



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

Report Nos.: 50-413/85-53 and 50-414/85-63

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

Docket Nos.: 50-413 and 50-414

License Nos.: NPF-35 and CPPR-117

Facility Name: Catawba 1 and 2

Inspection Conducted: December 2-6, 1985

Inspector: W. P. Weinsorge for 12-20-85
Date Signed

Approved by: J. J. Blake for 12-20-85
Date Signed
J. J. Blake, Section Chief
Engineering Branch
Division of Reactor Safety

SUMMARY

Scope: This routine, unannounced inspection entailed 42 inspector-hours on site in the areas of licensee action on previous enforcement matters (92701B), housekeeping (54834B), material identification and control (42902B), material control (42940B), reactor vessel internals (Unit 2), containment penetrations - review of QA implementing procedures (Unit 2) (53051B), spent fuel storage racks (50095B) (Unit 2), safety-related heating ventilating and air-conditioning systems (50100) (Unit 2), and licensee identified items and inspector followup items (92701B).

Results: No violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

T. B. Bright, Engineering Manager
H. L. Atkins, Quality Assurance (QA) Engineer Projects
*J. A. Kinnard, Construction Technical Support
C. L. Hartzell, Compliance Engineer
*R. A. Jones, Test Engineer
D. B. O'Brien, Administrative Methods Supervisor - Construction
*P. G. LeRoy, Assistant Engineer Compliance

Other licensee employees contacted included construction craftsmen, engineers, technicians, and office personnel.

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on December 6, 1985, with those persons indicated in paragraph 1 above. The inspector described the areas inspected and discussed in detail the inspection findings. No dissenting comments were received from the licensee.

(Open) Inspector Followup Item 414/85-63-01: Reactor Internals Quality Release, paragraph 6.c.

(Open) Inspector Followup Item 414/85-63-02: Filter Records, paragraph 9.a.(2).

(Open) Inspector Followup Item 414/85-63-03: Duke Audits of Bahnson, paragraph 9.c.

The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspector during this inspection.

3. Licensee Action on Previous Enforcement Matters (92701B) (Unit 2)

a. (Closed) Unresolved Item 414/85-38-02: "Westinghouse Pressurizer/Steam Generator Storage Requirements"

This item concerned an apparent disparity between Westinghouse storage requirements and the Duke implementation of those requirements. The licensee has provided additional information and objective quality evidence for storage of the generators and pressurizer consistent with the Westinghouse program. The inspector has no further questions. This matter is considered closed.

- b. (Closed) Unresolved Item 414/85-43-01: "Fillet Weld Leg Size Joint Geometry Configuration for (1/6 inch to 3/16 inch gap) Not Considered at Final Visual Inspection"

The inspector discussed this matter with the licensee, reviewed the AWS D1.1-1980 (Catawba code of record) and AWS D1.1-1985 with commentary, reviewed the applicable licensee procedures M-21 and CP-22. Using the AWS D1.1-1985 commentary paragraph C6.5 as guidance to the intent of the AWS Code Committee, the inspector decided that AWS D1.1 requires final visual inspection for all welds and inspection at "suitable intervals" (periodic inspections) to make certain that the requirements of the applicable sections of the AWS D1.1 Code are met. Because Duke Procedure M-21 requires periodic inspections of joint fitup, root pass, and assurance that the joint is in accordance with appropriate construction procedures which include the requirements for the fillet weld size when gaps are 1/16 to 3/16 inches, the inspector considers that the licensee's program in this area is consistent with the AWS D1.1-1980 Code intent. This matter is considered closed.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Independent Inspection Effort

Housekeeping (54834B), Material Identification and Control (42902B) and Material Control (42940B) (Units 1 and 2)

The inspector conducted a general inspection of the Unit 2 Containment, the auxiliary building and the Unit 2 fuel building to observe such as housekeeping, material identification and control, material control, and storage.

Within the areas examined, no violations or deviations were identified.

