



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA STREET, N.W.
 ATLANTA, GEORGIA 30323

Report Nos.: 50-369/92-03 and 50-370/92-03

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

Docket Nos.: 50-369 and 50-370

License Nos.: NPF-9 and NPF-17

Facility Name: McGuire 1 and 2

Inspection Conducted: January 27-31, 1992

Inspector: J. J. Lenahan 3/2/92
 J. J. Lenahan Date Signed

Approved by: J. J. Blake 3/4/92
 J. J. Blake, Chief Date Signed
 Materials and Processes Section
 Engineering Branch
 Division of Reactor Safety

SUMMARY

Scope:

This routine, unannounced inspection was conducted in the areas of snubber surveillance, inservice inspection (ISI), instrumentation maintenance procedures, and design changes and modification.

Results:

In the areas inspected, violations or deviations were not identified. A minor weakness was identified in the licensee's maintenance procedure for installation of instrument line compression fittings in that the procedure lacked detailed instructions for installation and inspection of the fittings - paragraph 2. A weakness was also identified in the material conditions in the Unit 2 annulus area - paragraph 5.b. An unresolved item concerning pipe support discrepancies is discussed in paragraph 5.b.

The ISI program shows evidence of prior planning through well-stated procedures for control of ISI activities. Staffing and qualification of ISI personnel was adequate. A strength was identified in the licensee's snubber functional testing program.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *C. Bearden, ISI Supervisor
- *F. Bulgin, NDE Supervisor
- *B. Fulbright, Maintenance Engineer
 - L. Kunke, Compliance Engineer
 - F. Martin, Civil Engineer
- *T. McConnel, Station Manager
- *T. Moore, Project Engineer
- *K. Mullen, Compliance Engineer
- *J. Pope, I&E Superintendent
- *R. Sharpe, Regulatory Compliance Manager

Other licensee employees contacted during this inspection included craftsmen, engineers and quality assurance personnel.

NRC Resident Inspectors

- *P. VanDoorn, Senior Resident Inspector
- *T. Cooper, Resident Inspector

*Attended exit interview

2. Review of Maintenance Procedures - Units 1 and 2 (62700)

The inspector examined procedure number IP/O/A/3090/05, Installation and Maintenance of Instrument Line Fittings and Tubing. This procedure covers the licensee's requirements for installing and maintaining instrument line fittings and tubing. Review of the procedure disclosed that the procedure did not specify the manufacturer's complete instructions for installation of compression fittings. Requirements not specified in the procedure are the recommendation for scribing fitting nuts prior to tightening them; precautions regarding orientation of ferrules; requirements for use of gap inspection gages; and precautions against bleeding systems by loosening fitting nuts. Discussions with Instrument and Electrical (I&E) supervisory disclosed that the above procedure will be reviewed and revised as required to incorporate lessons learned from the November 23, 1991 instrument line compression fitting failure at Oconee. The lack of complete compression fitting installation instructions in Procedure IP/O/A/3090/05 was identified to the licensee as a minor weakness in the maintenance procedure.

Within the areas inspected, deviations or violations were not identified.

3. Design Changes and Modification - Units 2 (37700)

The inspector examined plant modifications being implemented during the current Unit 2 refueling outage. Work observed was as follows:

- a. NSM MG-22291, Install Platform Between Steam Generators. This modification involves the construction of structural steel platforms at elevation 745 between steam generators A and D and between steam generators B and C to facilitate maintenance. The inspector walked down the work area and examined the platforms. With the exception of grating, installation of the platforms was complete. The inspector examined drawing numbers MC-1070-42, Revision A, and MC-1070-43, Revision A, and Variation Notices MC 3213, 3234, 3266 and 3283 and verified the structural steel supports for the new platforms had been installed in accordance with design requirements.
- b. NSM 2275, Install Lower Containment Access Platforms at Elevation 769-6. This modification involves the construction of platforms on the inside of the crane wall at elevation 769-6 to provide access to equipment in lower containment during maintenance activities. The inspector walked down the work area and examined portions of the platform completed to date. The inspector examined drawing numbers MC-1051-135, through MC-1051-139 and variation notices MC-2586, MC-2682, MC-2699, MC-2702, MC-2703, MC-2709, and MC-2751, and verified the structural steel supports for the new platforms completed as of the inspection date had been installed in accordance with design requirements.
- c. Service Level I Coatings Repair. During an outage in 1990, licensee engineers discovered that the coatings had failed on the steel containment vessel adjacent to the concrete floor slabs at elevation 738 and 766 in the Unit 1 containment building. The coatings which failed were covered with a cork expansion joint material, which filled an annulus space approximately two inches wide between the steel vessel and the three foot thick concrete floor slabs. The cork material retained moisture which caused failure of the coatings. These cork materials were removed during the Unit 1 refueling outage in Fall 1991. The inspector examined the work during an inspection documented in NRC Inspection Report number 50-369/91-23. During the current Unit 2 refueling outage the licensee is removing the cork materials from the same areas in Unit 2 to inspect the coatings. The inspector examined the coatings in the areas where the cork had been removed. The inspector noted that the coatings appeared to be slightly stained in these areas, but over all were intact and appeared to be serviceable. The inspector did not observe any areas of corrosion on the vessel where the cork had been removed. The licensee plans to conduct a detailed inspection of the coatings to determine if any repairs are required to restore the coating to meet Service Level I requirements.

