



February 24, 2017

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

Subject: 10CFR Part 21 Notification for P/N: 005650-01 Terminal Boxes Supplied by United Controls International (UCI)

The purpose of this letter is to provide the NRC with a report in general conformity of the requirements of 10CFR Part 21.21.

In July of 2016 UCI identified extensive discoloration and corrosion on P/N: 005650-01 terminal box enclosures (reference Figures 1 & 2) that were fabricated under UCI's Quality Assurance Program in April of 2015. The identified discoloration and corrosion was not present at the completion of fabrication and became evident when pulled from stock in July of 2016. It was determined that the fabrication process was changed during fabrication of the April of 2015 items to utilize a different vendor for fabrication activities. Evaluation of the fabrication process performed on the subject items identified that this new vendor utilized a polishing process that was not performed on previously fabricated items. Particles/crystals from the discolored areas of the affect items were analyzed by Fourier Transform Infra-Red (FTIR) method and it was identified that ammonium phosphate crystals had formed on the items. It is the determination of UCI that the affected items were cleaned/polished with unknown chemicals during the polishing process of fabrication that resulted in the formation of these crystals and degradation of the enclosure material overtime.

The items manufactured utilizing this new process were supplied to Clyde Union Limited under purchase orders 4500109863/4 (Qty. 1) and 4500113688/4 (Qty. 1). Clyde Union Limited was notified of the subject issue on January 13, 2017 and UCI is awaiting concurrence from Clyde Union Limited that the affected items are to be returned for replacement items manufactured per the original manufacturing process.

Required information as per 10CFR Part 21.21(d)(4) follows:

- (i) *Name and Address of the individual or individuals informing the Commission*  
Rob Hale  
President  
United Controls International  
205 Scientific Drive  
Norcross, GA 30092

IE19  
NRR



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- (ii) **Identification of the facility, the activity, or the basic component supplied for such facility or such activity within the United States which fails to comply or contains a defect.**

The items supplied to Clyde Union Limited under purchase orders 4500109863/4 and 4500113688/4.

- (iii) **Identification of the firm constructing the facility or supplying the basic component which fails to comply or contains a defect.**

United Controls International  
205 Scientific Drive  
Norcross, GA 30092

- (iv) **Nature of the defect or failure to comply and the safety hazard which is created or could be created by such defect or failure to comply.**

Discoloration and corrosion of the enclosure materials are an indication of material degradation which over time may lead to structural failures of the item.

- (v) **The date on which the information of such defect or failure to comply was obtained.**

UCI identified the discoloration and corrosion of previously fabricated item in July of 2016.

- (vi) **In the case of a basic component which contains a defect or fails to comply, the number and location of these components in use at, supplied for, being supplied for, or may be supplied for, manufactured or being manufactured for one or more facilities or activities subject to the regulations in this Part.**

Part Number	Utility	Purchase Order	Quantity
005650-01	Clyde Union	4500109863/4	1
	Limited	4500113688/4	1

- (vii) **The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.**

UCI has requested that the effected items be returned to UCI for replacement with items manufactured per the original manufacturing process. UCI shall implement internal training for offsite witnessing controls and fabrication process documentation.



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- (viii) *Any Advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, or will be given to purchasers or licensees.*

This issue is isolated only to UCI item fabricated per the new process that included end polishing. UCI advises that all chemicals in contact with materials be evaluated prior to use.

- (ix) *In the case of an early site permit, the entities to whom an early site permit was transferred.*

Not Applicable.

If you have any questions or wish to discuss this matter or this report, please contact:

Wesley Hickle  
Engineering Manager  
whickle@unitedcontrols.com  
770-496-1406 x 165

Sincerely,

A handwritten signature in black ink that reads "Rob Hale". The signature is written in a cursive, slightly slanted style.

Rob Hale  
President  
United Controls International

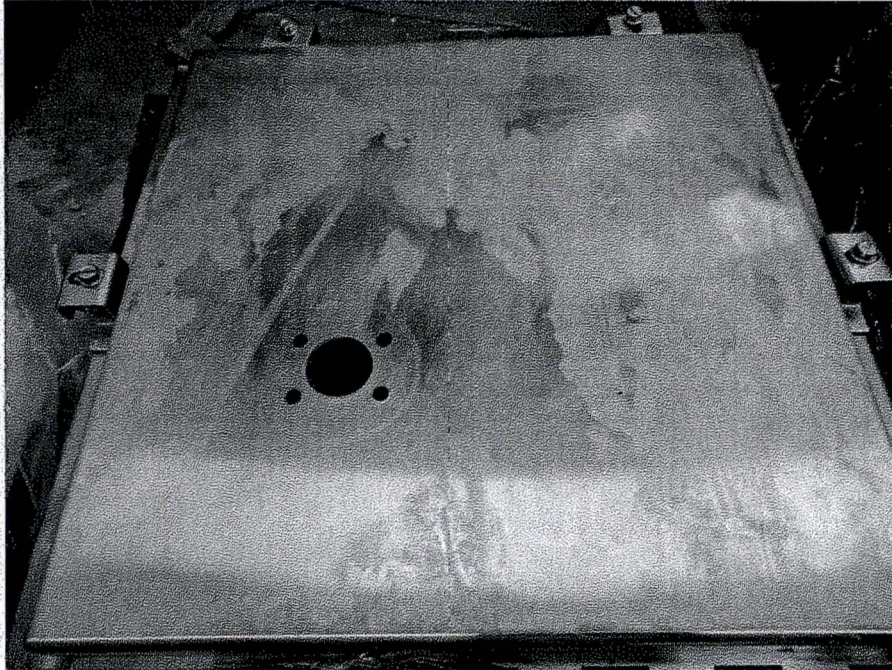


Figure 1 (Discoloration Exhibited)

