



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

Report Nos. 50-413/81-23 and 50-414/81-23

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

Facility Name: Catawba 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: *N. Merriweather* 11/5/81
N. Merriweather Date Signed
A. G. Debbage 11/5/81
A. G. Debbage Date Signed

Accompanying Personnel: C. E. Murphy, Chief, Engineering Inspection Branch
Engineering and Technical Inspection Division
(October 15-16, 1981)

Approved by: *C. M. Upright* 11/5/81
C. M. Upright, Section Chief Date Signed
Engineering Inspection Branch
Engineering and Technical Inspection Division

SUMMARY

Inspection on October 13-16, 1981

Areas Inspected

This routine, unannounced inspection involved 51 inspector-hours on site in the areas of receiving and storage; electrical work and work activities; and preparation for hydrostatic testing of piping systems.

Results

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

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *J. R. Wells, QA Manager
- *J. C. Rogers, Project Manager
- *S. W. Dressler, Senior Construction Engineer
- *J. W. Rowell, Construction Engineer, Electrical
- *R. A. Morgan, Project QA Engineer
- *H. B. Mason, QA Engineer
- *J. C. Shropshire, QA Engineer
- A. W. Jackson, Construction Engineer Assistant
- R. Martin, Supervisor Technician, Piping
- R. L. Bagwell, Stores Supervisor
- D. A. Jenkins, QA Technician
- C. Diggers, QA Technician
- T. L. Henderson, Mechanical Engineer
- R. Bowling, Electrical QC Supervisor
- R. Smith, QC Inspector, Electrical
- T. Daniels, QC Inspector, Electrical
- T. Coleman, QC Inspector, Electrical
- M. Wiles, QC Inspector, Mechanical

Other licensee employees contacted included construction craftsmen and QC inspectors.

Other Organizations

Bahnon Service Company

- H. L. Moore, General Projects Superintendent
- W. L. Crute, Senior Quality Assurance Engineer
- J. K. Phillips, Quality Assurance Engineer

NRC Resident Inspector

K. VanDoorn

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on October 16, 1981 with those persons indicated in paragraph 1 above.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Independent Inspection Effort (92706)

An inspection was made of the preparations for hydrostatic testing and system verification in preparation for turnover to steam production. The following procedures controlling this activity were reviewed:

- S-2, Rev. 11, Systems/Structures Verification and Turnover
- N-1, Rev. 12, Pressure Testing
- M-15, Rev. 8, Installed Pipe Support Inspection
- CP-201, Rev. 7, Transfer of Systems to the Systems Group for Cleaning and Pressure Testing
- CP-515, Rev. 7 Procedure for Preparing the Mechanical S-2 Package For Pressure Testing and Turnover to Steam Production.

One of the procedures controlling system transfer was for the QA Unit to approve the piping weld checklist. This checklist was compiled from the welds shown on the piping isometric drawings. The welds on the checklist were verified by weld cards which were turned in on completion of the weld. Without corresponding close control of craft pipe welding there existed a possibility of unapproved welds being made additional to those shown on the isometric drawing. Hydrostatic testing had recently been completed on a portion of the spent fuel cooling system, which included the spent fuel cooling pumps, heat exchangers and interconnecting piping. The inspector selected this system to check out the welding controls. All of the physical welds made in the piping assemblies were checked against the welding isometric drawings. No deviations to the drawings were identified.

6. QA Inspection of Performance (35061)

This inspection was performed to determine whether site work is being accomplished in accordance with NRC requirements and SAR commitments, and that prompt and effective action is being taken to achieve permanent corrective action on significant discrepancies.

The following areas were examined to verify the inspection objectives:

a. Field Drawings and Work Procedures

The inspector selected several field design drawings and procedures to ascertain whether the most recent revisions of drawings are used to perform work and whether the most recent revisions of construction specifications and work procedures are in agreement with the SAR.