Within the areas inspected, violations were not identified.

4. Snubber Surveillance Program - Unit 2 (70370)

The inspector observed functional testing of safety related snubbers. Acceptance criteria utilized by the inspector appears in Technical Specification 3/4.7.8, sections e and f. The inspector reviewed procedure MP O A 7700 001, Functional Testing of Mechanical Snubbers. This procedure contains instructions for functional testing of the snubbers using the new, state-of-the-art API snubber test bench and specifies functional test acceptance criteria. The new snubber test bench has the capability of testing all four types of snubbers used onsite. The inspector observed testing of the snubbers listed in the table below.

TABLE

Snubber Functional Testing

<u>Support Number</u>	<u>Serial Number</u>	<u>Size</u>
2-MCA-CA-5207	01181	PSA 1/2
2-MCR-NC-4332	13016	PSA 1/2
2-MCR-S-NC-151-01-G	10420	PSA 1/2
2-MCA-S-ND-503-01-M	07248	PSA 1/2
2-MCA-NV-5010	11221	PSA 1/2
2-MCR-S-KC-171	14227	PSA 1/2
2-MCR-S-NI-150-05-BB	05465	PSA 1/2
2-MCA-NV-7016	01829	PSA 1/2
2-MCR-NV-4246	10997	PSA 1/2
2-MCA-BB-5360	06391	PSA 1/2
2-MCR-NV-4225	03589	PSA 1
2-MCA-BB-5108	03786	PSA 1
2-MCR-NV-4048	05241	PSA 1
2-MCR-NC-4297	03696	PSA 1
2-MCR-NV-4060	03580	PSA 1

<u>Support Number</u> (cont'd)	<u>Serial Number</u>	<u>Size</u>
2-MCR-NI-4549	03600	PSA 3
2-MCA-CF-H204	05731	PSA 35

The results of the functional tests performed on the snubbers listed above met the acceptance criteria. The inspector also reviewed the test results from support number 2-MCA-NV-5817 (S/N 11027), 2-MCA-NV-3170 (S/N 05464), 2-MCR-ND-6405 (S/N 11574), and 2-MCA-BB-5219 (S/N 3549). One snubber, a size PSA-1, from support 2-MCA-BB-5219 failed the acceleration portion of the functional test. The other three snubbers were acceptable. In accordance with TS 4.7.8.e.2 and Figure 4.7-1, because of the snubber functional test failure, the licensee selected an additional sample of 18 snubbers for functional testing.

Within the areas inspected, violations or deviations were not identified.

5. Inservice Inspection - Units 1 and 2 (73753)

The inspector examined procedures and quality records and observed work activities related to the inservice inspection (ISI) program for safety related pipe supports. The applicable code for ISI in the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, 1980 edition, with addenda through Winter, 1980. The ISI exams are being conducted by Duke personnel.

a. Review of ISI Program/Procedures - Units 1 and 2

The inspector examined the following procedures which control ISI activities:

- (1) Procedure OCL-13, ISI Visual Examination VT-1.
- (2) Procedure QAL-14, ISI Visual Examination, VT3 and VT4.
- (3) Procedure QCL-15, ISI Visual Examination, VT-2, Pressure Test.
- (4) Procedure NDE-25, Magnetic Particle Examination Procedure and Techniques.
- (5) Procedure NDE-35, Liquid Penetrant Exam.
- (6) Procedure MF O A 7650 55, Controlling Procedure for Hydrostatic Testing of Class B and C Systems.