6. Reactor Vessel Internals (Unit 2)

The inspector reviewed procedures, programs, and associated quality records to determine whether quality assurance plans, instructions and procedures for reactor vessel internals installations activities have been established in the facility QA manual; whether these documents conform to the QA program as described in Chapter 17 of the Safety Analysis Reports (SAR); whether activities relative to reactor vessel internals installation had been accomplished in accordance with NRC requirements and SAR commitments; and whether records reflect work accomplishment consistent with NRC requirements and SAR commitments.

a. Review of Quality Assurance Implementing Procedures (50061B)

The inspector reviewed selected documents to determine whether appropriate and adequate procedures were included or referenced in the QA manual to assure that activities associated with reactor vessel

internals were controlled and performed according to NRC requirements and SAR commitments. In particular, to ascertain whether provisions had been established to assure conformance applicable requirements for the following activities: receipt inspection and handling; crane testing and lifting; installation; and post-inspection activities.

b. Observation of Work and Work Activities (50063B)

The window of opportunity for observation of work activities had passed, so record review was selected to determine whether requirements of applicable specifications, work and inspection (QC) procedures had been met in the following areas: protection prior to installation; installation techniques; post-installation protection.

c. Review of Quality Records (50065B)

The inspector reviewed pertinent quality records to determine whether those records were in conformance with established procedure and whether these records reflected work accomplishment consistent with applicable requirements in the following areas: storage inspections; handling and installation; and post-installation protection.

With regard to the inspection above, Westinghouse has not yet provided the licensee a quality release for the reactor internals. Pending NRC review of the reactor internals quality release, this matter will be identified as Inspector Followup Item 414/85-63-01: "Reactor Internals Quality Release".

Within the areas examined, no violations or deviations were identified.

7. Containment Penetrations - Review of QA Implementing Procedures (Unit 2) (53051B)

The inspector reviewed procedures to ascertain whether field activities pertaining to the installation of containment penetrations were accomplished in accordance with NRC requirements, applicable codes, standards and commitments.

The inspector reviewed the below listed documents to ascertain whether appropriate and adequate procedures are included or referenced in the QA manual to assure that the following specific activities are controlled and performed in accordance with NRC requirements and SAR commitments.

- Testing (NDE and Leak Testing)

Identification

DPC-PT/2/A/4200/01C	Enclosure 13.34
DPC-PT/2/A/4200/01F	
DPC-PT/2/A/4200/01B	

Within the areas examined, no violations or deviations were identified.

8. Spent Fuel Storage Racks (50095B) (Unit 2)

The inspector reviewed procedures, examined completed work, and reviewed appropriate records to determine whether field activities pertaining to the installation or modification of spent fuel racks have been accomplished in accordance with NRC requirements, applicable codes, standards and licensee commitments.

a. Observation of Work and Work Activities

- (1) The inspector visually examined the new spent fuel storage racks after installation to verify that requirements were being met in the following areas: appearance and size of welds; cleanliness; configuration of the spent fuel racks relative to the assembly drawings; obvious defects such as cracks, dents and missing parts; and identification.
 - (2) The inspector examined the installed racks to verify the following items: proper location and orientation; seismic restraints in place and gapped no apparent damage to the racks or spent fuel pool during installation; ongoing work is being performed in accordance with approved procedures; adequate QC inspection coverage; and corrosion test specimens are installed in the spent fuel pool.
- b. The inspector examined pertinent quality records to verify that the following quality assurance records indicate that applicable requirements and commitments have been met: installation records; leveling, alignment, clearances; dummy fuel element test; neutron blackness test; restraint installation; cleanliness; nonconformance reports; and QA audits.

Within the areas examined, no violations or deviations were identified.

9. Safety-Related Heating, Ventilating, and Air Conditioning (HVAC) Systems (50100) (Unit 2)

Bahnson Service Company (BSC) was contracted by Duke Power Company (DPC) to fabricate, install, inspect and test the safety-related HVAC system under the BSC program. The inspector reviewed procedures, examined completed work, and reviewed relevant QA record to ascertain whether plans, inspections and procedures, technical requirements, work and work activities and relevant QA records related to safety-related HVAC systems were consistent with NRC requirements and SAR commitments. The applicable codes for the fabrication and installation for the safety-related HVAC systems are:

- American Welding Society (AWS) D1.1-77
- AWS D9.1

- American Society of Mechanical Engineers Boiler and Pressures Vessel (ASME B&PV) Code, Section IX 1977 Edition
- Sheet Metal and Air Conditioning Contractors National Association (SMACNA) - "High Velocity Duct Construction Standard" - 1969

a. Review of Quality Records

The inspector reviewed licensee/contractor documentation requirements covering work performed for safety-related HVAC systems to determine the effectiveness of the document review systems by comparing records against requirements for accuracy and completeness. The following areas were examined.

- (1) The inspector reviewed documentation on the following safety-related mechanical components to verify seismic qualification per IEEE-344-1975.

Components

Fuel Pool Exhaust Fan	2B2
Fuel Pool Filter Unit	2B2

- (2) The inspector reviewed documentation on the following safety-related mechanical components to verify conformance to the applicable portion of Regulatory Guide 1.52.

