ORGANIZATION: CONSOLIDATED CONTROLS CORPORATION A SUBSIDIARY OF CONDEC CORPORATION

BETHEL, CONNECTICUT

REPORT NO .:

99900221/82-01

INSPECTION DATE(S)

7/13-15/82

INSPECTION ON-SITE HOURS: 24

CORRESPONDENCE ADDRESS:

Consolidated Controls Corporation

A Subsidiary of Condec Corporation ATTN: Mr. John Engelberger

Vice President/General Manager

15 Durant Avenue Bethel, CT 06801

ORGANIZATIONAL CONTACT: TELEPHONE NUMBER:

Mr. L. E. Goodsell, Jr., Manager-Quality Control

(203) 743-6721

PRINCIPAL PRODUCT: Electronic instrumentation and control systems.

NUCLEAR INDUSTRY ACTIVITY: Not identified during this inspection.

ASSIGNED INSPECTOR:

leshau

8-23-82

Foster, Reactive & Component Program Section

(R&CPS)

OTHER INSPECTOR(S):

APPROVED BY:

hace

8-23-82

INSPECTION BASES AND SCOPE:

BASES: Appendix B to 10 CFR Part 50 and 10 CFR Part 21.

SCOPE: This inspection was made as a result of the issuance of three 10 CFR Part 50.55(e) reports by the Tennessee Valley Authority. The reports pertained to deficient field buffer cards in the Solid State Control Systems that had been furnished to the Bellefonte Nuclear Plant, (cont. on next page)

PLANT SITE APPLICABILITY:

Docket Nos.: 50-438/439.

DESIGNATED ORIGINAL Cortified By Cheanne Faits

8209240350 820902 PDR GA999 EECCCC 99900221

ORGANIZATION: CONSOLIDATED CONTROLS CORPORATION A SUBSIDIARY OF CONDEC CORPORATION

BETHEL, CONNECTICUT

REPORT NO .:

99900221/82-01

INSPECTION RESULTS:

PAGE 2 of 3

SCOPE: (Cont.) Unit Nos. 1 and 2. The deficiencies were identified as: (1) improper soldering; (2) capacitor failure; and (3) installation of incorrect resistors. In order to evaluate the adequacy of corrective actions and preventive measures, related to the deficient field buffer cards, the following areas were inspected: (1) change control; (2) design control; (3) manufacturing process control; (4) control of nonconformances and corrective actions; and (5) implementation of 10 CFR Part 21.

VIOLATIONS: A.

None

B. NONCONFORMANCES:

- Contrary to Criterion V of Appendix B to 10 CFR Part 50, and Table No. 1 of the Inspection Checklist dated November 11, 1981, visual inspection in accordance with the applicable procedure had not been performed on reworked Field Buffer Modules, Part No. 6N193, Serial Nos. 010-1439, as evidenced by the TDS's, dated November 10, 1980 to June 28, 1982. The same is true of reworked Control Buffer Modules, Part No. 6N191, Serial Nos. 010-1869, reflected on TDS's dated November 11, 1981 to July 12, 1982.
- Contrary to Criterion V of Appendix B to 10 CFR Part 50, and paragraph 6.3.1.2, of Quality Control Manual No. 2, Revision 6, dated August 1, 1981, Field Buffer Module, Part No. 6N193, Serial No. 033, had not been scrapped as dispositioned by Discrepancy Report No. 1-0962, dated November 13, 1981, as evidenced by the TDS which reflects an acceptable operating retest on June 11, 1982.
- Contrary to Criterion V of Appendix B to 10 CFR Part 50, and 3. paragraph 18.0 of Appendix A to the Tennessee Valley Authority Specification No. 2200:
 - The date of test had not consistently been inserted in the TDS's for the Field Buffer Module, Part No. 6N193, and the Control Buffer Module, Part No. 6N191. A number of entries exhibited various days in November and December, but not the year.
 - Actions taken in connection with noted deficiencies had not b. been entered in the TDS's for Part Nos. 6N191 and 6N193. For example, Discrepancy Report Nos. 2-0103, 2-0345, 2-0836, and 2-0410, had been initiated on various serial numbers of the noted part numbers; however, this information had not been entered in the TDS's for the affected part.

