGuire. The need for a licensed Senior Reactor Operator and a licensed Reactor Operator to be always present in the control room (for each unit) results in four people always being confined to the control area, which the licensee felt was unnecessary.
- c. Shift Overtime - The licensee was not certain whether the NRC intended the twelve hour shift limitation to include the time spent in operator training and qualification.

- d. Safety Engineering Group - The reporting path for this group should be directly to the plant manager. Also it appeared that its function was sufficiently similar to the plants' "Safety Review Committee", so that the latter's review function should be included with the new group's charter.
- e. Vendor Review of Procedures - The question of whether the vendor should be reviewing licensee abnormal operation procedures, as well as emergency procedures, was raised.
- f. Low Power Testing and Training - The licensee stated that this item needed extensive development before they could comment on whether such training/testing would be needed at McGuire.
- g. Containment Inerting - the licensee stated that this question had been under study by their engineering group and several problems had been identified. Specific problems included (1) increased melting and sublimation rates for the ice beds due to the needed to purge and refill the containment during any outage when personnel were inside the containment, (2) expense of maintaining inerting blanket inside containment, (3) maintenance activities would probably be deferred until absolutely necessary and (4) unresolved question of whether all electrical operators and motors would have the same service ratings in an inerted atmosphere. The licensee also stated that consideration should be given to the difference in the volume of the ice condenser containment versus the G. E. Mark 1 and Mark 2 containments before any decisions on inerting is made.
- h. Communication - The licensee stated that more detailed information concerning the number of dedicated telephone circuits to the NRC will be needed in the control room and at other locations throughout the plant.
- i. Role of the NRC in Emergencies - The licensee stated that in preparing his site radiological emergency procedures information was needed concerning the number of NRC personnel who would constitute the initial response team and what these functions would be so that they could be accounted for when assessing space requirements for the technical support center, the onsite operational support center, and the near site emergency operations center.
- j. Revised Scope and Criteria for Licensing Exams - The licensee stated that two groups of operators were in the process of obtaining their licenses. The first group had taken written examinations on January 31 and February 1, 1980, while the second were scheduled for their written exams in April 1980. The licensee stated he was concerned whether the first group would be required to take new written exams. The inspector contacted personnel in OLB division of ONRR and was informed that the first group of McGuire operator license candidates would not have to take new written exams since the additional material would be reviewed during the oral and walkdown portions of the licensing reviews.