The inspector verified the procedures were consistent with regulatory requirements and licensee commitments. The inspector also verified the procedures were approved, contained requirements for

qualification of ISI personnel and compilation of required records, contained sufficient instructions for performance of exams/inspections, and specified inspection acceptance criteria.

b. Observation of ISI Activities - Unit 2

The inspector observed visual (VT) inspections performed on selected supports on the VQ system (containment air release and addition system) in the Unit 2 annulus. The visual examinations observed were those performed on support numbers 2 MCR VQ-4002, and 4509 through 4513. The inspector verified that the visual exams were conducted in accordance with procedural requirements. No defects were identified on support numbers 2 MCR-VQ-4509 through 4513. The licensee ISI inspector identified some discrepancies on hanger number 2 MCR-VQ-4002, which were documented in accordance with procedural requirements, and transmitted to engineering for evaluation. The inspector also walked down portions of the reactor coolant (NC) and safety injection (NI) systems in Unit 2 containment and performed an independent examination of pipe supports which had been examined during the current refueling outage under the licensee's ISI program. Supports examined were as follows: 2 MCR NI-4556 (a hydraulic snubber), 2 MCR-NC-4001 (a spring can), 2-MCR-NI-4548 (two mechanical snubbers), 2 MCR NI-4552 (a mechanical snubber), 2 MCR-NI-4553 (a rigid support), 2 MCR NC 4091 (a mechanical snubbers), 2 MCR NC 4092 (a hydraulic snubber) and 2 MCR-NC-4227 (a combination support with 2 mechanical snubbers and one spring can). The inspector did not identify any defects with these supports. The inspector checked the settings of spring cans and mechanical snubbers and cross checked them against setting data noted in ISI records recorded by licensee ISI personnel. No discrepancies were noted.

During the walkdowns the inspector noted discrepancies with other hangers. These included a missing snap ring on a snubber pin on support number 2-MCR-NM-4530, a bent hanger rod on a spring can on support number 2-MCR-NI-150-08-P, and installed travel stops in the spring can on support numbers 2 MCR NC-4901. The travel stops were held in place with duct tape. Subsequent to completion of the inspection, the licensee provided a copy of Work Request (WR) 04749D PM to the senior resident inspection. This WR was written to performed maintenance on a valve. The travel stops were installed and removed under this WR as part of the valve maintenance. The licensee wrote WR number 507230 and 507231 to correct the problems identified with hanger numbers 2 MCR-NM-4530 and 2-MCR-S-NI-150-08-P. The inspector will examine the safety significance of these two discrepancies in a future inspection. Pending completion of corrective actions and further review, this problem was identified to the licensee as Unresolved Item 370/92-03-01, Pipe Support Discrepancies.

During the walkdown in the Unit 2 annulus area, the inspector noted that insulation on elbows on piping at approximately azimuth 225° for the ice condenser system were in a deteriorated condition, resulting in condensation which was accumulating on pipe supports. This problem could lead to corrosion of supports and damage to other components in the annulus. The inspector also noted some minor corrosion on welds on some other pipe supports in the annulus, and some corrosion on the containment vessel horizontal stiffener rings. These problems are considered to be a minor weakness in the material condition in the maintenance of hardware in the annulus area. During the walkdowns in the Unit 2 containment building, the inspector noted that grating on some existing platforms (not the new platforms discussed in paragraph 3, above) had not been secured with grating clips or tack welds. This is also an indication of poor material conditions.

c. Review of Quality Records - Unit 2

The inspector reviewed the ISI examination reports compiled for the supports inspected under the ISI program as of the inspection date during the current refueling outage. The inspector noted the reports were complete and were pending final review by the licensee. The inspector also reviewed problem investigation report (PIR) number 2-M92-0003, 0005, 0007, 0008, 0010, 0014, 0015, 0016, and 0021 which document problems identified with pipe supports under the ISI program.

Within the areas inspected, violations or deviations were not identified.

6. Exit Interview

The inspection scope and results were summarized on January 31, 1992, with those persons indicated in paragraph 1. The inspector described the areas inspected and discussed in detail the inspection results listed below. Proprietary information is not contained in this report. Dissenting comments were not received from the licensee.

Unresolved Item 370/92-03-01, Pipe Support Discrepancies.