Components

HEPA and Charcoal Filters in Fuel Pool Filter Unit	2B2
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With regard to the inspection above, the records for the HEPA filters and the Charcoal filter media in fuel pool filter Unit No. 2B2 were not available for review. Pending NRC review of those records for compliance with paragraph 3c and 3i of Regulatory Guide 1.52, this matter will be identified as Inspector Followup Item 414/85-63-02: "Filter Records".

- (3) The inspector reviewed receipt inspection checklists to assure that inspections complied with the intent of the inspection procedures.
- (4) The inspector reviewed selected inspection records to determine whether required inspection of various aspects of the HVAC and supports were conducted.
- (5) The inspector reviewed records of inspection on the below listed items to assess the adequacy of the inspection effort and the inspection record.

<u>Component</u>	<u>Identification</u>
Fuel Pool Exhaust Fan	2B2
Fuel Pool Filter Unit	2B2
Backdraft Damper	2FPX-D-8B
Ductwork	FPX-2-MD-1 (12-25)

- b. The inspector reviewed the below listed nonconformance reports to determine that: records are being properly identified, stored, and can be retrieved in a reasonable time; records are legible, complete, and indicate that reports are promptly reviewed by qualified personnel for evaluation and disposition of the immediate problem as well as for generic implications and trending; records adequately document current status of nonconformances or deviations and corrective action; resolution of nonconformances demonstrates good engineering practice.

Nonconforming Reports

DPC-NCI-13727
DPC-NCI-16141
DPC-NCI-17535
DPC-NCI-17686
DPC-NCI-17632
BSC-DDR-0685
BSC-DDR-0879
BSC-DDR-0325
BSC-DDR-0946
BSC-DDR-0975
BSC-DPR-0976

- c. The inspector reviewed the relevant portions of the below listed audit reports concerning the installation of safety-related supports and HVAC to determine whether: required audits have been performed in accordance with schedule and functional areas in established audit plans; audit findings have been reported in sufficient detail to permit a meaningful assessment by those responsible for corrective action, final disposition, and trending; and licensee/contractor has taken proper and timely followup action on those matters in need of correction.

Audits

BSC-CNS-85-1
BSC-CNS-85-2

With regards to the inspection above, the last two Duke audits of Bahnson were not available for review. Pending NRC review of the two most recent audits by Duke of Bahnson, this matter will be identified as Inspector Followup Item 414/85-63-03: "Duke Audits of Bahnson".

Within the areas examined, no violations or deviations were identified.

10. Licensee Identified Items (Unit 2)

(Closed) Item 414/79-02: "Steam Generator Water Level Measurement System Error" (10 CFR 50.55(e))

On August 20, 1979, the licensee notified IE:II of a 50.55(e) item concerning the steam generator water level measurement system errors. The final report was submitted on December 28, 1983. The report has been reviewed and determined to be acceptable by IE:II. The inspector held discussions with responsible licensee and/or contractor representatives, reviewed supporting documentation, and observed representative samples of work to verify that the corrective actions identified in the report have been completed.

(Closed) 414-CDR-85-34: "Cold Spring of Safety-Related Piping" (10 CFR 50.55(e))

On November 8, 1985, the licensee notified IE:II of a 50.55(e) item concerning a section of safety injection system piping which was cold sprung beyond procedural limits. The licensee conducted an investigation, and based on interviews with involved licensee employees, concerns about cold spring were limited to the three cases identified in NCI 19995 and NCI 20004. It is not clear to what extent either of the cases actually occurred, but there was enough concern and questions to warrant a full investigation/evaluation. The two 8" lines and the 3" line were analyzed using the largest estimates of the fit-up gaps which were alleged to be cold sprung beyond procedural limits. The results of the analysis show that each line is adequate as erected. If the cold springing had occurred and had gone undetected, it would not have adversely affected the safety of the system.

After the initial notification and prior to this inspection, the licensee stated that this condition was not considered significant and thus not reportable. This inspector reviewed/inspected the applicable deficiency reports, evaluation and the item in question. Based on the above review and inspection, this inspector concurs that the item is not reportable.

Within the areas examined, no violations or deviations were identified.

11. Inspector Followup Items (92701B) (Unit 1)

(Closed) Item 413/85-11-07: Inservice Inspection (ISI) Code Record

The licensee's Pump and Valve Inservice Testing Program, Unit 1 was changed in Revision 10 to reflect the correct addenda of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI 80W81. This matter is considered closed.

Within the areas examined, no violations or deviations were identified.