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

Report Nos. 50-413/82-22, 50-414/82-20

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

Facility Name: Catawba

Docket Nos. 50-413, 50-414

License Nos. CPPR-116, CPPR-117

Inspection at Catawba site near Rockhill, South Carolina

Inspector: for J. L. Coley — Date Signed 9/9/82

Approved by: for J. J. Blake, Section Chief — Date Signed 9/9/82
Engineering Inspection Branch
Division of Engineering and Technical Programs

SUMMARY

Inspection on August 24-27, 1982

Areas Inspected

This routine, unannounced inspection involved twenty-eight inspector-hours on site in the areas of independent inspection effort, review of quality records for containment structures and supports, inservice inspection-review of program, inservice inspection-review of procedures, preservice inspection-observation of work and work activities, preservice inspection-data review and evaluation.

Results

Of the six areas inspected, no violations or deviations were identified.

8210010110 820913
PDR ADOCK 05000413
Q PDR

REPORT DETAILS

1. Persons Contacted

   Licensee Employees

   *J. Rogers, Project Manager, Construction
   *S. Dressler, Senior Construction Engineer
   *J. Cherry, Assistant ISI Coordinator
   J. Shopshire, QA Engineer Supervisor, Construction
   *M. Childers, Design Licensing
   R. Blackburn, QA Technician, Construction
   M. Hamphill, Engineer, Construction
   M. Fisher, Document Control Technician, Operations

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

   Other Organizations

   Babcock and Wilcox, Nuclear Power Generation Division (NPGD)
   *D. Patterson, Group Leader
   *C. Meredith, Assistant Group Leader
   D. Webber, Level II Nondestructive Test Examiner

   NRC Resident Inspector

   *P. Van Doorn

   *Attended exit interview

2. Exit Interview

   The inspection scope and findings were summarized on August 27, 1982, with those persons indicated in paragraph 1 above. The inspection finding listed below was discussed in detail. No dissenting comments were received from the licensee.

   (Open) Unresolved Items, 414/82-20-01, Review of vendor records needed to determine acceptability of visual indication on containment spray pump #2A, paragraph 5.

3. Licensee Action on Previous Enforcement Matters

   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 5.

5. Independent Inspection Effort (92706) - Units 1 & 2

The inspector conducted a general inspection of the Unit 1&2 containments and the auxiliary building to observe construction progress and construction activities such as welding, nondestructive examination, material handling and control, housekeeping and storage. The inspector also reviewed supplemental radiographs that had been requested by the inspector to resolve unresolved item, 413,414/81-24-01, Verification of appropriate corrective action for nonconformance items. Parallax and offset shots requested by the inspector confirmed the indication previously accepted by Duke Power but questioned first by the authorized nuclear inspector and then the resident NRC inspector, to be a weld defect (near surface porosity with a linear through wall indication running from the porosity into the base metal) and not two separate indications, one weld metal and one base metal as previously discussed in NRC Report Nos. 50-413/81-26 and 50-414/81-26. Subsequent grinding of the indication also confirmed this evaluation. This unresolved item (413,414/81-24-01) was upgraded to violation no. 413/82-21-01 and 414/82-19-01 by the resident inspector in NRC Report No. 413/82-21 and 414/82-19. In addition to the above, the resident inspector requested that this inspector investigate a visual indication on the Unit 2 containment spray pump #2A to determine the cause of the condition, and ascertain whether water washable penetrant examination would detect this indication. The indication was a small cold shut which is a condition common to casting, especially where the casting has changes in sections. The inspector stated that water washable penetrant would certainly have revealed this indication. Whether the indication was relevant or nonrelevant would have to be determined by grinding. This item had been identified initially by the licensee and reported in nonforming item report #14068. The indication was evaluated and accepted by the licensee without any additional investigation. The resident inspector stated that he had been told by the licensee that the pump casing had received radiography and a water washable penetrant examination. Further discussions with the licensee revealed that the casing did not receive a penetrant examination and that the indication was acceptable by radiography. Time did not permit the inspector to review the vendor's documentation during this inspection and therefore this item was left as unresolved item no. 414/82-20-01, Review of vendor records needed to determine acceptability of visual indication on containment spray pump #2A.

Within the areas inspected, no violations or deviation were identified.

6. Containment (Steel Structures and Supports) - Review of Quality Records (48055B) Unit 1

The inspector reviewed material test reports; Certification records, vendor manufacturing and inspection records, receiving inspection reports, and test reports for the two major equipment supports listed below to determine whether adequate records existed to confirm that quality requirements have been met. The applicable code for these supports was the ASME Boiler and Pressure Vessel Code, Section III, subsection NF (74S75).

