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

JUL 21 1980

Report Nos. 50-269/80-25, 50-270/80-22 and 50-287/80-19

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

Facility Name: Oconee Nuclear Station

Docket Nos. 50-269, 50-270 and 50-287

License Nos. DPR-38, DPR-47 and DPR-55

Inspection at Oconee near Seneca, South Carolina

Inspector: N. Economos — 7-16-80 Date Signed

Approved by: A. R. Herdt, Section Chief, RCES Branch — 7-17-80 Date Signed

SUMMARY

Inspection on June 23 and 26, 1980

Areas Inspected

This routine, announced inspection involved 10.5 inspector-hours at DPC's Corporate Offices, Charlotte, NC and on site in the areas of IE Bulletin 79-13 (Unit 2); once through steam genenator (OTSG) manway stud failure (Unit 3).

Results

Of the 2 areas inspected, no items of noncompliance or deviations were identified.

DETAILS

1. Persons Contacted

Licensee Employees

*J. M. Davis, Superintendent of Maintenance
*J. N. Pope, Superintendent of Operations
*R. J. Brackett, Senior Quality Assurance Engineer
K. R. Wilson, Assistant Engineer Licensing
*C. B. Creezen, Inservice Inspection Engineer

Other Organizations

Babcock & Wilcox Construction Company (B&W)

H. W. Stoppelman, Level II UI Examiner

NRC Resident Inspector

Francis Jape

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on June 23 and 26, 1980 with those persons indicated in paragraph 1 above. The inspector identified the areas inspected which included review of IE Bulletin 79-13 radiographs and inspection/observation of once through steam generator manway studs in Unit 3. The licensee agreed to ultrasonically examine the corresponding studs in Unit 1 during the upcoming shutdown.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. IE Bulletin 79-13 Cracking in Feedwater System Piping (Unit 2)

This work effort was a followup to the ongoing review of radiographs taken to verify the integrity of certain auxiliary feedwater pipe welds. This matter was discussed in RII Report Nos. 50-269/80-01, 50-269/80-03 and 50-270/80-10. The below listed radiographs were reviewed to determine whether they met applicable code, ASME Section III (77S78) NC-5000 and to the 2T sensitivity level. The radiographic procedure was identified as NDE-10A Rev. 4.

Once Through Steam Generator (OTSG) #2A

Weld	Riser #	Interval	Comments
Flange to Elbow	1	0-1, 3-0	Lack of Fusion indications. Rejected by QC and QA Level II examiners for this condition.
Pipe to Pipe	1		Acceptable
Flange to Elbow	2		Acceptable
Pipe to Pipe	2		Acceptable
Flange to Elbow	3		Acceptable
Pipe to Pipe	3		Acceptable
Flange to Elbow	5	0-1	Lack of penetration, cold lap, porosity, slag, tungsten, indications. Rejected by QC and QA Level II examiners for these conditions.
Pipe to Pipe	5		Acceptable
Flange to Elbow	6	0-1, 4-0	Lack of fusion slag and tungsten indications. Rejected by QC and QA Level II examiners for these conditions.
Pipe to Pipe	6		Acceptable
Flange to Elbow	7	3-0	Slag, porosity, tungsten, indications. Rejected by QC and QA Level II examiners for these conditions.

Once Through Steam Generator #2B

Weld	Riser #	Interval	Comments
Flange to Elbow	1		Acceptable
Pipe to Pipe	1		Acceptable
Flange to Elbow	2		Acceptable

Once Through Steam Generator #2B
(Continued)

Weld	Riser #	Interval	Comments
Pipe to Pipe	2		Acceptable
Flange to Elbow	3		Acceptable
Pipe to Pipe	3		Acceptable
Flange to Elbow	5		Acceptable
Pipe to Pipe	5		Acceptable
Flange to Elbow	6	2-3, 3-0	Lack of penetration, porosity, tungsten indications. Rejected by QA and QC Level II examiners for these conditions.
Pipe to Pipe	6		Acceptable
Flange to Elbow	7		Acceptable
Pipe to Pipe	7	00-1, 1-2 3-4, 4-0	Lack of fusion, lack of penetration porosity indications. Rejected by QA and QC Level II examiners for three conditions.

The indications in the designated radiographic intervals of the welds listed above were interpreted by the inspector as code rejectable fabrication type indications. These interpretations are basically in agreement with those documented on the licensee's radiographic reader sheets. The inspector did not agree with the interpretation offered by the licensee's consultant who rejected the presence of these defects e.g., lack of fusion and/or lack of penetration with the statement that "Rejectable levels of weld defects are also not apparent". The licensee representatives stated that a final copy of the consultants report on these welds would be forthcoming. Within the areas inspected no items of noncompliance or deviations were identified.

6. Manway Stud Failure (Unit 3)

On June 26, 1980 the inspector arrived at this site to observe/inspect certain manway studs found to contain cracks during the removal and/or reassembly of the lower manway cover plate (MCP) on OTSA "A". Removal of the MCP was in connection with the repair of a leaky OTSG tube. Discussions with the licensee representative disclosed that in the lower MCP of OTSG "A", eight (8) out of a total of sixteen studs were found with cracks while in the OTSG "B" one cracked stud was found in the upper MCP.

In OTSG "A" four (4) of the cracked studs were found through visual inspection and four (4) by ultrasonics examination. Presently all the studs in OTSG "A" have been replaced with new studs on hand. These replacement studs were found to be sound by ultrasonics examination. In OTSG "B", all the studs in the upper MCP were replaced with new studs as in OTSG "A" and those in the lower MCP were ultrasonically tested in-place. This examination was observed by the inspector. In addition the inspector observed the examination of four new studs, identified as follows:

S/H 1006114-001, Ht #137400 2 each

S/H 104289-001, Ht. #116316 2 each

The new studs were manufactured in accordance with ASME specification SA-320-L43 from AISI-4340 material produced from Hts. #137400 and 116316. Chemical and mechanical properties were found to be consistent with specification requirements. The studs were manufactured by Erwin Industries and supplied to the licensee by B&W. The inspector visually examined certain studs which exhibited cracks indications and noted that in each case the failure was associated with the root of thread. Discoloration, adverse surface conditions, contamination and lack of adequate facilities inside containment precluded further examination of those components.

The inspector requested that DPC provide to the NRC two of the cracked studs for an independent metallurgical investigation/failure analysis. Within the areas inspected no items of noncompliance or deviations were identified.

7. Inspection of MCP Studs (Unit 1)

The licensee has agreed with a RII request that Unit 1 MCP studs be checked at the first opportunity. Subsequent to the closing of this inspection, the licensee's representative telephoned RII that results of an ultrasonic examination on the upper and lower MCP studs while in place showed that all of them were clear of crack indications.