No violations or deviations were identified in this area.

b. Field Inspection

The inspector observed the as-built installations for the following identified safety-related cables and electrical equipment to determine whether equipment or systems were installed as described by field drawings and construction specifications. The inspector also witnessed the installation of safety-related cable 1*CA683 and QC inspection of electrical equipment cabinet 2DECPB.

Safety-Related Cables

1*NI542	1*LD507	1*KD507	1*VC637
2*YC517	2*YC518	2*KF502	1*VG507
1*KD508	1*VC641	2*EPL522	1*VA757
1*VC575	1*VC608	1*VC621	1*VA766

Electrical Equipment

2EATC19	2EADB
2DGTBB	2DECPB

Within the field inspection area, no violations or deviations were identified.

c. QC Procedures and Nonconformances

The inspector reviewed Electrical QC Procedure M41B which is the procedure used for electrical cables and equipment inspections. This procedure was reviewed to determine whether frequency and timing of inspections are adequate to properly control the work, and that inspection procedures and reference documents are adequately detailed to instruct the QC inspector on exactly what he should be looking for when performing inspections. The inspector discussed inspection requirements with several QC inspectors to determine if they were knowledgeable of the procedures.

The inspector reviewed Nonconforming Items Reports 12447, 12448, 12434, 12436, 12432, 12413 and 11342. Corrective action was examined to verify that the actions taken corrected the items, determined the cause of the deficiency, considered the reportability to NRC and instituted effective action to prevent recurrence.

Within this area, no violations or deviations were identified.

d. QA Surveillance

The inspector reviewed QA surveillance reports in the electrical area dated June 1981, July 1981, and August 1981, to determine if the surveillances were meaningful, effective and reflect quality performance. The inspector reviewed the corrective action taken on findings to see if it was complete and timely. No violations or deviations were identified.

e. QA Records

The inspector reviewed the following QA records:

- . Certifications for four electrical QC inspectors
- . Vendor certifications and receiving inspection reports for the cables identified in paragraph 5.b.
- . Calibration records for torquing devices CA-131 and CA-44.

Within this area, no violations or deviations were identified.

7. Receiving and Storage (35065B)

All storage facilities, laydown areas and Units 1 and 2 were inspected to ensure that equipment and materials on site were maintained in a satisfactory environmental level. Representative safety-related items from each of the storage zones were randomly selected for further investigation. This included a review of their procurement specification and controls, receipt inspection performed and adequacy of acceptance documentation, level of storage specified and examination of procedures and controls governing these activities. Similar activities conducted by the Bahson Service Company at Catawba for Duke Power Company (DPC) were also examined; this included equipment procurement, material storage and procedure controls.

Quality surveillance reports conducted by Duke Power Company on Bahson Service Company were also reviewed.

Within these areas, no violations or deviations were identified.

a. Equipment Examination

Drive rod assemblies S/N 4193, 4197 and 4285 were stored in the Class A portion of warehouse No. 2. Class A level was being maintained and nonconforming unistrut bolts were clearly identified and segregated. The rod control manipulator crane outer most assembly P.0172547/W35924 was stored in the Class B part of warehouse No. 2. Warehouses Nos. 1, 3, 4, 7 and part of No. 5 were identified as level B storage areas. Equipment examined included the fuel handling area exhaust fan E2467,

the rotor torque valve S/N B5329D2, limit torque valve S/N 264617 and the steam generator blowdown heat exchanger S/N F01978; a nitrogen blanket 5 psig was being maintained in the heat exchanger. Warehouse No. 7 was principally used for the storage of fittings, flanges and sockets up to 3" diameter, and warehouse No. 3 for hangers, restraints and supports. Warehouse No. 5, a Class C storage area, contained large quantities of hand/mechanical operated valves and check valves. Adjacent to warehouse No. 7 is the fenced pipe yard where carbon steel piping and stainless steel fittings are stored. During the warehouse inspection it was observed that all gates were locked; a written record of entry and exit maintained for non-warehouse personnel; all warehousing zones kept clean; all nonconforming items segregated and identified; and the equipment requiring vendor documentation, or where inspection requirements had not been determined, were also segregated and marked with QC HOLD tape and/or tags.

