

ORGANIZATION: RICHMOND ENGINEERING COMPANY, INC.
RICHMOND, VIRGINIA

REPORT NO: 99900751/82-01	INSPECTION DATE(S) 6/1-3/82	INSPECTION ON-SITE HOURS: 20
CORRESPONDENCE ADDRESS: Richmond Engineering Company, Inc. ATTN: Mr. F. G. Louthan, Jr. President P. O. Box 25189 Richmond, VA 23260		
ORGANIZATION CONTACT: C. H. Massengill, Corporate QA/QC Manager TELEPHONE NUMBER: (804) 644-2611		
PRINCIPAL PRODUCT: Pressure Vessels NUCLEAR INDUSTRY ACTIVITY: Not identified		
ASSIGNED INSPECTOR: <u>I. Barnes</u> <u>7-13-82</u> <i>for</i> H. W. Roberds, Reactive and Component Program Date Section, (R&CPS)		
OTHER INSPECTOR(S):		
APPROVED BY: <u>I. Barnes</u> <u>7-13-82</u> I. Barnes, Chief, R&CPS Date		
INSPECTION BASES AND SCOPE: A. <u>BASES</u> : 10 CFR Part 50, Appendix B. B. <u>SCOPE</u> : This inspection was made as the result of: (1) a 10 CFR Part 50.55(e) report by Duke Power Company relative to unacceptable quality of radiographs of welds for refueling water storage tanks supplied to Catawba Nuclear Station, Units 1 and 2; and (2) the identification of a potential construction deficiency (CDR) by Georgia Power Company of incorrect coating applied to the ID of diesel fuel oil day tanks supplied to Vogtle Unit 2.		
PLANT SITE APPLICABILITY: Unacceptable radiographic quality: 50-413 and 50-414, and incorrect coating of diesel fuel oil day tanks: 50-425.		

REPORT NO: 99900751/82-01	INSPECTION RESULTS:	PAGE 2 of 4
<p>A. <u>VIOLATIONS:</u></p> <p>None</p> <p>B. <u>NONCONFORMANCES:</u></p> <p>None</p> <p>C. <u>UNRESOLVED ITEMS:</u></p> <p>None</p> <p>D. <u>STATUS OF PREVIOUS INSPECTION FINDINGS:</u></p> <ol style="list-style-type: none">1. (Closed) Nonconformance (81-01): A hold point had been signed off on weld joint 3 although final acceptance (radiography) was not performed until 1 week later. It was verified that documentation has been revised to include signoff of radiographic examination on the operational worksheet, and the revised documentation had been sent to customers.2. (Closed) Nonconformance (81-01): Review of ultrasonic thickness measurements showed that tanks contained heads with thickness below drawing requirements. It was verified that the applicable drawings had been revised to reflect the minimum design thickness of the heads, and Section 2 of the QA Manual had been revised to require the development of fabrication drawings which reflect the as-constructed condition.3. (Closed) Nonconformance (81-01): A 3/16-inch electrode was used to weld joint nos. 1, 6, 9, 11, and 13 rather than the required combination of 1/8-inch and 5/32-inch electrodes. It was verified that a nonconformance report had been initiated, and the applicable Weld Procedure Specification had been requalified using a 3/16 electrode. A formal procedure, ES-170, had been issued to define responsibilities for issuance of electrodes in accordance with the applicable weld procedure.4. (Closed) Nonconformance (81-01): A certified material test report for applicable E7018 electrode was not included in the record package for gas decay tank no. 2320.50.		

REPORT NO: 99900751/82-01	INSPECTION RESULTS:	PAGE 3 of 4
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It was verified that the applicable material test report was forwarded to the customer to include the test report in his documentation record package, and Section 16 of the QA Manual had been revised to require the Quality Assurance Coordinator to review the final documentation record package for completeness.

- 5. (Closed) Nonconformance (81-01): Various lengths of leg beam to plate fillet welds were found to be undersized on gas decay tanks at WPPSS site.

It was verified that calculations had been performed to indicate specific minimum fillet weld size by location, and that drawings had been revised and approved by the customer to reflect the minimum size of fillet welds. A procedure had been initiated and implemented for formal inprocess inspection for monitoring weld configuration and size.

E. OTHER FINDINGS OR COMMENTS:

- 1. Part 50.55(e) Report - The quality of radiographs of welds for refueling water storage tanks (RWST) fabricated by Richmond Engineering Company (RECO) for Catawba Nuclear Station, Units 1 and 2, does not meet the requirements of Section III of the ASME Code.
 - a. As a result of a review of radiographs by Duke Power Company of welds on Catawba Unit 2 RWST, it was disclosed that the majority of radiographs did not meet the quality requirements of the ASME Code. The RWST was erected in the field by RECO, and nondestructive examination was subcontracted to Industrial NDT, Inc. (INDT). The radiographs were interpreted by two INDT Level III examiners, certified by ASNT written examination, and accepted as meeting all the requirements of Section III of the ASME Code. Out of 605 radiographs, 465 were rejected by Duke Power Company and RECO radiographic interpreters for being under the required density of 2.0. The Unit 2 RWST was reradiographed, and 10 radiographs showed indications of unacceptable slag inclusions. RECO repaired the welds and rehydrotested the tank. The rework was completed on January 29, 1982.
 - b. The Catawba Unit 1 RWST was erected in the field by RECO, and nondestructive examination was subcontracted to Froehling and Robertson Testing Laboratory (F&R). Radiography was performed by F&R and the radiographs were interpreted and accepted by a F&R Level III examiner, certified by ASNT written examination.

PERSONS CONTACTED

Company Richard Engineering

Dates June 1-3, 1952

Docket/Report No. 99500451/82-01

Inspector H. Phelps

Page 1 of 1

NAME (Please Print) TITLE (Please Print) ORGANIZATION (Please Print)

* C. H. MASSENGILL	QC/QA MGR	
* R. E. BROOKS	SR. QA COORD.	
* H. J. MAC SWAIN	QA COORD	
* F. G. LOUTHAN	PRES	
* H. N. UPSON	EXEC VP & COO	
* G. A. HARDING	VP CORP ENG	
* J. W. COAKER	MGR. ENG.	

* attended Exit meeting

Inspector _____
 Scope/Module _____

DOCUMENTS EXAMINED

1	2	3	4
	TITLE/SUBJECT		
1	Q.M. Manual Section 2 and 16 and 10		
2	Document transmitted of 8/25/81 re: Ph. Th. 7-2320, 10-90		
3	Letter Office Memo May 27, 1983		
4	76 F14421		
5	ES-107NC		
6	Frackling & Robertson to RECO Nov. 23, 1981		
7	RECO to Industrial WIT Co Nov 18, 1981		
8	RECO to Frackling & Robertson Nov 18, 1981		
9	ES-120 4/3/81		
10	operational work sheet RCN 247 repair		
11	WIT level III qualification certification FR & NDT		
12	Nonperformance Note Power Nov 13, 1980		

- Document Types:
1. Drawing
 2. Specification
 3. Procedure
 4. QA Manual
 5. Purchas Order
 6. Internal Memo
 7. Letter
 8. Other (Specify-if necessary)
- Columns:
1. Sequential Item Number
 2. Type of Document
 3. Date of Document
 4. Revision (If applicable)