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

Report Nos. 50-369/81-38, 50-370/81-24

Licensee: Duke Power Company
P. O. Box 2178
Charlotte, North Carolina 28242

Facility Name: McGuire

Docket Nos. 50-369, 50-370

License Nos. NPF-9, CPPR-84

Inspection at McGuire site near Charlotte, North Carolina

Inspector: B. R. Crowley — 12/30/81
B. R. Crowley — Date Signed

Approved by: for A. R. Herdt — 12/30/81
A. R. Herdt, Section Chief — Date Signed
Engineering Inspection Branch
Engineering and Technical Inspection Division

SUMMARY

Inspection on December 15-18, 1981

Areas Inspected

This routine, unannounced inspection involved 26 inspector-hours on site in the areas of safety related piping (Unit 2), safety related structures (Unit 2), reactor coolant pressure boundary piping (Unit 2), previous inspection findings (Unit 2), and licensee identified (50.55(e)) items (Units 1 and 2).

Results

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

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*J. T. Moore, Project Manager
L. R. Davison, QA Manager-Projects Division
*J. W. Willis, Project QA Engineer
S. B. Hager, Chief Engineer, Civil Division-Engineering Design
*T. B. Bright, Construction Engineer-Mechanical
*E. M. Couch, Construction Engineer-Civil/Welding
R. P. Ruth, Sr. QA Engineer
E. B. Miller, Sr. QA Engineer-Civil/Electrical
J. E. Cavender, Level III Examiner
*G. B. Robinson, QA Engineer-Mechanical/Welding/NDE
F. S. Bulgin, QC Technical Supervisor-Welding/NDE
R. Painter, NDE Supervisor
J. Davis, QA Technician
G. Ford, QA Technician

Other licensee employees contacted included construction craftsmen, QC inspectors, security force members, and office personnel.

Other Organizations

T. E. Chambers, Project Manager-Bahnson Service Company
T. R. Puryear, Site Installation Manager-Westinghouse, NSD

NRC Resident Inspector

P. R. Bemis

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on December 18, 1981 with those persons indicated in paragraph 1 above. The inspector described the areas inspected and discussed in detail the findings listed below.

(Open) Inspector Followup Item 369/81-38-01, 370/81-24-01, Radiographic problems with RECO fabricated safety related tanks, paragraph 9.

3. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item 370/81-17-01, PT indications on personnel air lock welds. All PT indications have been repaired (see licensee identified item, paragraph 10.c below). The licensee's report identifies the reasons for the delay in reporting this problem.

4. Unresolved Items

Unresolved items were not identified during this informaion.

5. Independent Inspection Effort (Unit 2)

The inspector conducted a general inspection of the reactor building and auxiliary building to observe construction progress and construction activities such as welding, material control, housekeeping and storage. The following specific items were examined:

(a) RHR pump rooms 2A and 2B and containment spray pump room 2A were inspected for cleanliness and equipment preservation.

(b) In-process repair of weld 2SG-25, drawing FCFO-110S, on steam generator D upper lateral support was observed. "Field Weld Check Off List," defect removal area, welder qualification records, and inspector qualification records were examined.

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

6. Safety Related Piping (Welding) - Observation of Work and Work Activities (Unit 2)

The inspector observed welding activities for safety related piping as described below to determine whether applicable code and procedure requirements were being met. The applicable code for safety related pipe welding is the ASME Boiler and Pressure Vessel Code, Section III, Subsections NC and ND, 1971 Edition including Addenda through W71.

a. The following welds were observed at the status indicated:

WELD	ISO	STATUS
BB2FW71-52	MCFI 2BB71	Observed at fitup and during welding
BB2FW71-44	MCFI 2BB71	Observed at fitup and during welding
BB2FW71-26	MCFI 2BB71	Observed at fitup and during welding
BB2FW72-51	MCFI 2BB72	Observed during PT inspection
BB2FW72-9	MCFI 2BB72	Observed during PT inspection

The welding was examined in the following areas as applicable to each weld:

(1) Weld identification/location
(2) Joint preparation and alignment
(3) Evidence of QC verification
(4) Use of specified procedure
(5) Physical appearance of weld
(6) Use of specified preheat and interpass temperature
(7) Use of specified weld material
(8) Welder qualification
(9) Inspector qualification
(10) Surface suitable for NDE being performed
(11) NDE being performed at proper state of fabrication

b. The inspector examined issue station number one in the areas of:

(1) Storage of welding material including temperature controls
(2) Issue records
(3) Handling of returned materials

c. The inspector examined welding areas for the presence of uncontrolled welding materials.