ORGANIZATION: CONSOLIDATED CONTROLS CORPORATION A SUBSIDIARY OF CONDEC CORPORATION

BETHEL, CONNECTICUT

REPORT 99900221/82-01 NO .:

INSPECTION RESULTS:

PAGE 3 of 3

- Contrary to Criterion V of Appendix B to 10 CFR Part 50, and paragraph 4. II of Quality Control Instruction No. 057, dated April 21, 1978, revised quality control standards and quality control instructions had not been reviewed and approved by the Quality Control Manager or the Assistant Quality Control Manager.
- Contrary to Criterion V of Appendix B to 10 CFR Part 50, and paragraph 6.1 of Quality Control Manual No. 2, Revision 6, dated August 1, 1981, final test (operating retest) of the following reworked Field Buffer Modules, Part No. 6N193, had not been completed prior to submittal to the customer inspector: Serial Nos.: 062, 081, 139, 172, 223, 310, 317, 586, 625, and 661. This is evidenced by: (1) the lack of such indication (stamp, initials, etc.) at the appropriate location in the TDS's; (2) a completed TVA QC Checklist and Shipping Release No. 62, dated February 19, 1982; and (3) CCC's Invoice No. 2356, dated March 23, 1982, which indicated that the aforementioned hardware was shipped on March 22, 1982.
- Contrary to Criterion V of Appendix B to 10 CFR Part 50 and Table 1 of the Inspection Checklist, dated November 11, 1981, a burn-in test had not been conducted on the Controller Buffers, Part No. 6N191, after the replacement of transistors.

C. UNRESOLVED ITEMS:

None

OTHER FINDINGS OR COMMENTS: D.

The Tennessee Valley Authority filed three 10 CFR Part 50.55(e) reports with the Region II office of the Nuclear Regulatory Commission. The reports pertained to deficient field buffer cards of the Solid State Control Systems that had been furnished to the Bellefonte Nuclear Plant, Unit Nos. 1 and 2. The deficiencies were identified as: (1) improper soldering; (2) capacitor failure; and (3) installation of an incorrect resistor.

Improper soldering and installation of an incorrect resistor appear to be the result of inadequate process control while the failure of capacitors resulted from in-rush current. Original design records were unavailable for review; consequently, the inspector was unable to determine the extent of design control during the initial design.

Paragraph B indicates that corrective actions and preventive measures are not totally adequate.

PERSONS CONTACTED

Company A Subsidiary of Condec Corp.

Docket/Report No. 99900 221/82-01

Inspector W.E. Foster

Page / of 4

NAME(Please Print) TITLE(Please Print) ORGANIZATION(Please Print) F. Butler Engineer - Sr. QC K. B. Cornell GRP. Leader - DRAfting W. D. Fox Manager-Contracts L. E. Goodsell, JR. Manager-QC S. L. Hedrick Supervisor-Test N. M. GARty Contract Administrator K. Mowrey GRP. Leader - DC F. Pierzga Chief Project Engineer G. L. Schoenbaum Manager-Energy, ItC

Inspector W. E. Foster

Scope/Module Follow up on Regional Requests

DOCUMENTS EXAMINED

Docket No.99900221 Report No. 82-01 Page 2 of 4

1	2	TITLE/SUBJECT	3	4
1	7	CCC to TVA-Module Failures Experienced During Stant-up	11/20/80	
2	6	To: L. E. Goodsell, Fm. F. Butler - Visual Inspection of Modules	12/10/80	
3	1	Te: QCFile For F. Butler Visual Trup of TVA Medules at Belle fonte	1/21/81	
4	6	10: W. D. Fox, to: F. Butler Connective Action for TVA	4/29/82	
5	8	QC Instruction #057 - Issuance & Control of QC standards and Instructions	4/21/78	
7	,	QC Standard #201- Wave Soldering, Printed Circuit Assembly	3/25/82	
8		" # 202 - Tenn Bad Asiy Prion to Soldering and Wining	7/13/78	B
9		" " 204-Soldering, Materials and Application Method	7/13/78	
0		The second of the second country of the second of the seco	7/8/81	
1	BE IT	Disperson P. Land Pin Comping	7/13/78	
		Discrepancy Rpt Nose: 2-0345, 2-0103, 2-0836, 2-0814, 2-0410, 2-0126, 1-1109, 1-0962	Various	
2		6N191 & 6N193 Insp. Ck List TVA Medule Rework	11/11/8/	
3		FACTORY Routing for Pla 6N191-R	11/23/81	A
4		~ ~ 6N193-R	11/18/81	B
5	8	TVA Nonconforming Condition Report No. 1309	12/11/80	
	100			