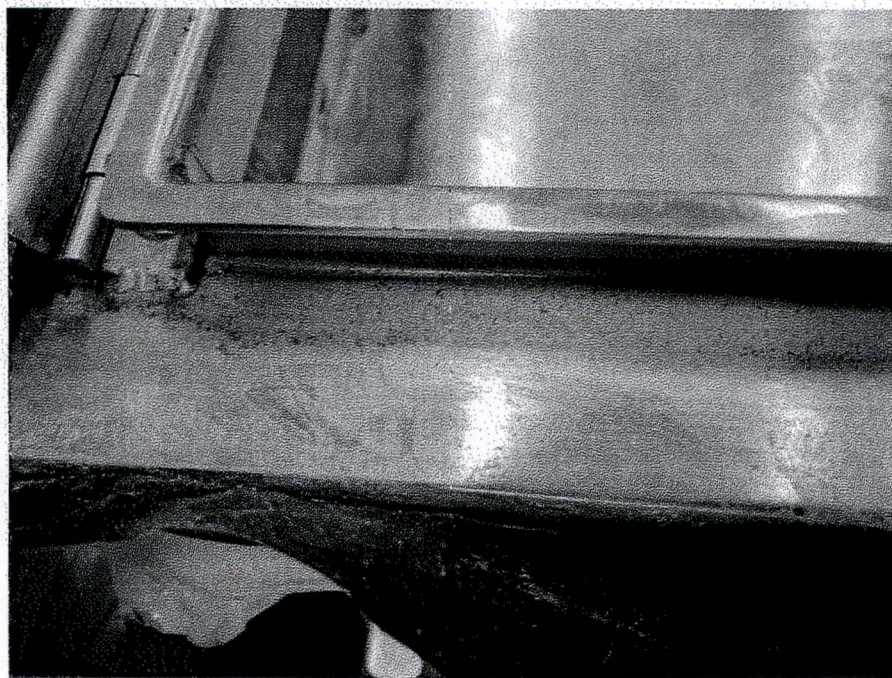


Figure 2 (Discoloration & Rust Exhibited)

Part 21 (PAR)

Event # 52579

<b>Rep Org:</b> UNITED CONTROLS INTERNATIONAL	<b>Notification Date / Time:</b> 02/27/2017 16:27 (EST)
<b>Supplier:</b> UNITED CONTROLS INTERNATIONAL	<b>Event Date / Time:</b> 02/24/2017 (EST)
	<b>Last Modification:</b> 02/27/2017
<b>Region:</b> 1	<b>Docket #:</b>
<b>City:</b> NORCROSS	<b>Agreement State:</b> Yes
<b>County:</b>	<b>License #:</b>
<b>State:</b> GA	
<b>NRC Notified by:</b> WILLIAM MALLIA	<b>Notifications:</b> ANNE DeFRANCISCO R1DO
<b>HQ Ops Officer:</b> JEFF ROTTON	JONATHAN BARTLEY R2DO
<b>Emergency Class:</b> NON EMERGENCY	MARK JEFFERS R3DO
<b>10 CFR Section:</b>	RICK DEESE R4DO
21.21(d)(3)(i) DEFECTS AND NONCOMPLIANCE	PART 21/50.55 REACTORS EMAIL

## UCI TERMINAL BOXES P/N 005650-01 DISCOLORATION AND CORROSION

The following information is excerpted from an email submitted by the reporting organization:

"In July of 2016, UCI [United Controls International] identified extensive discoloration and corrosion on P/N: 005650-01, terminal box enclosures, that were fabricated under UCI's Quality Assurance Program in April of 2015. The identified discoloration and corrosion was not present at the completion of fabrication and became evident when pulled from stock in July of 2016. It was determined that the fabrication process was changed during fabrication of the April of 2015 items to utilize a different vendor for fabrication activities. Evaluation of the fabrication process performed on the subject items identified that this new vendor utilized a polishing process that was not performed on previously fabricated items. Particles/crystals from the discolored areas of the affect items were analyzed by Fourier Transform Infra-Red (FTIR) method and it was identified that ammonium phosphate crystals had formed on the items. It is the determination of UCI that the affected items were cleaned/polished with unknown chemicals during the polishing process of fabrication that resulted in the formation of these crystals and degradation of the enclosure material overtime. The items manufactured utilizing this new process were supplied to Clyde Union Limited under purchase orders 4500109863/4 (Qty. 1) and 4500113688/4 (Qty. 1). Clyde Union Limited was notified of the subject issue on January 13, 2017 and UCI is awaiting concurrence from Clyde Union Limited that the affected items are to be returned for replacement items manufactured per the original manufacturing process.

"If you have any questions or wish to discuss this matter or this report, please contact:

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Engineering Manager

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