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

Report Nos: 50-413/83-06 and 50-414/83-06

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

Docket Nos: 50-413 and 50-414

License Nos: CPPR-116 and CPPR-117

Facility Name: Catawba

Inspection at Catawba site near Rock Hill, South Carolina

Inspector: J. J. Lenahan for W. H. Miller, Jr. — 4/19/83 Date Signed

Approved by: J. J. Lenahan for T. E. Conlon, Section Chief — 4/19/83 Date Signed
Engineering Programs Branch
Division of Engineering and Operational Programs

SUMMARY

Inspection on April 5 - 8, 1983

Areas Inspected

This routine, unannounced inspection involved 30 inspector-hours on site in the area of fire protection.

Results

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

REPORT DETAILS

1. Persons Contacted

Licensee Employees

J. C. Rogers, Project Manager
*S. W. Dressler, Engineering Manager
*L. R. Davidson, QA Manager
R. A. Morgan, Sr. QA Engineer
J. W. Willis, QA Inspection Superintendent
*K. W. Schmidt, QA Engineer - Electrical/Civil
J. C. Shropshire, QA Engineer - Mechanical
*D. Mason, QA - Electrical & Civil
T. Hawkin, QA - Systems Verifications
C. Biggers, QA - Mechanical
J. Glenn, QA - Electrical
T. Coleman, QA Inspector - Electrical
T. D. Mills, Civil Engineering Group
W. McCollum, Performance Engineer
S. B. Smith, Civil Technical Support
D. Cornmesser, System Group (Hydro Tests)
*R. F. Edmons, Design Engineering - Civil/Electrical
*D. H. Brandes, Design Engineering - Fire Protection
*J. M. Rucci, Design Engineering - Fire Protection
*M. L. Childers, Design Engineering - SRAI

Other Organizations

C. Rice, Bawnson/Project Manager
W. M. Crute, Bawnson/QA Engineer
T. Payne, Bawnson/QC Engineer
D. Ballard, Bawnson/QC Inspector

NRC Resident Inspector

*P. K. Van Doorn

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on April 8, 1983, with those persons indicated in paragraph 1 above. The licensee acknowledged the following inspection finding:

a. Inspector Followup Item (413/83-06-01 and 414/83-06-04) Licensee to evaluate and verify fire pump installation complies with NFPA-20-paragraph 5a.

b. Inspector Followup Item (413/83-06-02 and 414/83-06-02), Licensee to provide records which document that hydrostatic tests have been conducted and configuration verification has been made of the underground fire protection water distribution system - paragraph 5.a.

3. Licensee Action on Previous Enforcement Matters

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Permanent Plant Fire Protection Features

The inspector reviewed the following permanent plant fire protection features:

a. Fire Loop Installation (Module 64053B)

The fire protection water distribution system design, installation and construction inspection records and test data were reviewed to verify that the system conformed to the commitments made to the NRC. The system is to be supplied water by three "unlisted" electric driven fire pumps rated at 2500 gpm at 133 psi. Presently, only two pumps (Pumps A and B) are installed. Power cable to these two pumps is installed in the same divisional cable way, tunnel, manholds, etc. but the pumps are separated by a three hour fire rated wall. The third pump (Pump C) is to be installed approximately six feet from Pump B. Power cable to this pump is to be installed in a separate divisional cable route. The switchgear for Pumps B and C is located in the service building switchgear room and are separated by a distance of approximately 20 feet. Pump A switchgear is located in the Unit 1 turbine building 594' elevation switchgear room. The design and proposed fire pump installation appears to conform to the commitments made to the NRC, except the licensee's design analysis in the Fire Protection Review of August 1981 does not compare the design and installation with the criteria of NFPA-20, Centrifugal Fire Pumps, for pumps rated in excess of 600 volts. The licensee agreed to provide this evaluation. This is identified as Inspector Followup Item (413/83-06-01 and 414/83-06-01), Licensee to evaluate and verify fire pump installation complies with NFPA-20, and will be reviewed during a subsequent NRC inspection.

The fire protection underground piping system has been installed. However, the inspector was unable to locate sufficient QA/QC inspection data which verified that all of the underground piping system had been inspected. A total of 57 hydrostatic and configuration inspection data packages were reviewed of which a total of nine packages did not

contain the required configuration inspection data. A detail review of ten of these hydrostatic test data sheets indicated that the system had been properly tested at over 200 psi for two hours as required by NFPA-24, Outside Protection; however, sufficient record data was not available to verify that all of the underground yard fire protection piping had been tested. Present procedures require the site Construction Systems Group to provide sufficient documentation to demonstrate that the entire water system has been properly hydrostatically tested. The site QA group is to audit this data to verify that the system was properly tested. Also, the QA group is to verify that all of the required configuration inspection records on the underground piping system are available and on file prior to the final system turnover to operations. These records will be reviewed during a subsequent NRC inspection. This is identified as Inspection Followup Item (413/83-06-02 and 414/83-06-02), Licensee to provide records which document hydrostatic tests have been conducted and configuration verification has been made of the underground fire protection water distribution system.