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

7. Reactor Coolant Pressure Boundary Piping (Welding) - Review of Quality Records (Unit 2)

The inspector reviewed welding quality records for reactor coolant pressure boundary piping as described below to determine whether applicable code and procedure requirements were being met. The applicable code for reactor coolant pipe welding is the ASME Boiler and Pressure Vessel Code, Section III, Subsection NB, 1971 Edition including Addenda through W71.

Completed weld record packages excluding RT film were reviewed for the following welds:

WELD	ISO	SIZE
NI2F-477	MCFI 2NI15	6" X .719"
ND2F-1	MCFI 2ND1	14" X 1.250"
NC2FW83-12	MCFI 2NC83	3" X .438"
NC2FW78-26	MCFI 2NC78	2" X .343"

The records were reviewed in the areas of:

(1) Inspection records covering visual and dimensional inspections
(2) Weld history records

(3) Preheat interpass temperature, and post weld heat treatment (PWHT) controls
(4) NDE records
(5) Welding material control including receipt inspection and material certifications
(6) Weld repair records as applicable
(7) Welder qualification records
(8) Inspector (welding and NDE) qualification records including eye examination results

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

8. Safety Related Structures (Welding) - Review of Quality Records (Unit 2)

The inspector reviewed welding quality records for safety related structures/supports as described below to determine whether applicable code and procedure requirements were being met. The applicable code for the welding reviewed is the ASME Boiler and Pressure Vessel Code, Section VIII, various editions and addenda depending on the structure.

a. Completed weld record packages were reviewed for the following welds:

WELD	ISO	STRUCTURE/SUPPORT
2-213	MCFO-97	Refueling Canal
2-214	MCFO-97	Refueling Canal
2-215	MCFO-97	Refueling Canal
2-550	MCFO-97	Refueling Canal
2-551	MCFO-97	Refueling Canal
2-552	MCFO-97	Refueling Canal
2-182	MCFO-108	Spent Fuel Pool
2-183	MCFO-108	Spent Fuel Pool
2-184	MCFO-108	Spent Fuel Pool
2-498	MCFO-108	Spent Fuel Pool
2-499	MCFO-108	Spent Fuel Pool
2-500	MCFO-108	Spent Fuel Pool
2EAD-1	MCFO-296	Letdown Heat Exchanger Equipment Anchor
2EAD-2	MCFO-296	Letdown Heat Exchanger Equipment Anchor
2EAD-3	MCFO-296	Letdown Heat Exchanger Equipment Anchor
2EAD-4	MCFO-296	Letdown Heat Exchanger Equipment Anchor
2EAD-5	MCFO-296	Letdown Heat Exchanger Equipment Anchor
2EAD-6	MCFO-296	Letdown Heat Exchanger Equipment Anchor
2EAD-7	MCFO-296	Letdown Heat Exchanger Equipment Anchor

2EAD-8	MCFO-296	Letdown Heat Exchanger Equipment Anchor
II-SAT-1	MCFO-278	Diesel Starting Air Tank Manway Cover Bracket
II-SAT-2	MCFO-278	Diesel Starting Air Tank Manway Cover Bracket

The records were reviewed in the areas of:

(1) Inspection records covering visual and dimensional inspections
(2) Weld history records
(3) Preheat and interpass temperature controls
(4) NDE records
(5) Weld repair records as applicable
(6) Welding material control including receipt inspection and material certifications
(7) Welder qualification records
(8) Inspector (Welding and NDE) qualification records including eye examination results

(b) The inspector reviewed the following audits relative to safety related structural welding:

(1) Level 1 Audits (Surveillance Checklist)

C-10 "Structural Steel Erection and Inspection," 2nd and 3rd quarter 1981 audits were reviewed

M-13 "Process Control Information and Fabrication and Erection of Containment and Miscellaneous Steel," 2nd and 3rd quarter 1981 audits were reviewed

(2) Level II Audits
Departmental Audit CD-81-6(MC) dated 5/14/81 on McGuire Welding Program was reviewed.

