

General Information or Other (PAR)

Event # 45696

Rep Org: UNITED CONTROLS INTERNATIONAL	Notification Date / Time: 02/12/2010 12:28 (EST)
Supplier: THOMAS AND BETTS	Event Date / Time: 02/12/2010 (EST)
	Last Modification: 02/12/2010
Region: 1	Docket #:
City: TUCKER	Agreement State: Yes
County:	License #:
State: GA	
NRC Notified by: ROBERT B. HALE	Notifications: RAY POWELL R1DO
HQ Ops Officer: VINCE KLCO	S. PANNIER (E-MAIL) NRR
Emergency Class: NON EMERGENCY	J. THORP (E-MAIL) NRR
10 CFR Section:	O. TABATABI (E-MAIL) NRO
21.21 UNSPECIFIED PARAGRAPH	

INTALLATION OF INCORRECT TRANSFORMER ON A CONTROL BOARD FOR A BATTERY CHARGER

On January 6, 2010, Thomas & Betts (TNB) informed United Controls International (UCI) that TNB's sub-contractor (RBB Systems) had installed the incorrect transformer on a sub-component (control board) of a Cyberex battery charger.

During a review of the Bill of Material (BOM) and assembly documentation for the control board by TNB, it was discovered that the incorrect transformer was being installed on the board. The control board affected is designed for systems with a 120 VAC primary input voltage. The incorrect transformer installed is designed for systems with a 208 VAC primary input voltage.

Subsequent testing and risk assessment performed by TNB's sub-contractor, RBB Systems, found that under nominal input voltage, the control card operated marginally. Under low input voltage, the card could fail to operate properly, which could cause a failure of its parent component, the battery charger.

Per TNB, the only sale on record of the Cyberex battery charger is of eight units sold to Philadelphia Electric Company (now part of Exelon-Peach Bottom Nuclear Power Station) in 1993, which are designed for 120 VAC primary input voltage to the control board.

JEI9
NRR

PLEASE TRANSMIT THE FOLLOWING DOCUMENT

BY FACSIMILE TO (301) 816 – 5151 (PROVIDE REPORT)

BY US MAIL TO

U.S. NUCLEAR REGULATORY COMMISSION
DOCUMENT CONTROL DESK
WASHINGTON D.C. 20555-0001



United Controls International
5139 S. Royal Atlanta Drive
Tucker, Georgia 30084
(770) 496 1406 tel
(770) 496 1422 fax

February 12, 2010

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington D.C. 20555-0001

Subject: 10CFR21 Reporting of Defects and Non-Compliance
Thomas & Betts Printed Circuit Board P/N 93-41-119381

The enclosed report addresses a reportable notification for a Thomas & Betts Printed Circuit Board P/N 93-41-119381.

A copy of the report has been mailed to our affected nuclear customers.

Please sign below, acknowledging receipt of this report, and return a copy to at the address above or via fax to (770) 496 1422 within 10 working days after receipt.

Sincerely,

A handwritten signature in black ink that reads "Robert B. Hale".

Robert B. Hale
President

Enclosure
Report 20100212_Notification_93-41-119381, 4 pages

Received by

Date



United Controls International
5139 S. Royal Atlanta Drive
Tucker, Georgia 30084
(770) 496 1406 tel
(770) 496 1422 fax

10CFR21 REPORTING OF DEFECTS AND NON-COMPLIANCE

COMPONENT: Thomas & Betts Printed Circuit Board P/N 93-41-119381

SYSTEM: 125 VDC Battery Charger – Control Board

CONCLUSION: Defect reportable in accordance with 10CFR21

REPORT ID: 20100212_Notification_93-41-119381
File: 20100212_Notification_93-41-119381.doc

Reviewed By: Mahmoud Gabeels
Engineering

Date: 2/12/10

Reviewed By: Durga Pandey
Engineering

Date: 2/12/10

Approved By: MS Hummer
Quality Assurance

Date: 2/12/10

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COMPONENT:

Thomas & Betts Printed Circuit Board

Thomas & Betts P/N: 93-41-119381

PURPOSE:

This report documents the installation of an incorrect transformer on a control board for Cyberex Battery Charger model 130-200R3-S.

