

Part 21 (PAR)

Event # 51123

<b>Rep Org:</b> NUTHERM INTERNATIONAL, INC	<b>Notification Date / Time:</b> 06/04/2015 14:34 (EDT)
<b>Supplier:</b> NUTHERM INTERNATIONAL, INC	<b>Event Date / Time:</b> 06/04/2015 (CDT)
	<b>Last Modification:</b> 06/04/2015
<b>Region:</b> 3	<b>Docket #:</b>
<b>City:</b> MOUNT VERNON	<b>Agreement State:</b> Yes
<b>County:</b>	<b>License #:</b>
<b>State:</b> IL	
<b>NRC Notified by:</b> TOM STERBIS	<b>Notifications:</b> DAVE PASSEHL R3DO
<b>HQ Ops Officer:</b> DONG HWA PARK	PART 21 EMAIL
<b>Emergency Class:</b> NON EMERGENCY	
<b>10 CFR Section:</b>	
21.21(d)(3)(i) DEFECTS AND NONCOMPLIANCE	

PART 21 - POTENTIAL FAILURE OF A TIME RELAY

The following was received via facsimile:

"Allen Bradley relay base model 700RTC contains an unevaluated CPLD (Complex Programmable Logic Device). This was an unpublished design change that did not result in a part number change from Allen Bradley. There was no change to the appearance of the relay that would identify any design changes made to the relay configuration. Allen Bradley has indicated that the change occurred in mid-2009 and that it was a rolling change with no specific manufacturing date to distinguish between the old and new configuration. Based on this information, all units manufactured during 2009 and later are suspect.

"Nutherm International, Inc. has concluded its review of all procurements of the 700RTC series relays and have found two (2) units manufactured during or after 2009 dedicated and shipped to customers. The following facility was determined to be impacted by this condition:

Utility: Exelon  
 Plant: Quad Cities  
 Purchase Order: 00447625  
 Part Number: 700-RTC11110U1  
 Nutherm Traceability Number: 11340-02R01 1/01, 11340-02R01 1/02.

"In a separate 10CFR Part 21 notification, Event Number 51095, reported to the NRC [on] 5/28/2015 indicated that the CPLD can be affected by electrical noise from operation of nearby relays which can reset the timing of the relay. The plant should evaluate whether the installed relays are subjected to unevaluated EMI/RFI [electromagnetic interference/radio-frequency interference] conditions when installed in the plant."

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IE19  
NRK

# FAX

**N** **Nutherm**  
International, Inc.  
[www.nutherm.com](http://www.nutherm.com)

501 South 11th Street

Mount Vernon, IL 62864

Phone: 618-244-6000

Fax: 618-244-6641

To:

Fax: (301)816-5151

Document Control Desk

U.S. Nuclear Regulatory Commission

Washington, DC 20555

From:

Tom Sterbis

President

Nutherm International, Inc.

501 S. 11<sup>th</sup> St.

Mount Vernon, IL 62864

(618)244-6000

Pursuant to 10CFR 21.21 (d) (3) (II), Nutherm International, Inc. is providing in the following letter the written notification of the identification of a potential failure to comply.

Total Pages including this page: 4



501 South 11th Street Mount Vernon, IL 62864

Phone:618-244-6000

Fax:618-244-6641

June 4, 2015

Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Subject: Report of Potential 10CFR Part 21, Allen Bradley Time Relay Model 700RTC

Pursuant to 10CFR 21.21 (d) (3) (ii), Nutherm International, Inc. is providing written notification of the identification of a potential failure to comply.

On the basis of our evaluation, it is determined that Nutherm International, Inc. does not have sufficient information to determine if the subject condition would, or has, created a Substantial Safety Hazard or would have created a Technical Specification Safety Limit violation as it relates to the subject plant applications.

The following information is required per 10CFR 21.21 (d) (4)

(i) Name and address of the individual or individuals informing the Commission.

Thomas A. Sterbis, President  
Nutherm International, Inc.  
501 South 11th Street  
Mount Vernon, Illinois 62864

(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.

Allen Bradley relay base model 700RTC contains an unevaluated CPLD (Complex Programmable Logic Device). This was an unpublished design change that did not result in a part number change from Allen Bradley. There was no change to the appearance of the relay that would identify any design changes made to the relay configuration. Allen Bradley has indicated that the change occurred in mid-2009 and that it was a rolling change with no specific manufacturing date to distinguish between the old and new configuration. Based on this information, all units manufactured during 2009 and later are suspect.

This timing relay, model 700RTC, has been dedicated/qualified for multiple applications for various plants.

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

Nutherm International, Inc., 501 South 11th Street. Mount Vernon, Illinois 62864.

(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.

Allen Bradley made a design change in the 700RTC series timing relay. This design change added a CPLD, which meets the definition of a digital device under the guidance of NEI 01-01. Prior to this design change, the relay did not contain any digital devices. The design change occurred mid-2009; the manufacturer has indicated that there is no specific manufacturing date to distinguish between the old and new configuration. Based on this information, any 700RTC series device manufactured during 2009 or any later date may have the CPLD as part of its configuration. There is no difference in outward appearance of these relays to distinguish the difference in internal configuration.

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

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(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.

Nutherm International, Inc. has concluded its review of all procurements of the 700RTC series relays and have found two (2) units manufactured during or after 2009 dedicated and shipped to customers. The following facility was determined to be impacted by this condition:

<u>Utility</u>	<u>Plant</u>	<u>Purchase Order</u>	<u>Part Number</u>	<u>Nutherm Traceability Number</u>
Exelon	Quad Cities	00447625	700-RTC11110U1	11340-02R01 1/01 11340-02R01 1/02

(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.

Initial actions of determining the units affected were completed 6/4/2015. The impacted customer was notified of this condition 6/4/2015. Nutherm International, Inc. does not have sufficient information to determine this condition would, or has, created a Substantial Safety Hazard or would have created a Technical Specification Safety Limit violation as it relates to the subject plant applications. Nutherm has no current orders for these units and has no units in stock. No further actions will be taken at this time. EMC qualification testing will be performed, if required by the customer.

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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.

In a separate 10CFR Part 21 notification, Event Number 51095, reported to the NRC 5/28/2015 indicated that the CPLD can be affected by electrical noise from operation of nearby relays which can reset the timing of the relay. The plant should evaluate whether the installed relays are subjected to unevaluated EMI/RFI conditions when installed in the plant.

(ix) In the case of an early site permit, the entities to whom an early site permit was transferred.  
Not applicable.

Sincerely,  
**NUTHERM INTERNATIONAL, Inc.**



Thomas A. Sterbis  
President

TAS/abs