Document Types:

- 1. Drawing
- 2. Specification
- 3. Procedure
- 4. QA Manual
- 5. Purchase 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)

Inspector W. E. Foster

Scope/Module Follow up on Regional Requests

DOCUMENTS EXAMINED

Docket No.99900221 Report No. 82-01 Page 3 of 4

1	2	TITLE/SUBJECT	3	- 4
16	3	Std Burn-in for Microelectarnic Devices	12/5/77	0
17	3	Conformal Conting Printed Wiring Boards	5/10/82	R
18	5	No. 75358-3 (Inep (y), offend, Ine Kot	10/10/22	
19	5	140.98428-7 (-) - Tital Lab of N.A. Teit R-1	6/22/81	
20	8	Enginesking Rpt No. ER7148-Fld. Failness of Capacitors	12/15/81	I
21	, 8	TVA Nonconformance Rpt No. 11	3/11/82	
22	6	Ter Dotaba, For F. Butler - Inspection Checklist	5/3/82	A
33	- 8	Vender Snaveillance Rpt - TVA Ond 7516 185550	5/10-14/86	The second second
24	- 8	Certificate of Compliance for	5/14/82	
25	-/-	PL & 6N191 - PWB Arry - Control Buffer	10/23/81	F
26		-6N193 Field Buffer	4/30/81	C
-	- 1		19/28/81	D
9	8	Engré Duy Chre No. 33956	10/28/81	
0	3	#KJV7317- Module Handling & Packing	10/28/81	
1	3	*KBJ1315 - Quality Conformance TP & Test Bernnentation P/N 6N191	2/19/81	2
	3	*KBK1315- ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	3/4/81	D
		아이들은 그는 경우 사람들이 하는 것이 되었다. 그 사람들은 사람들은 사람들이 되었다면 하는데 되었다.		

Document Types:

- 2. Specification 6. Internal Memo
- 3. Procedure 7. Letter
- 4. QA Manual
- 1. Drawing 5. Purchase Order

 - 8. Other (Specify-if necessary)

Columns:

- 1. Sequential Item Number
- 2. Type of Document
- 3. Date of Document
- 4. Revision (If applicable)

Inspector W. E. Foster

Scope/Module Follow up on Regional Requests

DOCUMENTS EXAMINED

Docket No.99900221 Report No. 82-01 Page 4 of 4

1	2	TITLE/SUBJECT	3	4
32	_ 7	TVA to ((C-Bellefonk Solid-State Control System	2/3/81	
3.3	7		1/16/81	
34	-8	Test Documentation Sheets - Sequences Control Module, 6N 194	7/8/82	
35		KBT-1315-Alty Chippine TP & Test Decomentation 6N194	4/26/29	b
36	_8	Test Decumentation Shts-Field Buffer, 6N193	16/12688=	
37	-,8	- Control Buffer 6N191	11/10/81-	
3.8		- Legnencer Times Module, 6 N195		
39	3	KBS 1315-QIty Cofenna TP & Test Downentation, 6N 195	2/15/79	C
41	8	NA #75K3-85550 (Chy Ord No. 16 3/27/78)	12/13/74	
1-2		Certificate of Compliance to TVA for MA 6N183-1 Rev c (108 ca)	426/82	
+3	8	Englis Day Chye No.83950	19/28/81	
+4	8	~ ~ 5'3951	10/28/81	
45	7	5'3215	4/30/81	
		No. 1563-031 - Reporting of Defects and Noncompliance	9/14/81	A
			1	

Document Types:

- 2. Specification 6. Internal Memo
- Procedure
 Letter
- 4. QA Manual
- Drawing
 PurchaseOrder

 - 8. Other (Specify-if necessary)

Columns:

- 1. Sequential Item Number
- 2. T, re of Document
- 3. Date of Document
- 4. Revision (If applicable)