



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

Report Nos. 50-413/80-21 and 50-414/80-21

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

Facility: Catawba

Docket Nos. 50-413 and 50-414

License Nos. CPPR-116 and CPPR-117

Inspection at Catawba site near Rock Hill, South Carolina

Inspector: B. R. Crowley 9/9/80
B. R. Crowley Date Signed

Approved by: A. R. Herdt 9/9/80
A. R. Herdt, Section Chief, RC&ES Branch Date Signed

SUMMARY

Inspection on August 11-15, 1980

Areas Inspected

This routine resident inspection involved 40.5 inspector-hours on site in the areas of reactor coolant pressure boundary piping (Units 1 and 2); safety-related piping (Units 1 and 2); containment structural steel (Units 1 and 2); safety-related structural steel (Unit 2); licensee identified (50.55(e)) items (1 and 2); licensee action on previous inspection findings (Units 1 and 2); IE Bulletins.

Results

No items of noncompliance or deviations were identified.

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *D. G. Beam, Project Manager
 - D. L. Freeze, Project Engineer
 - *S. W. Dressler, Construction Engineer
 - L. R. Davison, Senior QC Engineer
 - *L. R. Morgan, Senior QA Engineer
 - J. M. Frye, Supervisor - QA Audits
 - C. R. Baldwin, QC Supervisor - Welding & NDE
 - J. M. Curtis, QA Manager - Vendor's Division
 - J. C. Shropshire, QA Engineer
 - W. E. Rogers, Welding Superintendent
 - J. E. Cavender, Level III Examiner
 - R. G. Rouse, QA Technician
 - H. L. Atkins, Associate QA Engineer
 - D. H. Llewellyn, Welding Engineer
 - D. E. Gadd, Welding Engineer
- Other licensee employees contacted included construction craftsmen, technicians, security force members, and office personnel.

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on August 15, 1980 with those persons indicated in Paragraph 1 above. The unresolved item of paragraph 12 and the inspector followup item of paragraph 13 were discussed in detail. Relative to the Unresolved item, the licensee agreed to consider revision to procedure Q-1.

3. Licensee Action on Previous Inspection Findings

- a. (Closed) Unresolved Item 413, 414/80-10-02, Base material repairs. This item had to do with repair to pipe after the cut out of a socket weld where the pipe wall is partially cut. The RII inspector had raised a question about thickness qualification (procedure and performance) and inside surface conditions where the remaining wall thickness before repair was thin. The licensee has evaluated these areas of concern and determined that for fillet welds, the procedures and welders were qualified regardless of the thickness of the repair. Relative to the inside surface condition, revision 3 of procedure CP 123, which was in effect at the time in question, required evaluation by the Welding Engineer where the welder or QC inspector considered the defective area to be excessive. This evaluation is considered to be satisfactory to resolve this question.

- b. (Closed) Unresolved Item 413, 414/80-15-01, Control of weld oscillation. Welding engineering has investigated this problem and determined that actual practice has been to use oscillation only in the 3G position, which the procedure allows. The affected procedures (4 total) have been revised to clarify oscillation requirements. This matter is considered resolved.
- c. (Open) Unresolved Item 413, 414/80-15-02, NDE of repair excavations for required NDE of weld repair excavations. The licensee has not provided technical justification for their interpretation of the code. This item remains open.

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve noncompliance or deviations. New unresolved items identified during this inspection are discussed in paragraph 12.

5. Independent Inspection Effort (Units 1 & 2)

The inspector examined the following areas of interest:

- a. Safety-Related Piping (Welding) - Observation of Work and Work Activities

The applicable code for pipe welding is the ASME Boiler and Pressure Vessel Code, Section III, 1974 Edition plus Addenda through Summer 1974. The inspector observed selected field welds at various stages of completion for conformance to code and procedure requirements. Areas reviewed included, as applicable: weld identification/location, joint preparation and alignment, evidence of QC verification, use of specified procedure, appearance of weld, welder qualification, use of specified weld material, control of preheat and interpass temperature, use of specified purge, and control of filler material. The following welds were observed:

<u>Weld No.</u>	<u>Size</u>	<u>Stage of Completion</u>
1ND-59-16	8"	Fitup
1NV-142-2	4"	Fitup
1NS-8-1	10"	Repair, RT
1NI-189-8	12"	Repair, RT
2NV-168-1	3"	Fitup
2NV-168-4	3"	Root pass complete
2WL-180-11	6"	Fitup
2ND-5-7	14"	Fill pass welding
2ND-5-8	14"	Root pass complete

- b. The inspector conducted a general inspection of the containment buildings, the auxiliary building, pipe fabricator shop, fab shop laydown area, pipe storage yard and warehouse 7 storage. Construction progress and construction activities including material handling, housekeeping, and storage were observed.
- c. Containment Structural Steel Welding - Observation of Work and Work Activities

(1) Unit 2

The inspector observed in-process welding on the containment dome for conformance to code and procedure requirement. The applicable code for this work is the ASME Boiler and Pressure Vessel Code, Section III, Subsection NE, 1971 Edition plus Addenda through summer 1972. Areas examined included, as applicable: Weld identification/location, joint preparation and alignment, evidence of QC verification, use of specified weld procedure, welder qualification, use of specified weld material and welding material control. The following welds were observed:

<u>Weld</u>	<u>Stage of Completion</u>
P-4-16B	Fitup
P-4-16R	Fitup
P-4-23B	Root welded
P-4-23R	Fitup
P-4-5B	Welding Fill passes

(2) Unit 1

The inspector observed the finished weld on refueling pool liner welds 60A, 60B, 14E, 14D, and 14C. In addition liquid penetrant (PT) inspections were observed on welds 60A and 60B. The applicable code for this welding is the ASME Boiler and Pressure Vessel Code, Section VIII, paragraphs UW26-39, 1974 Edition with Addenda through the summer 1974. Areas examined included weld identification/ location, weld appearance, review of "Weld Process Control Sheets", Welder qualification, and PT examiner qualification records for welds 60A and 60B.

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

6. Licensee Identified Items 50.55(e) (Units 1 & 2)

- a. (Open) Item 413, 414/80-21-03, Use of Non-Normalized Plate on Personnel Air locks (Duke Report SD 413, 414/80-10). Charpy impact testing of the material is scheduled to begin in September 1980 to bring the personnel locks into code compliance. A final report is scheduled for March 1981.

- b. (Open) Item 413, 414/80-21-04, Cracked Control Rod Guide Tube Support Pins (Duke Report SD 413, 414/80-05). Unit 1 pins will be replaced approximately 1st quarter of 1981. A decision will be made about replacement of Unit 2 pins after completion of a proposed support pin inspection program.
- c. (Closed) Item 413, 414/80-21-05, Rejectable UT Indications in Containment Equipment Hatch Welds (Duke Report SD 413, 414/80-07). All rejectable welds were ground out, repair welded, and ultrasonic (UT) inspected. The inspector visually observed the finished repair welds, reviewed the licensee's report and the final UT reports. The corrective action is considered satisfactory.
- d. (Closed) Item 413, 414/80-21-06, Improper Radiography on Steam Generator Enclosures (Duke Report SD 413, 414/80-06). The inspector reviewed the final radiographic (RT) film and the licensee's report. The corrective action is satisfactory.

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

7. IE Bulletins (IEB) (Units 1 & 2)

(Closed) IEB 79-03A, Longitudinal Weld Defects in Youngstown SA-312 Pipe Spools. The inspector reviewed the licensee response dated August 5, 1980. SA-312, 300 Series fusion welded pipe has not been used and will not be used in the future in safety-related systems at greater than 85 percent of code allowable pressure stresses.

Within the areas inspected, no items of noncompliance or deviation were identified.

8. Safety-Related Piping - Observation of Work and Work Activities (Units 1 & 2)

The applicable code for this work is identified in paragraph 5.a. The inspector observed the following work:

a. Unit 1

Handling and fitup operations during fitup of weld 3 on ISO CN-1NS-29.

b. Unit 2

Identification and handling of 90 degree Ell between welds 13 and 14 on ISO CN-2FW-42 prior to fitup.

Identification of bend 2WL180-BR on ISO CN-2WL-180.

The above activities were reviewed in the areas of conformance with procedures, record keeping requirements, and specifications.

