

General Information or Other (PAR)

Event # 40206

Rep Org: FRAMATOME ANP	Notification Date / Time: 09/30/2003 14:39 (EDT)
Supplier: EATON CUTLER HAMMER	Event Date / Time: 08/19/2003 (EDT)
	Last Modification: 09/30/2003
Region: 1	Docket #:
City: CRANBERRY TOWNSHIP	Agreement State: No
County:	License #:
State: PA	
NRC Notified by: FRAN STARR	Notifications: EUGENE COBEY R1
HQ Ops Officer: ERIC THOMAS	MARK LESSER R2
Emergency Class: NON EMERGENCY	JULIO LARA R3
10 CFR Section:	JACK FOSTER NRR
21.21 UNSPECIFIED PARAGRAPH	

PART 21 REPORT

A potential safety concern was reported regarding failure of the Eaton Cutler-Hammer Freedom Series Heater Pack due to a possible defect in the weld which joins the screw terminal to the heater coil. The following conditions could potentially occur:

- Open circuit resulting in loss of current to a pole in the overload relay. If the load was not running at the time of failure, it would draw excessive current during its next attempted start, and either trip the overload or damage the load. If the load was running at the time of failure, it would slow to a stop while drawing excessive current, which would either trip the overload or damage the load.
- If two heaters failed in the same load, a shock hazard could develop due to voltage to ground on the remaining phase.

The affected Heater Packs are H2009B-3 through H2011B-3, and H2012B-3 through H2017B-3. The following NRC Licensees are affected: DC Cook, Vogtle, and Beaver Valley, Framatome-ANP Inc. in Lynchburg, VA.

Corrective actions by the supplier include daily inspection/replacement of weld electrodes, and destructive sample testing. Corrective actions by Framatome include dedication activities that address weld integrity acceptance.

Framatome recommends licensees replace all affected Heater Packs.

IE20

**FRAMATOME ANP**

An AREVA and Siemens Company

FRAMATOME ANP, Inc.**FAX COVER SHEET**

DATE: 9/30/03 **Total Pages Including Cover** 3

TO: NRC Operations Center

COMPANY: United States Nuclear Regulatory Commission

TELEPHONE: 301-816-5100 **FAX:** 301-816-5151

FROM: Fran Starr **TITLE:** QA Manager

COMPANY: Framatome ANP, Inc. - Electrical Products

TELEPHONE: 724-779-9800 ext. 1321 **FAX:** 724-779-9844

COMMENTS: See Below

Subject: 10CFR Part 21 NRC Initial Notification

Attached please find Framatome ANP, Inc. – Electrical Products, Letter No. LTR-03-309 which identifies the concern of a potential failure of the Eaton Cutler-Hammer Freedom Series Heater Pack.

Should you have any questions, please contact me at (724) 779-9800 ext. 1321.

**Thank You,
Framatome ANP, Inc.**

**Fran Starr
Quality Manager – Electrical Products**

FRAMATOME ANP, Inc. – Electrical Products
200 West Kensington Drive, Suite 600
Cranberry Township, PA 16066
Telephone: 724-779-9800 ext. 1321
Email: Fran.Starr@framatome-anp.com



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FRAMATOME ANP, Inc.

Document Control Desk
Director, Office of Inspection and Enforcement
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<u>Nuclear Customer / Location</u>	<u>Components / Quantities</u>
(1) American Electric Power - DC Cook	H2009B-3 – H2017B-3 (Various)
(2) Southern Nuclear Operating Co. - Vogtle	H2009B-3 – H2015B-3 (Various)
(3) First Energy Service Co. - Beaver Valley	H2009B-3 - H2011B-3, H2013B-3 (Various) H2014B-3, H2016B-3 (Various)
(4) Framatome-ANP, Inc. - Lynchburg, VA	H2011B-3 – H2012B-3, H2014B-3 (Various)

An investigation by Framatome ANP, Inc. - Electrical Products was conducted. The investigation required coordination with the supplier to determine the cause(s) of the problem. The results of the investigation determined that the root cause of the failure associated with the subject Eaton Cutler-Hammer Freedom Series Heater Pack was due to the supplier welding the screw terminal to the heater coil with worn out electrodes. Supplier corrective action(s) implemented by Eaton Cutler-Hammer includes documented daily inspections / replacement of weld electrodes, documented destructive sample testing and increased documented production sample inspections.