Equipment and material installed in Units 1 and 2 were examined. Considerable quantities of piping were being installed and preparations for sub-system testing were in progress. The component cooling surge tank S/N N-2363.10 was installed and the component cooling heat exchangers were in a test status mode. The component cooling pumps installed in Unit 2 were examined and the Westinghouse pump motor heaters were all energized. Crane Deming pumps had been delivered to the area and were still in their storage crates at this time. Identification of equipment status, particularly the sub-system being prepared for hydrostatic testing, was found to be adequate.

b. Procedures Reviewed

Program requirements and procedures governing the procurement, receiving inspection and storage control activities were reviewed for completeness and effectiveness. The procurement document control program is outlined in Section 17.1.4 of the Duke Power Company Topical Report, Quality Assurance Program, Duke-1 (Amendment 5). The following procedures were reviewed:

PR 301, Rev. 6	Specifications
E-3, Rev. 16	Field Procurement of Item and Construction Services
F-14, Rev. 0	Control of On-site Vendor Work
P-1, Rev. 21	Receiving Inspection
P-3, Rev. 12	Storage Inspection.

c. Receiving Inspection Reports

The receiving inspection reports for the equipment selected during the warehouse inspection were examined. Documentation on the drive rod assemblies included a quality release from Westinghouse E57097, a deviations notice DN 16025 and a storage maintenance requirement change notice specifying level B storage. The rod control manipulator-crane outer most assembly documents included a certificate of compliance from STEARS ROGERS and a deviation notice DN 005270 from Westinghouse. The fuel handling area exhaust fan motor was supplied by Reliance Electric Company. All the receiving inspection reports were completed accurately and all accompanying documentation found to be satisfactory. The procurement contracts for these items were also reviewed. All quality assurance and certification requirements were adequately addressed. It was noted that for the procurement of the reliance electric motor that 10 CFR Part 21 had been required.

d. On-site Procurement Support

On-site procurement activity was reviewed. Purchase requisitions generated by DPC were mostly for consumable materials or requests for delivery of construction materials. An approved vendor's list is supplied from Corporate HQ and the list on site was dated September 10, 1981. The basis of vendor approval (ASME, ANSI N45.2, Certificate of Conformance) was identified on the list. Three purchase requisitions numbers 013618, 01474S 001 and 01566S were randomly selected. The technical and quality assurance requirements (including 10 CFR 21) were all specified. The storage level was also specified and the recommended supplier was on the approved vendor list or left open for Corporate HQ to specify.

DPC has contracted with Bahnson Service Company (BSC) to construct HVAC systems. BSC generated the purchase requisitions for the procurement of materials and equipment needed to install the HVAC systems. DPC corporate QA conducts surveillance of BSC and completes a surveillance checklist (Form QA-300A) on a quarterly basis. The two most recent checklists dated April 8, 1981, and July 7, 1981, were examined. Purchase Orders 384-CNS and 419-CNS generated by BSC were found to be satisfactory by DPC QA. The surveillance reports were found to be adequately completed.

The BSC area was visited and a walk through inspection conducted of the fabrication shop and material storage area. The materials stored inside were located on racks, segregated for size and shape. There was some outside storage of stainless steel bars and sheets; all material was stored above ground level. Discussions with BSC personnel on procurement control revealed that they have recently instituted (with DPC approval) an attachment to all purchase orders intended for use at Catawba project. This attachment, Form No. QA/QC 121, Rev. 0, had been

prepared to ensure that all DPC-QA requirements will be met by the suppliers to BSC. Purchase Order No. 939 for procurement of VA and VJ System Fire Dampers from Ruskin Manufacturing Company was examined - it had been reviewed and approved by DPC prior to issue by BSC. No problems were identified during this inspection.