Part 21 (PAR) Event # 47301

Rep Org: AMETEK		**Notification Date / Time:** 09/28/2011 17:23 (EDT)	
Supplier: AMETEK		**Event Date / Time:** 09/28/2011 07:00 (EDT)	
		Last Modification: 09/28/2011	
Region: 3		**Docket #:**	
City: COLUMBUS		**Agreement State:** Yes	
County:		**License #:**	
State: OH			
NRC Notified by: ROBERT GEORGE		**Notifications:** LAWRENCE DOERFLEIN	R1DO
HQ Ops Officer: JOE O'HARA		REBECCA NEASE	R2DO
Emergency Class: NON EMERGENCY		DAVE PASSEHL	R3DO
10 CFR Section:		GREG WERNER	R4DO
21.21 UNSPECIFIED PARAGRAPH		PART 21 GRP EMAIL	

PART 21 REPORT - DIODE FAILURES DUE TO DETERIORATION

The following was received via fax:

"Component Description: International Rectifier (IR) and Vishay 150 amp clamp diodes with either forward or reverse bias These are Ametek Solid-state Controls part numbers 07-600150-00 and 07-600151-00. Diodes can be either installed in Ametek Solid-state Controls UPS equipment or provided as a spare part.

"The diode failures due to this suspected defect have occurred generally at around the third or fourth year of operating life of the device. There are no warning signs that a failure is imminent, or detection method for predicting an approaching failure.

"The investigation has revealed that the diode failures were due to voltage transients or punch through. A failure analysis by Southwest Research concluded that the device having an 'alloy junction' can deteriorate after three to four years of operation resulting in a 'punch through' condition within the device causing the diode to short.

"The actual cause has not been determined; however it is suspected that the alloy junction type device may have sensitivity to age or voltages causing the device to more rapidly degrade.

"The failures described above, could result in loss of output voltage and transfer of the static switch to the bypass source which could result in a potential damage to the load.

"We have only two known failures in systems at this voltage level. We feel the failure rate has been extremely low and the risk is minimal. Each operating facility will need to evaluate the potential risk to their operation."

IE19
NRR

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The licensee did not indicate which NRC licensees, if any, are affected by this notice.

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AMETEK

SOLIDSTATE CONTROLS
Quality Assurance
875 Dearborn Drive, Columbus, OH 43085 U.S.A.
Telephone: 614-846-7500 1-800-635-7300 Fax: 614-885-3990
E-mail: bob.george@ametek.com

Robert E. George
Director of Quality

September 28, 2011

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555-0001

Attention: Document Control Center
Subject: Notification of Potential Defect - 10CFR Part 21

Subject: International Rectifier and Vishay clamp diodes, 150 amps, forward and reverse bias.

Ametek Solidstate Controls is submitting the following Report of a Potential Defect in accordance with the requirements of 10CFR Part 21.

Please contact me if you require any further information.

Sincerely,

Robert E. George
Director of Quality
Ametek Solidstate Controls

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COMPONENT DESCRIPTION:

International Rectifier (IR) and Vishay 150 amp clamp diodes with either forward or reverse bias These are Ametek Solidstate Controls part numbers 07-600150-00 and 07-600151-00.

Diodes can be either installed in Ametek Solidstate Controls UPS equipment or provided as a spare part. The components are schematically identified as D1 through D4 or D101 through D104.

PROBLEM YOU COULD SEE:

The diode failures due to this suspected defect have occurred generally at around the third or fourth year of operating life of the device. There are no warning signs that a failure is imminent, or detection method for predicting an approaching failure.

CAUSE:

The investigation has revealed that the diode failures were due to voltage transients or punch through. A failure analysis by Southwest Research concluded that the device having an "alloy junction" can deteriorate after three to four years of operation resulting in a "punch through" condition within the device causing the diode to short.

The actual cause has not been determined; however it is suspected that the alloy junction type device may have sensitivity to age or voltages causing the device to more rapidity degrade.

EFFECT ON SYSTEM PERFORMANCE:

The failures described above, could result in loss of output voltage and transfer of the static switch to the bypass source which could result in a potential damage to the load.

ACTION REQUIRED:

We have only two known failures in systems at this voltage level. We feel the failure rate has been extremely low and the risk is minimal. Each operating facility will need to evaluate the potential risk to their operation.

AMETEK SOLIDSTATE CONTROLS CORRECTIVE ACTION:

If you wish to replace the capacitors Ametek Solidstate Controls will work with you to arrange replacements. Please contact Mr. Jim Ackinclose of our Client Services group at 1-800-222-9079 or 1-614-846-7500 ext. 6260. jim.ackinclose@ametek.com

FAX COVER SHEET

AMETEK

SOLIDSTATE CONTROLS

875 Dearborn Drive, Columbus, OH 43085 U.S.A.
Telephone: 614-846-7500 1-800-635-7300 Fax: 614-885-3990

TO: NRC Operations Center
FAX: 301-816-5151
DATE: 9-28-11
PAGES: (including this cover sheet) 3

FROM: Robert George
EXTENSION: 614-410-6317

SUBJECT: PT 21 Reporting

MESSAGE:

See Attached

NOTE: The information contained in this FAX is confidential and/or privileged. If the reader of this message is not the intended recipient, any dissemination, distribution, or copying of this communication is prohibited. If this communication has been received in error, please notify us by telephone immediately so we can arrange for the return of the original(s). Thank you.