



**SOLIDSTATE CONTROLS**

Quality Assurance

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U.S. Nuclear Regulatory Commission

Document Control Desk

Washington, DC 20555-0001

Attention: Document Control Desk  
Subject: Notification of Potential Defect - 10CFR Part 21  
Product: T801, 80-315382-90 installed in inverters where a 0.7 power factor load is required. This issue is limited to eight systems provided to TVA Sequoyah on AMETEK job C72143 in 1999.

AMETEK Solidstate Controls Inc. 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,

Ethan Salsbury  
Quality Director  
AMETEK Solidstate Controls



**AMETEK**

**COMPONENT DESCRIPTION:**

AMETEK part number 80-315382-90, T801 main transformer.

**PROBLEM YOU COULD SEE:**

Overheating and failure of transformers installed in equipment with 0.7 power factor load requirements

**CAUSE:**

The inverters on AMETEK job number C72143 were required to support a 0.7 power factor load. To meet this requirement, CVT capacitors were added which led to overcurrent on the capacitor current windings and overheating. The overheating led to a breakdown in insulation between windings, causing a premature failure of the transformer set and inverter relative to its 40-year qualification life.

**EFFECT ON SYSTEM PERFORMANCE:**

The overheating accelerates the degradation of the insulation between windings and eventually leads to shorting. This will cause an inverter failure and require the load to be transferred to bypass.

**ACTION REQUIRED:**

This is the only instance AMETEK has experienced for this issue. Therefore, action is only required for the equipment on AMETEK job number C72143, located at TVA Sequoyah. New transformers have been provided as replacements that require fewer capacitors, contain additional venting to improve cooling, and include larger winding material to reduce current density. The main transformers (T801) installed in the serial numbers associated with this job (C72143-0111 through 0911) should be replaced to prevent any similar occurrences.

**AMETEK SOLIDSTATE CONTROLS CORRECTIVE ACTION:**

AMETEK has enhanced this particular transformer design to improve cooling and reduce capacitor current. Additionally, corrective action #175 has been issued in AMETEK's system. If you have any questions, please contact Mr. Mark Shreve of our Client Services group at 1-800-222-9079 or 1-614-846-7500 ext. 6332. [mark.shreve@ametek.com](mailto:mark.shreve@ametek.com)