Corrective actions to prevent recurrence, in conjunction with the supplier corrective action(s), are being implemented by Framatome ANP, Inc – Electrical Products which include dedication activities that address weld integrity acceptance.

Framatome ANP, Inc – Electrical Products recommends the replacement of all H2009B-3 through H2017B-3 Eaton Cutler-Hammer Freedom Series Heater Packs. For additional information the Licensee should contact Framatome ANP, Inc – Electrical Products at (724) 779-9800, ext. 1321.

Sincerely,
Framatome ANP, Inc. - Electrical Products

Fran Starr
Manager, Quality Assurance

cc: Gary Gibson - FANP
Laurence Patterson - FANP
Dan Mikow - FANP
Dan Livermore – FANP
William Orga - FANP
Jim Matlay – FANP
Emily A. Mayhew – FANP
Tara W. Werner - FANP
Rick Wyatt – Eaton Cutler-Hammer

FL: md

FRAMATOME ANP, Inc. – Electrical Products
200 West Kensing Drive, Suite 600
Cranberry Township, PA 16066
Tel: 724-779-9800 ext. 1321 Fax: 724-779-9844
Email: Fran.Starr@framatome-anp.com



FRAMATOME ANP

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FRAMATOME ANP, Inc.

September 30, 2003

LTR 03-309

Document Control Desk
 Unites States Nuclear Regulatory Commission
 Washington, DC 20555

Attention: Director, Office of Inspection and Enforcement

Subject: Potential Failure of the Eaton Cutler-Hammer Freedom Series Heater Pack

The following information is provided pursuant to the requirements of 10CFR Part 21 to report a potential safety concern. This issue concerns the potential failure of the Eaton Cutler-Hammer Freedom Series Heater Pack, manufactured and supplied by Eaton Cutler-Hammer due to a possible defect in the weld which joins the screw terminal to the heater coil. The following condition has the potential to occur:

- If the weld on a Eaton Cutler-Hammer Freedom Series Heater Pack failed after installation into a Freedom Overload Relay, the broken heater would create an open circuit resulting in the current for that pole to be lost to the load. If the load was not running at the time of failure there would be no indication of failure until the load was started. The load would not start in this condition and would draw excessive current which would either trip the overload or damage the load. A properly applied correctly operating thermal overload relay should protect the load from damage in this condition. If the load was running at the time of failure, the load would slow or stop while drawing excessive current, which would either trip the overload or damage the load. A properly applied, correctly operating thermal overload relay should protect the load from damage in this condition. If two or three heaters failed in the same overload, there would be no current flow to the load. If two heaters failed, a voltage to ground could exist at the load on one phase, which could represent a shock hazard. Customary source lockout / tagout requirements for electrical work would prevent this hazard from endangering personnel, since the starter should be completely de-energized before troubleshooting work is started that would expose personnel to the energized conductor.

This condition is suspect for the Eaton Cutler-Hammer Freedom Series Heater Packs, identified below:

- (1) H2009B-3 through H2011B-3, which utilizes a weld and rivet to join the screw terminal to the heater coil, and
- (2) Heaters H2012B-3 through H2017B-3, which utilizes a weld to join the screw terminal to the heater coil.

This potential safety concern was identified by Framatome ANP, Inc. – Electrical Products and was determined to be of a reportable nature by Framatome ANP, Inc. – Electrical Products (formerly Eaton Cutler-Hammer Nuclear Programs) on August 19, 2003. Framatome ANP, Inc. – Electrical Products has supplied safety related Eaton Cutler-Hammer Freedom Series Heater Packs H2009B-3 through H2017B-3 to the nuclear customers, identified below, and considers all aforementioned Eaton Cutler-Hammer Freedom Series Heater Packs supplied by Framatome ANP, Inc. – Electrical Products to be suspect. The non-nuclear commercial segment of Eaton Cutler-Hammer has supplied the same product to third party suppliers. Third party suppliers may have supplied the same product to the nuclear industry as safety related.

FRAMATOME ANP, Inc. – Electrical Products
 200 West Kensington Drive, Suite 600
 Cranberry Township, PA 16066
 Tel: 724-779-9800 ext. 1321 Fax: 724-779-9844
 Email: Fran.Starr@framatome-anp.com