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

Report Nos. 50-413/83-55 and 50-414/83-41

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

Facility Name: Catawba Nuclear Station Units 1 and 2

Docket Nos.: 50-413 and 50-414

License Nos.: CPPR-116 and CPPR-117

Inspection at Catawba site near Rock Hill, South Carolina

Inspectors: G. J. Ignatonis for D. K. VanDoorn — 2/22/84 Date Signed

G. J. Ignatonis for P. H. Skinner — 2/22/84 Date Signed

Approved by: H C Dance /for V. L. Brownlee, Section Chief, Division of Project and Resident Programs — 2/23/84 Date Signed

SUMMARY

Inspection on December 1-25, 1983

Areas Inspected

This routine unannounced inspection involved 202 inspector-hours on site in the areas of preoperational test program implementation, maintenance observation, preoperational testing of Unit 1, operational staffing, fuel receipt and storage implementation, plant tours and participation in licensing hearings.

Results

Of the seven areas inspected, no violations or deviations were identified in six areas; one violation was found in one area (Violation - failure to fully implement regulatory position of qualification requirements for QA inspection personnel (50-413/83-55-01, 50-414/83-41-01) - Paragraph 8).

REPORT DETAILS

1. Persons Contacted

Licensee Employees

J. O. Barbour, QA Manager, Operations
W. H. Bradley, Operations Quality Assurance
*J. W. Cox, Technical Services Superintendent
T. E. Crawford, Operations Engineer
*C. W. Graves, Operations Superintendent
J. W. Hampton, Station Manager
C. L. Hartzell, Licensing and Projects
W. O. Henry, QA Manager, Technical Services
P. G. Leroy, Licensing Engineer
W. R. McCollum, Performance Engineer
*G. B. Robinson, QA Inspector
G. T. Smith, Maintenance Superintendent
J. W. Willis, Senior QA Engineer

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

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on December 27, 1983, with those persons indicated in Paragraph 1 above. Licensee management acknowledged the inspector's findings.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations. New unresolved items identified during this inspection are discussed in Paragraph 10.

5. Independent Inspection Effort (71302)

The inspector conducted tours of various plant areas. During these tours various plant conditions and activities were observed to determine that they were being performed in accordance with applicable requirements and procedures. No significant problems were identified during these tours and the various evolutions observed were being performed in accordance with applicable procedures.

6. Preoperational Test Program Implementation (70302) (Unit 1)

The inspector reviewed, in part, the implementation of the preoperational test program. Test program attributes inspected included review of administrative requirements, document control, documentation of major test events and deviations to procedures, operating practices, instrument calibrations, and correction of problems revealed by the test.

Specific activities reviewed included a partial review of the following test procedures:

TP/1/A/1100/01	Controlling Procedure for Hot Functional Testing
TP/1/A/1200/18	Upper Containment Personnel Airlock Leak Rate Test
TP/1/A/1550/3A	New Fuel Assembly Handling Fixture Preoperational Test
TP/1/A/1550/3B	New RCC Handling Fixture Preoperational Test
TP/1/A/1550/03D	Checkout of Spent Fuel Manipulator Crane
TP/1/A/1550/03E	Indexing of Spent Fuel Pool
TP/1/A/1550/03H	Westinghouse Spent Fuel Assembly Handling Pool Preoperational Test
TP/1/A/1550/03R	Indexing of Spent Fuel Pool Manipulator Cranes (Columns 1-35)

The inspector also observed portion of the following preoperational tests:

TP/1/A/1550/03D	Checkout of Spent Fuel Manipulator Crane
TP/1/A/1200/18	Upper Containment Personnel Airlock Leak Rate Test

Based on this review, no violations or deviations were identified.

7. Maintenance Observation

Station maintenance activities of selected systems and components were observed/reviewed to ascertain that they were conducted in accordance with requirements. The following items were reviewed for compliance during this inspection: (1) that activities were accomplished using approved procedures; (2) that functional testing and/or calibrations were performed prior to returning components or systems to service; (3) that quality control records were maintained; (4) that activities were accomplished by qualified personnel; and (5) that parts and materials used were properly certified. Work requests were reviewed to determine status of outstanding jobs and to assure that priority is assigned to safety-related equipment maintenance which may affect system performance.

Based on these observations, no violations or deviations were identified.

8. Operational Staffing (36301)

References:

(a) Duke Power Company QA Topical Report, "Quality Assurance Program," DUKE-1 (Amendment 6)

(b) Regulatory Guide 1.58, Revision 1 - Qualification of Nuclear Power Plant Inspection, Examination and Testing Personnel

(c) SNT-TC-1A-1975, Personnel Qualification and Certification in Nondestructive Testing

(d) SNT-TC-1A-1980, Personnel Qualification and Certification in Nondestructive Testing

(e) ANSI N45.2.6-1978, Qualifications of Inspection, Examinations and Testing Personnel for Nuclear Power Plants

(f) QA-140, Quality Assurance Inspector Training, Revision 7

(g) Training Qualification and Certification of NDE Personnel, Revision 6

The inspector reviewed references (f) and (g) to determine if these controlling procedures met the requirments of references (a) through (e). In addition, the inspector reviewed training of five (5) quality assurance personnel to assure that the training and qualification requirements specified in references (a) through (g) had been met.

