



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

Report No. 50-369/81-10

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 site near Charlotte, North Carolina

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|--------------|---------------------------------------|----------------|
| Inspectors: | <u>T. J. Donat</u> | <u>3/23/81</u> |
| | | Date Signed |
| | <u>M. J. Graham</u> | <u>3/23/81</u> |
| | | Date Signed |
| Approved by: | <u>J. Bryant</u> | <u>3/24/81</u> |
| | J. Bryant, Section Chief, RRPI Branch | Date Signed |

SUMMARY

Inspection on February 9, through March 13, 1981

Areas Inspected

This routine, inspection involved 184 resident inspector-hours on site in the areas of Periodic Surveillance testing, precritical plant testing, test procedure review, observation of licensed operator activities, and followup on previous Inspection findings.

Results

In all of the areas inspected, no violations or deviations were identified.

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DETAILS

1. Persons Contacted

Licensee Employees

- M. D. McIntosh, Plant Manager
- G. Cage, Operations Superintendent
- W. M. Sample, Licensing and Project Engineer
- T. Weonec, Performance Engineer
- M. Pocetti, Chairman SSRG
- D. Marquis, Associate Reactor Engineer
- G. Boyle, Test Engineer Unit 2
- J. Lukowski, Associate Test Engineer Unit 1
- *D. Bradshaw, Operating Engineer
- *C. Fish, Contract Services Coordinator (Southern Security Services Representative)
- *D. Lampke, Associate Projects and Licensing Engineer

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

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on March 13, 1981 with those persons indicated in Paragraph 1 above. The licensee acknowledged the inspector's concerns about who should act as the "fire watch" in cases where a fire barrier, such as a door, is rendered inoperable for reasons other than a specific work request (See paragraph 10). The licensee also made commitments to submit Radiation Protection program technical specification changes - see paragraph 12.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Seismic Shock Suppressor Test Program

The inspector audited the licensee's shock suppressor test and qualification program. The audit was divided according to the type of suppressor mechanical versus hydraulic. For the mechanical shock suppressors the inspector reviewed the daily inspection summary sheets which lists the hanger ID number, snubber size and serial number, piston setting, signoffs

by maintenance and Quality Assurance that the snubber was successfully stroked, and signoffs for proper reinstallation and piston settings. Next the inspector reviewed Pacific Scientific's letter dated December 19, 1980, which certified that all mechanical shock arrestors had been successfully tested prior to shipment and which provided the acceptance criteria.

The testing of the hydraulic shock arrestors is being controlled by MP/O/A/7650/46, /50, and /51. The inspector accompanied a crew as they removed, tested, and reinstalled hydraulic shock arrestors MCA-NV-303 and 306. The inspector observed use of the test bench and results verification by Q/C inspectors. The data recorded for each device included final lockup velocity and bleedrate, and that final installation was in accordance with the required hanger drawing. The acceptance criteria for all hydraulic snubbers is that final lockup velocity be between 6.0 and 8.0 in/min and that final bleedrate between 3.0 and 4.0 in/min. These valves allow compartment temperatures in excess of 185°F before approaching the 40 in/min maximum lockup velocity used by design engineering. The inspector also reviewed the engineering memorandum stating that the 40 in/min was an acceptable value.

The inspector reviewed the shock arrestor packages for the CA, ND, NI, and NV systems and the computer printout of all shock arrestors to insure that the licensee was tracking on which arrestors remained to be tested before a system could be declared operable.

Based on this audit, the inspector considers that Inspector Followup Item 78-35-03 is closed and that the requirement of license condition 2.c.(17).a, .b, and .c have been satisfactorily verified.

6. ESF Reset Functional Verification

The inspector reviewed preoperational test procedure TP/1/A/1200/03I, "ESF RESET FUNCTIONAL TEST", for compliance with station directive 3.2.2 and 4.2.1, and Regulatory Guide 1.68, Rev 0. The inspectors independently reviewed the proposed valve lineup and verified prerequisites 8.1 and 8.7 on SSPS inputs being inhibited and train A ESF loads in test position.

The test was conducted on TRAIN "A" ESF equipment on February 24-25. Numerous pieces of equipment did not perform as expected. Modifications were made to the control for NV-459 (Variable letdown valve), CF-30 and 35 hydraulic motors (Main Feedwater Isolation valves), CA-56 through 60 (auxiliary Feedwater Isolation valves), and SM-1, 3, 5 and 7 (Main Steam Isolation Valves). The effect of the proposed changes was to make the following generic resets (i.e., nothing changes after reset is actuated but allows component resets and control of pumps): SI Reset, Containment Phase A Reset, Containment Phase B Reset, MSIV Reset, Diesel Generator Load Sequence Reset.

The following component resets would not be activated until after the generic resets had been accomplished:

MSIV Bypass Valve Reset
 Main Steam POR Valve Reset
 Feedwater Reset
 VC/YC Reset
 VX/VX Key Switch Reset

and they would cause their associated valves to return to their pre-Safety Injection position.

The test was repeated on March 5 and 6 and was successfully completed for Train A. Numerous test deficiencies were identified for Train B, which were corrected and retested on March 16, 1981. The inspector monitored all of the testing done on February 23 and March 5-6 and observed parts of the retest done on March 16.

Based on the completion of the ECF reset test license condition 2.c.(12) for initial criticality is considered to have been satisfactorily met.