Flushing of the fire protection system was completed on November 5, 1980 and documented by Flush Procedure CP-225. The system was flushed by using the discharge from the two 2500 gpm fire pumps. Although the flush rate was not indicated or recorded, the flow rate which was generated by these pumps appears to have been sufficient to meet the requirements of NFPA-24, and is considered satisfactory.

The results of the full capacity tests conducted on the two installed fire pumps on November 30, 1981, were reviewed by the inspector. The test data indicated that the pumps performance exceeded the rated capacity of the pumps and was satisfactory.

b. Fire Detection System

The inspector reviewed the fire detectors provided for the fuel storage building. These detectors were inspected by QA on September 12, 1981 and June 28, 1982, and installation was verified to meet the design drawing. This was confirmed by the inspector. The licensee stated that additional ultraviolet detectors are to be provided above the new fuel storage area to meet the commitments made to the NRC. These detectors and the detectors to be provided in other areas of the plant will be evaluated during a subsequent NRC inspection.

c. Fire Dampers

The inspector reviewed the following fire dampers:

DAMPER NO.	LOCATION	DATE OF QC INSPECTION	*NOTES
BRX-FD-12	Battery Room	2-11-82	1
1BRS-FD-14	Battery Room	5-22-81	1, 3
1CRA-FD-23	Cable Room - 574' EL	9-09-82	1
1CRA-FD-24	Cable Room - 574' EL	3-24-82	1
1CRA-FD-33	Aux Bldg 594' EL	7-09-81	1
2CRA-FD-16	Cable Room 574' EL	11-20-81	3
2CRA-FD-20	Cable Room 574' EL	6-24-81	3
2CRA-FD-24	Cable Room 578' EL	1-07-82	1
1CRA-FD-39	Cable Room 578' EL	1-06-82	1
1VA-FD-14	Aux Bldg 543' EL	3-31-83	2, 3
1VA-FD-24	Aux Bldg 543' EL	2-25-82	2, 3
1VA-FD-30	Aux Bldg 543' EL	10-27-82	2
1VA-FD-113	Aux Bldg 594' EL	6-11-81	3
1VA-FD-133	Aux Bldg 594' EL	2-22-83	3
2VA-FD-64	Aux Bldg 560' EL	10-15-82	2
2VA-FD-65	Aux Bldg 560' EL	10-14-82	2

*Notes: 1. Damper manufactured by Ruskin Manufacturing Co.
2. Damper manufactured by Safe Air, Inc.
3. Damper was not inspected by NRC inspector

The dampers inspected appeared to be installed in accordance with the requirements of the manufacturer or construction drawings.

d. Fire Barrier Penetration Seals

The inspector reviewed the following fire barrier penetration seals:

PENETRATION NO.	LOCATION	TYPE	DATE OF QA/QC INSPECTION
C-AX-227-F-10	Aux Bldg 543'	Elec	9/82
C-AX-227-F-18	Aux Bldg 543'	Elec	9/82
K-AX-600-W-9	Fuel Bldg 594'	Mech	12/81
K-AX-600-W-18	Fuel Bldg 594'	Mech	12/81
K-AX-657-W-16	Control Rm 594'	Elec	12-23-82
K-AX-657-W-17	Control Rom 594'	Elec	12-23-82
L-AX-700-W-11	Fuel Bldg 605'	Mech	12/81
L-AX-700-W-17	Fuel Bldg 605'	Mech	12/81

These penetrations were inspected and appeared to conform to the design requirements, except for penetrations K-AX-657-W-16 and C-AX-227-F-18 which had been damaged by new cable pulls. These penetrations were scheduled to be repaired by the licensees' "repenetration" procedure. Penetrations sealed prior to current QA/QC inspection Procedure M53A-3A dated September 4, 1982, were sealed under a work release package which normally included a number of penetrations in a wall section. A QC inspector was assigned to the work area and verified that each penetration was properly sealed. However, inspection check lists or data were not provided for each penetration. Beginning in October 1982 following a revision to Procedure M53A-3A, documentation was provided for each penetration that was sealed. Although the new procedure provides improved documentation, it appears that adequate controlls were provided for the initial penetration seals to assure that the penetrations were properly sealed. Furthermore, prior to plant turnover, the Nuclear Production Mechanical Maintenance Group will conduct an area turnover inspection. One item in this inspection will require that each penetration seal is functional. The inspector reviewed the training and qualified records for two QC inspectors assigned to conduct the fire barrier penetration seals and verified that these inspectors had been qualified to conduct these inspections.

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