Based on this inspection, one violation was identified as discussed below.

10 CFR 50, Appendix B Criterion IX, and the accepted QA Program (reference (a)) paragraph 17.2.9 requires measures be established to assure that special processes, including welding, heat treating, and nondestructive testing, are controlled and accomplished by qualified personnel using qualified procedures in accordance with applicable codes, standards, specifications, criteria, and other special requirements. Reference (a) Table 17.0-1, identifies that the program conforms to references (b) through (e). References (f) and (g) are the Duke Power Company (DPC) implementing procedures which establish the training and indoctrination of nondestructive testing and inspection personnel. These implementing procedures also identify the authority and duty of Quality Control inspection personnel.

A review of the DPC implementing procedures indicates various areas where the procedures do not conform to the requirements of references (b) through (e). Examples of these areas are as follows:

- QA-140 paragraph 5.2.1.1 states a Level I inspector may record and accept the results of inspections, examinations, calibrations and tests where acceptance criteria have been previously established in approved documents such as procedures, drawings and specifications.

  ANSI N45.2.6-1978 in section 3.3 states this evaluation of the validity and acceptability of inspection, examination and test results is the function of a Level II and/or Level III inspector.

- QA-140 paragraph 5.3.1 identifies "recommended education" requirements in Table I of this procedure, Table I identifies the education levels of high school graduation, diploma, or equivalent. Since this is a recommended requirement, this implies that a high school education or General Education Development equivalent may not be required. Also in Table I, the experience level for a Level II inspector is shown as 12 months. Which is different from the requirements described below.

  Reference (b) section C.6 states that since only one set of recommendations is provided for the education and experience of personnel, a commitment to comply with reference (b) in lieu of providing an alternative to the recommendations of the standard means that the specified education and experience recommendations of the standard will be followed.

  Reference (e) paragraph 3.5.2(2) requires three years related experience for a Level II inspector plus a high school graduation. Paragraphs 3.5.2(1) and 3.5.2(3) address additional education and experience levels acceptable for a Level II inspector, but these have not been included in DPC's implementing procedures. The DPC implementing procedures do not accurately reflect these education and experience requirements.

- QA-140 paragraph 5.3.3.a., allows equivalent manufacturing, construction, installation or operational activities.

  Reference (e) paragraph 3.5.3 addresses experience in equivalent inspection, examination or testing activities, but does not address equivalent manufacturing, construction, installation or operational activities.

- QA-140 paragraph 5.4.2.5 states examinations for the Level III examiner are not required except for the Level III ISI Visual Examiner.

  Reference (c) paragraph 8.5.3 discusses examination criteria for a Level III inspector.

- QA-140 paragraph 5.3.2 discusses "limited level" inspectors.

  This level of inspector is not addressed in references (b) through (e).

- NDE-B has similar areas which do not conform to reference (c) and (d). In addition, since there are areas where differences exist between references (c) and (d), the inspector feels that the DPC program should define which of these areas in these documents will be implemented.

This list is not meant to be all inclusive.

The inspectors review of the five QC personnel training records indicate that their experience and training met the requirements of references (b) through (e) for the levels to which they were qualified.

Failure to fully implement Regulatory Guide 1.58, Revision 1, ANSI N45.2.6-1978, SNT-TC-1A-1975 and SNT-TC-1A-1980 constitutes a violation (413/83-55-01 and 414/83-41-01).

9. Fuel Receipt and Storage Inspection (60501)

During the inspection period, the inspector reviewed the licensee's Special Nuclear Material License Application, preparation for receiving new fuel, and test procedures associated with new fuel handling, storage, physical protection and control. Most of the material reviewed was in a preliminary status and not issued in final approved condition.

Based on this inspection, no violations or deviations were identified.

10. Tower Failure in Switchyard

On December 21, 1983 at about 9:30 p.m., a transmission line tower located in the north corner of the station switchyard failed. The tower physically fell in a northwesterly direction missing the switchyard power trains. However, as a result of the tower falling, power lines which were supported broke and fell across one of the two overhead power trains (train A). This caused extensive damage to the train 'B' busswork, various disconnects, and insulators. Duke is analyzing and investigating this failure at the present time.

This failure raises questions as to whether the design of the switchyard meets all design requirements of General Design Criteria (GDC) 17 of 10 CFR 50, Appendix A. In addition if the present design does meet GDC 17, the repairs and changes must also be reviewed to the same criteria. This item will be tracked as an unresolved item (413/83-55-02, 414/83-41-02).

11. Participation in Licensing Hearing (94010) Units 1 and 2

The inspector (VanDoorn) participated in the operating license hearing process being held in Rock Hill, South Carolina.