7. Preoperational Testing

The inspector also reviewed and observed portions of the following rod control and reactor protection system preoperational tests:

TP/1/A/2600/05 Rod Control System Alignment Test
 TP/1/A/2600/06 Full Length Rod Drive Timing Test
 TP/1/A/2600/07 Rod Drop Time Measurement
 TP/1/A/2600/09 RPS Setpoint Verification

The last test was reviewed against the values listed in T.S.2.2.1, T.S.3.3.1, and TS.3.3.2, as well as the plant's "Precaution, Initiation, and Setpoint" document.

The inspector had no comment on the procedures or test conduct.

8. Monitoring of Licensee Activities

a. Plant Evaluation

The inspector observed the following licensee activities during this period:

- Setting the Upper Internals Assembly into the Reactor Vessel.
- Setting the Reactor Vessel head in place.
- Torquing Reactor Vessel head closure bolts.
- Disassembly and Reassembly of Reactor Coolant Pump 1D (NCID).

The inspector observed that the cleaning of the gasket setting surfaces for NCID was being performed using "Scotchpad" abrasive. This material

was not listed in Station Directive 2.4.1, "Control of Surface applied Material Usage" as being acceptable for use inside the reactor coolant systems. This was brought to the attention of the maintenance supervisor who stated that it was being used as an abrasive which was not listed per the station directive. He instructed that it be followed by a wipe down using Spotcheck SKC-5 and lint free cloths and a test for residual fluoride and chloride contamination. A review of the data sheets from the contamination tests showed that in all cases the chloride levels were acceptable.

b. Plant Surveillance Testing

The inspector monitored the performance of PT/1/A/4450/06A and 06B on the VX system and PT/1/A/4252/01B on the B train motor driven auxiliary feedwater pump. The inspector checked valve lineups and made duplicate recordings of plant parameters in order to check the licensee's procedure. The inspector's findings were clear in this area.

9. Post ESF Reset Functional Test Problems

Two problems were encountered during and after the performance of the ESF Reset Functional Test on March 6, 1981. The first item was that when the train B ESF actuation occurred at about 2:45 a.m., a partial loss of station security systems occurred. The systems were recovered at about 4:00 a.m. when SI Reset/Diesel Generator Reset occurred. Investigation by the licensee showed that a fuse had blown on March 4, causing the B Security Train static power switch to go to the Alternate Source position and to give the security operator in the CAS a "Power Train B - Trouble" message. According to the information available one week after the occurrence, all train B equipment had been lost and possibly some train A CCTV monitors. The licensee has committed to investigate this event and provide a written report to the commission in accordance with 10 CFR 70.73. The inspector voiced his concern that the "Power Train B - Trouble" message was on the security operator's CCTV screen for almost two days and no action was initiated. The licensee stated that this would be addressed in his report.

The second problem occurred when securing from the test. The onshift operations crew, crew E, when told that they could restore the train B ESF components, failed to reclose the control power breaker for the train B diesel generator. Later on the same shift, the crew isolated train A of nuclear service water; thereby making the A train diesel generator inoperable. At this point, both diesel generators were inoperable and the licensee was in the action statement of T.S.3.8.1.2. This fact was not recognized by the licensee until the next shift, when they tried unsuccessfully to perform a test of the B train diesel generator. The inspector stated that his concern was that the crew did not recognize the status of the equipment at the conclusion of a preoperational test and on the need to verify second train operability before putting a train out of service. The licensee responded that actions have been taken to alert all crews about insuring all equipment is fully restored after completion of a test and to

perform the periodic test to verify operability prior to taking the second train out of service.

10. Fire Barriers

It was brought to the resident inspectors attention that the fire door between the Unit 1 and 2 cable rooms has been open for several days with a security guard posted. When asked if he was also the fire watch, the guard said he was not. Subsequent investigation revealed that the fire barrier door is also a security door, CAD 404, and had been opened and left open because the security system associated with it was inoperable. The inspector also discussed with several guards and their supervisors what their role is at a door check point. In every case they said it was not to act as a fire watch. The inspector requested the licensee and the security force resolve who will provide the fire watch when a fire barrier is rendered inoperable by something other than a specific work request, in which case the organization initiating the work request will provide the fire watch. The inspector also requested that the licensee provide documentation that all personnel used as a fire watch have received training. This is considered Inspector Followup Item 81-10-01.

11. Licensing Hearings

Public hearings for a full power license began in Charlotte on February 24, 1981, and have continued throughout the inspection interval. The inspectors have monitored the progress of the hearings, attended some sessions, and provided assistance to the NRC staff when requested. On March 6, 1981, the resident inspector conducted several of the staff members on a tour of the McGuire facility.

12. Radiation Protection

The inspectors and members of the licensee staff discussed the Technical Specifications related to releases to the environment, and the licensee's intended practices. The licensee called to the attention of the inspector two problems in the Technical Specification. In table 4.11-1, sampling of batch releases from the waste monitor tanks is described. Releases from the recycle monitor tanks are not included in the discussion. Discharge from these tanks to the environment is shown in the FSAR to be via the same discharge line as the waste monitor tanks. The licensee has committed to treat releases from any of the four tanks in the manner described in Table 4.11-1 for the waste monitor tanks. In addition, the licensee noted that in Table 3.12-1, milk sampling is required semiannually when the cows are on pasture. According to both industry practice and the Standard Technical Specification, normal sampling frequency when cows are on pasture is every fifteen days. The licensee has been sampling milk at that frequency, and has committed to continue to do so. Both of these problems have been called to the attention of NRR, which will correct the McGuire Technical Specifications prior to issuance of a full power license.