SUMMARY:

On January 6th, 2010, Thomas & Betts (TNB) informed United Controls International (UCI) that TNB's sub-contractor (RBB Systems) had installed the incorrect transformer on a sub-component (control board) of a Cyberex model 130-200R3-S battery charger.

During a review of the Bill of Material (BOM) and assembly documentation for the control board by TNB, it was discovered that the incorrect transformer was being installed on the board. The control board (p/n: 93-41-119381) affected is designed for systems with a 120VAC primary input voltage. The incorrect transformer installed (p/n: DCP-34-125) is designed for systems with a 208 VAC primary input voltage. The correct transformer for 120 VAC input system is P/N: DCP-56-80.

Subsequent testing and risk assessment performed by TNB's sub-contractor, RBB Systems, found that under nominal input voltage, the control card operated marginally. Under low input voltage, the card could fail to operate properly, which could cause a failure of its parent component, the battery charger.

AFFECTED USERS:

Exelon – Peach Bottom Nuclear Power Station

Per TNB, the only sale on record of the Cyberex model 130-200R3-S battery charger is of eight units sold to Philadelphia Electric Company (now part of Exelon) in 1993, which are designed for 120 VAC primary input voltage to the control board.

Six circuit boards have been manufactured and sold by TNB. All six of these boards were supplied to UCI. See table 1 below for information on these six circuit boards.

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Table 1

Part number	TNB S/N	UCI S/N	Comments
93-41-119381	1009-006	3539-01-0001	Quarantined at UCI, transformers have been replaced and board has been retested.
93-41-119381	1009-007	3539-01-0002	Quarantined at UCI, transformers have been replaced and board has been retested.
93-41-119381	0809-004	3568-03-0001	Quarantined at Peach Bottom Nuclear Power Station. Waiting for board to be returned to UCI to have transformers replaced and retested.
93-41-119381	0809-005	3568-03-0002	Quarantined at Peach Bottom Nuclear Power Station. Waiting for board to be returned to UCI to have transformers replaced and retested.
93-41-119381	0503-001	1055-4-1	Quarantined at Peach Bottom Nuclear Power Station. Verified to have correct transformers installed.
93-41-119381	unknown	1055-4-2	Installed in plant at Peach Bottom Nuclear Power Station.

The systems engineer at Peach Bottom was consulted with regarding this issue. It was confirmed that one of the boards in question (UCI s/n: 1055-4-2) was installed in a safety related batter charger. He further stated that this charger is one of two redundant chargers and that their license only required one charger to be in service for operation.

Examination of the schematic diagrams of this circuit board, concluded that this transformer supplies the +/- 12VDC power supply for this control board, which controls the battery charger rectifiers. And, if the supply voltage became low enough, that it could cause the control board to stop operating correctly and subsequently cause the battery charger to become inoperable.

Since the other board that was supplied on the same purchase order (UCI S/N 1055-4-1) was verified to have the correct transformer, there is a very high probability that the installed control board has the correct transformer installed, however this cannot be verified until a visual inspection is made.

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CORRECTIVE ACTIONS**Preventive Actions Taken**

The manufacturer (Thomas & Betts) has made procedural changes to improve their Bill of Materials (BOM) and revision control to prevent reoccurrence of this error.

Corrective Actions Taken

Of the six potentially affected circuit boards:

1. Two circuit boards have been quarantined at UCI and have had the incorrect transformers replaced and retested.
2. Three circuit boards have been quarantined at Peach Bottom Nuclear Station. Two of which have been verified to have the incorrect transformer and are waiting to be returned for transformer replacement and retest. The third circuit board has been verified to have the correct transformers installed.

Corrective Actions to be Taken

1. Only one of the six manufactured circuit board is installed in the Peach Bottom Nuclear Power Station. This board needs to be inspected to verify which transformer is installed on the board. If the incorrect transformer is installed then it needs to be removed from service and returned to UCI for transformer replacement and retest.
2. The two currently quarantined circuit boards at Peach Bottom that have the incorrect transformers are to be returned to UCI for transformer replacement and retest.

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