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

9. Reactor Coolant Pressure Boundary Piping (Welding) - Observation of Work and Work Activities (Unit 1)

The applicable code for this welding is identified in paragraph 5.a. The inspector observed weld INC-62-15 at the fitup stage and weld INC-82-5 during fill pass welding. Areas reviewed included, as applicable: weld identification/location, joint preparation and alignment, evidence of QC verification, use of applicable procedure, welder qualification, temperature control, use of specified weld material, use of specified purge, weld appearance and surface preparation, and control of welding variables.

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

10. Safety-Related Structures (Welding) - Observation of Work and Work Activities (Unit 2)

The inspector observed in-process welding on the spent fuel pool liner for conformance to code and procedure requirements. The applicable code for this welding is identified in paragraph 5.c.(2) above. Areas examined included, as applicable: weld identification/ location, use of applicable procedure, welder qualification, use of proper NDE, and welding material control. Welds 82, 10T, 10L, and 77 on drawing CNFO-31-32D were observed.

During inspection of welding material issue station, the inspector questioned the lack of a periodic check on the accuracy of the electrode holding oven thermometers. Although there is no specific requirement that thermometers be calibrated for this application, the licensee revised procedure CP-39 during the inspection to require a periodic check on the accuracy of the thermometers. The procedure was revised and all thermometers checked during the inspection.

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

11. Reactor Coolant Pressure Boundary Piping - Observation of Work and Work Activities (Unit 1)

The applicable code for this work is identified in paragraph 5.a. The inspector observed handling and fitup activities on 40 degree Ells at weld 3 on ISO CN-2NC9 and weld 3 on ISO CN-2NC13. In addition PT inspection records for the mating steam generator nozzle weld preps were reviewed. These activities were reviewed in the areas of conformance with procedures, record keeping requirements, and specifications; performance of prescribed NDE; and qualification of NDE personnel.

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

12. Review of Nonconformance Reports

The inspector reviewed the following nonconforming item (NCI) reports to determine whether the reports were complete, legible, retrievable and properly closed out:

<u>Report Number</u>	<u>Unit</u>
5239	1 & 2
5928	1
8760	1 & 2
7998	2
7190	1
6758	1
5580	1 & 2
5476	1
5382	1 & 2
5367	1
5331	1 & 2
5211	1 & 2
5240	1

During review of the above NCI's, the inspector noted that the corrective action for two of the NCI's (5580 and 5476) did not appear to be adequate to preclude recurrence of the nonconformances. The applicable procedure for the control of NCI's, procedure Q-1, "Control of Nonconforming Items", does not clearly specify documentation of corrective action to prevent recurrence of the item. However, a QA memorandum dated June 1979, after the date of the two NCI's noted above, does specify evaluation for corrective measures taken to prevent recurrence of the item. The licensee agreed to consider clarification of requirements in procedure Q-1 so that requirements for evaluation to prevent recurrences are clearly covered. This matter is considered unresolved and is identified as item number 413, 414/80-21-01.

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

13. Review of Audits

The inspector reviewed records of the following QA audit and surveillance reports:

- a. Departmental Audit C-80-3, "Welding Program" dated 5/13/80.
- b. QA "Surveillance Checklist C-10-7-80, "Structural Steel Erection".

- c. QA "Surveillance Checklist" M-3-6-80, "Fabrication and Erection of ASME Section III Piping".
- d. QA "Surveillance Checklist" M-10-6-80, "Welding Material Receipt, Storage and Issue".
- e. QA "Surveillance Checklist" M-13-5-80, "Fabrication, Erection, and Process Control of Containment".

These reports were reviewed to determine compliance with applicable procedures and scope of management review of the audit findings.

Noncompliance item number 5 from audit C-80-3 was chosen for further review to determine whether proper, timely and adequate corrective action was taken. This review revealed that the response did not match the audit finding. The audit finding was relative to procedure qualification records (PQR) and the response was directed more to performance (welder) qualification records. Discussions with personnel who responded to the finding revealed that there was a misunderstanding of the audit finding. However, further evaluation revealed that the audit finding was actually of no significance and not truly noncompliance. During the inspection, a revised response to item No. 5 was issued explaining why the item was meaningless. The audit had not been closed out. This item will be identified as inspector followup item number 413, 414/80-21-02 and proper closeout of the above item verified during a future inspection.

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