Description of Support	Supplier ID Number	Drawing No.
Steam Generator Lower Lateral Support	S/N 68358-MK-LS-2	CN-1070-12
Pressurizer Upper Support	Part #6948-12 Rev.A, Item #1	CN-1070-15

Within the areas inspected, no violations or deviations were observed.

7. Preservice Inspection - Review of Program (73051)

The inspector reviewed, in part, the licensee's preservice inspection (PSI) program document and the licensee QA program documents with requirements applicable to the PSI program, as described below. The review was conducted to verify the licensee's conformance with regulatory requirements and the licensee's commitments. In accordance with these requirements, the 1974 edition including S75 addenda of Section XI of the ASME Boiler and Pressure Vessel Code is the applicable code.

a. Scope of Preservice Inspection Plan

The inspector reviewed the licensee's PSI program to ascertain whether the program includes the following:

(1) Description of areas to be examined in accordance to ASME B&PV Code Section XI, Articles IWB-2000 and IWC-2000

(2) Examination category for each area.

(3) Method of inspection for each area.

(4) Extent of examination for each area.

(5) Justification for exceptions to code and standards.

b. NDE - Records

The inspector reviewed the PSI program and reference documents to ascertain whether these documents contain adequate provisions relating to the control of NDE records and included the following:

(1) Examination results and data sheets including film and tape records for automated examinations.

(2) Listing of NDE equipment and instrumentation which were used during examinations, including make, model and serial number.

(3) Calibration data sheets.

(4) Listing of calibration blocks by identification number and material identification.

(5) Personnel qualification records and certificates.

(6) Drawings, sketches, work orders.

(7) Listing of welds for class I and class II components.

c. The inspector also verified that the responsibilities had been assigned for maintenance of the NDE records and that storage controls had been established which accomplished the following:

(1) Defines the record-storage facility locations for the types of record and materials identified above.

(2) Designates a custodian in charge of storage facilities.

(3) Describes the filing system to be used to allow retrieval of records and materials.

(4) Establishes a method for verifying that the records and materials received for storage are in agreement with an attendant transmittal document.

(5) Makes provisions for governing access to files, records, and materials, and for maintaining an accountability of items removed from the storage facility.

(6) Establishes methods for filing supplemental information.

d. In order to verify the above, the following plans, procedures and documents were reviewed by the inspector.

(1) Duke Power Company Preservice Inspection Plan for Catawba Nuclear Station - Rev. 0

(2) Babcock and Wilcox (B&W) Nuclear Power Generation Quality Assurance Manual (ISI)

(3) B&W Preoperational/Inservice Inspection Manual.

(4) B&W Procedure ISI-61, Administrative Procedure for Control of Manuals and Reports.

(5) B&W Procedure ISI-62, Administrative Procedure for Control of Documents.

(6) B&W Procedure ISI-63, Administrative Procedure for Approval of Manuals and Reports for Baseline.

(7) B&W Procedure ISI-64, Administrative Procedure for Handling Nondestructive Examination Data for Preoperational or Inservice Examinations.

(8) B&W Procedure ISI-65, Administrative Procedure for Use of the Data Base System.

(9) B&W Procedure ISI-70, Administrative Procedure for the Design, Fabrication, and Certification of Calibration Standards.

(10) B&W Procedure ISI-20, Magnetic Particle Examination Administrative Procedure for Personnel Qualifications.

(11) B&W Procedure ISI-21, Ultrasonic Examination Administrative Procedure for Personnel Qualifications.

(12) B&W Procedure ISI-22, Liquid Penetrant Examination Administrative Procedure for Personnel Qualifications.

(13) B&W Procedure ISI-23, Radiographic Examination Administrative Procedure for Personnel Qualifications.

(14) B&W Procedure ISI-24, Eddy Current Examination Administrative Procedure for Personnel Qualifications.

(15) B&W Procedure ISI-25, Visual Testing Administrative Procedure for Personnel Qualifications.

(16) B&W Procedure ISI-80, Administrative Procedure for Preventive Maintenance of Nondestructive Examination Equipment.

Within the areas inspected, no violations or deviations were observed.

8. Preservice Inspection - Review of Procedures (73052)

B&W is the PSI Contractor for the Catawba site, however Duke Power Company has elected to perform some selective PSI examinations utilizing Duke Power ISI personnel, equipment and procedures. The inspector reviewed the following Duke Power Company procedures pertaining to the preservice inspection to ascertain whether the licensee procedures were consistent with regulatory requirements and licensee commitments. In accordance with these requirements, the applicable code is delineated in paragraph 7, above.

- Duke Power Company NDE-11, Rev. 2, General Radiograph Procedure for Preservice and Inservice Inspection.