The audits were reviewed in the areas of management review and to determine whether proper, timely and adequate corrective action was taken as a result of audit findings.

c. The following nonconformance reports (NCI's) were reviewed to determine whether records were complete, legible, retrievable, and properly closed out:

13,886	dated 1/06/81
13,743	dated 9/22/81
13,725	dated 9/17/81
13,724	dated 9/16/81
12,607	dated 1/07/81
12,606	dated 1/07/81

12,604 dated 1/06/81
12,700 dated 1/22/81

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

9. Inspector Followup Items

(Open) Item 369/81-38-01, 370/81-24-01, Radiographic Problems with RECO Fabricated Safety Related Tanks. On November 17, 1981, the licensee notified IE:II of a construction deficiency on tanks fabricated by RECO at Catawaba. Poor quality radiographic (RT) film had been identified by DPC. Upon Re-RT to obtain acceptable film, rejectable weld defects were identified. Since RECO also fabricated 16 safety related RT inspected, tanks at McGuire, the licensee is in the process of evaluating the McGuire tanks. Film for two of the tanks are located at McGuire and have been reviewed 100% by the licensee. No problems were identified. Film for the other 14 tanks are at RECO. RECO is in the process of reviewing these film. This item is identified as an inspector followup item for further review.

10. Licensee Identified Items (50.55(e))

a. (Closed) Item 370/80-06-08, 370/CDR80-03, Potential for Cracking in Control Rod Guide Tube Support Pins. On March 25, 1980, DPC notified IE:II of a 50.55(e) item concerning the potential for cracking in the control rod guide support pins. The final Construction Deficiency Report was submitted on April 24, 1980. The report has been reviewed and determined to be acceptable by IE:II. The inspector held discussions with the licensee and reviewed supporting documentation to verify that corrective actions indentified in the report have been completed. The records reviewed included closed out Westinghouse FCN DBPM-10592 dated 11/23/81, which documented change out of the pins.

b. (Closed) Item 370/CDR81-002, Noncompliance With FSAR Thickness Requirement for Containment Purge System Duct Work. On April 8, 1981, DPC notified IE:II of a 50.55(e) item concerning containment purge system duct work not meeting thickness requirements. The final Construction Deficiency Report was submitted on May 1, 1981. The report has been reviewed and determined to be acceptable by IE:II. The inspector held discussions with the licensee and reviewed supporting documentation to verify that corrective actions identified in the report have been completed. The documentation reviewed included Bahnson drawing 2338-11-3 which has been changed to specify the correct thickness of duct work and the Bahnson "System Final Turnover" for the Reactor Building, Unit #2, System VP, which documents installation in accordance with the revised drawing.

c. (Closed) Item 370/CDR81-007, PT Indication In Base Material of Personnel Air Lock Doors. On September 11, 1981, DPC notified IE:II of a 50.55(e) item concerning PT indications in personnel air lock doors.

The final Construction Deficiency Report was submitted on October 12, 1981. The report has been reviewed and determined to be acceptable by IE:II. The inspector held discussions with the licensee and reviewed supporting documentation to verify that corrective actions in the report have been completed. The documentation reviewed included completed NCI reports 13075, 13084 and 13792. Discussions with licensee personnel revealed that the same areas were modified on the Unit 1 door and the same areas PT inspected. No indications were found on the Unit 1 doors.

d. (Closed) Item 369/CDR80-08, Improper Weld Configuration on Steam Generator Enclosure Stiffiner Ring Connections. On June 26, 1980, DPC notified IE:II of a 50.55(e) item concerning improper weld configuration or stem generation enclosure stiffiner ring connections. The final Construction Deficiency Report was submitted on July 25, 1980. The report has been reviewed and determined to be acceptable by IE:II. The inspector held discussions with the licensee and reviewed supporting documentation to verify that corrective actions in the report have been completed. The documentation reviewed included completed NCI report 10,866.

e. (Open) Item 370/CDR81-011, Use of Low Strength Studs and Nuts in Place of Higher Strength Required by Piping Specification. On October 8, 1981, DPC notified IE:II of a 50.55(e) item concerning the use of low strength SA/A 193 B-8 studs and SA/A 194 GR8 nuts in lieu of higher strength material required by the piping specification. The final Construction Deficiency Report was submitted on November 25, 1981. The report has been reviewed by IE:II and determined to be acceptable. All corrective action is expected to be complete by February 1, 1982. Corrective action will be reviewed on a future inspection.