- Duke Power Company Procedure NDE-24, Rev. 2, Magnetic Particle Inspection Techniques (Yoke Method) for Preservice and Inservice Inspection.

- Duke Power Company Procedure NDE-26, Rev. 1, Wet Non-fluorescent and Fluorescent Magnetic Particle Inspection Technique for Examination of Studs, Bolts, Nuts, Washers, for Preservice and Inservice Inspection (Yoke Method).

- Duke Power Company Procedure NDE-33, Rev. 1, Liquid Penetrant Examination Technique (Color Contrast, Solvent Removal Method) for Preservice and Inservice.

- Duke Power Company Procedure NDE-44, Rev. 2, Ultrasonic Examination of Bolts and Studs for Preservice and Inservice Inspection.

In addition to the above the inspector also reviewed Babcock and Wilcox Procedure ISI-423, Rev. 1, Multifrequency Eddy Current Examination of: .750" OD x .044" Wall RSG Tubing in Westinghouse Generators. This procedure was not reviewed during a previous review of B&W procedures. The applicable regulatory requirement for this procedure is Regulatory Guide 1.83 of July 1975.

The above procedures were reviewed to ascertain whether the procedures had been approved, specified examiner qualification requirements, specified examination categories, method of examinations, extent of examinations, required records and were technically adequate.

Within the areas inspected, no violations or deviations were observed.

9. Preservice Inspection - Observation of Work and Work Activities (73053B) Unit 1

The inspector observed the PSI activities described below to determine whether these activities were being performed in accordance with regulatory

requirements and licensee procedures. The applicable code is delineated in paragraph 7, in addition the licensee has elected to use Regulatory Guide 1.83 of July 1975, for Eddy Current examinations.

a. Personnel qualification records for one Level I, one Level II and one Level III examiner certified in eddy current inspection were reviewed.

b. The inspector observed eddy current examinations including calibration on B, Steam Generator, row 38, to verify that the examinations were consistent with the approved B&W procedure and Section XI of the ASME B&PV Code.

The following requirements were verified:

(1) Eddy current examination equipment had been identified including indicator, meter, tube, strip recorder and tape.

(2) Method of maximum sensitivity is applied.

(3) Method of examination (Phase-Analysis) has been recorded.

(4) Examination equipment has been calibrated in accordance with the applicable performance reference.

(5) Amplitude and phase has been calibrated with the proper calibration reference standard and recalibrated at a predetermined frequency.

(6) 100% coverage of steam generator tubes occurs during the examination.

(7) Acceptance criteria is specified or referenced and is consistent with regulatory requirements.

Within the areas inspected, no violations or deviations were observed.

10. Preservice Inspection - Data Review and Evaluation (73055B) Unit-1

The inspector reviewed the data packages described below to determine whether the NDE data covered the scope of the examinations, whether the data files were complete and if the data was within the previously established acceptance criteria and whether the licensee's disposition of adverse findings and subsequent re-examination was consistent with regulatory requirements. The applicable code for this inspection is delineated in paragraph 7 above.

Records including calibration reports, equipment certifications, qualifications of examiners, and examination results were reviewed for the following welds:

Weld Categories	Weld ID	Examination Method	Description of Weld/System
B4.01.004	1NC22-02	UT	Steam Generator 1B Safe End Weld
B4.01.003	1NC22-02	PT	Steam Generator 1B Safe End Weld
B4.01.005	1NC22-03	PT	Steam Generator 1B Safe End Weld
B4.01.006	1NC22-03	UT	Steam Generator 1B Safe End Weld
B4.01.019	1NC22-02	PT	Steam Generator 1A Safe End Weld
B4.01.020	1NC24-02	UT	Steam Generator 1A Safe End Weld
B1.01.001	1RPV-W04	UT	Reactor Vessel Circumferential Weld
B1.02.002	1RPV-W03	UT	Reactor Vessel Circumferential Weld Lower Head to shell
B1.02.006	1RPV-W02-02	UT	Reactor Vessel Lower Head Meridional Weld Pc. 02
B4.05.257	1NC80-11	UT	Reactor Coolant System Pipe Weld 3"dia x .438"
B4.05.258	1NC80-10	UT	Reactor Coolant System Pipe Weld 3"dia x .438"
B4.05.562	1NI-149-12	UT	Safety Injection System Pipe Weld 10"dia x 1.00"
B4.05.566	1NI-149-8	UT	Safety Injection System Pipe Weld 10"dia x 1.00"
B4.05.403	1ND-37-14		Residual Heat Removal System Pipe Weld 12"dia x 1.125"

B4.05.416	1ND-38-19	Residual Heat Removal System Pipe Weld 12"dia x 1.123"

Within the areas inspected, no violations or deviations were observed.