

From: [Zachary Rumora](#)
To: [Hoc, HOO X](#)
Cc: [Ethan Salsbury](#)
Subject: [External_Sender] AMETEK Solidstate Controls Interim Part 21 Notification
Date: Saturday, December 28, 2024 11:00:44 AM
Attachments: [Interim 10CFR Part 21 Notification.pdf](#)

Hello,

AMETEK Solidstate Controls is submitting the attached interim report/notification of a potential defect in compliance with 10CFR21. Please confirm receipt and feel free to contact me or Ethan Salsbury with any additional questions. Our contact info is below.

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Best,

Zach Rumora

Quality and EHS Manager



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SOLIDSTATE CONTROLS

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December 28, 2024

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: Regulating Transformer Models 85-IS0075-12 and 85-IS0150-14

AMETEK Solidstate Controls Inc. is submitting the following Interim Report of a Potential Defect discovered on 10/29/2024 in accordance with the requirements of 10CFR Part 21.

Please contact me if you require any further information.

Sincerely,

Zach Rumora
Quality Manager
Ametek Solidstate Controls

**COMPONENT DESCRIPTION:**

The AMETEK SCI model numbers listed are for regulating transformers that are intended to take in AC power and output AC power at 120V ± 2% with low harmonic distortion. The specifications for each model is below:

- 85-IS0075-12
 - Input: 460VAC ± 10%
 - Input Current: 24A Max
 - Input Phase: Single Phase
 - Input Frequency: 60Hz ± 0.5%
 - Output Voltage: 120VAC ± 2%
 - Output Phase: Single Phase
 - Output Frequency: 60Hz
- 85-IS0150-14
 - Input: 460VAC ± 10%
 - Input Current: 44A Max
 - Input Phase: Single Phase
 - Input Frequency: 60Hz ± 0.5%
 - Output Voltage: 120VAC ± 2%
 - Output Phase: Single Phase
 - Output Frequency: 60Hz

PROBLEM YOU COULD SEE:

During operation the transformer inside of these systems may experience a breakdown in which electricity is able to short from the coils to ground, typically via the transformer core. This may present thermally via increased temperature readings obtained from thermal probes or IR guns, and/or visibly through severe darkening or charring of the coils, magnetic shunts, or core.

EFFECT ON SYSTEM PERFORMANCE:

Once short circuiting of the coils occurs the system is no longer able to provide regulated output power and needs to be shutdown to prevent further damage to the rest of the unit.

CAUSE:

It is unknown at this time what is causing the short circuiting reported. At this time the resin has been evaluated and found to meet the required 220°C insulation system given acceptable hot spot temperature is ≤ 200°C. At a maximum ambient temperature of 40°C this would require a temperature rise of ≤ 160°C. Factory test results from 2016 for unit 96000101-0415 and -0915 showed a temperature rise of 116°C and 131°C, respectively.

Further analysis of the impact of failures of other system components is ongoing. This includes but is not limited to: capacitors, wire harnesses, and transformer materials. Further electrical testing of the regulating transformer systems and their individual transformers in isolation is also in process.

ACTION REQUIRED:

It is recommended that units currently in service are monitored for excessive temperature (>180°C or >355°F). Units found to have temperatures above this threshold should be considered for removal from service. If this is not possible, the units should have their routine monitoring/maintenance cadence increased to monitor for signs of deterioration in the insulation system of the transformer. These signs may include increased audible noise from the units, blackening on any areas of the transformer, or signs of electric shorting (between windings or coil to core). Appendix A lists the currently known population of units distributed as safety related.



AMETEK SOLIDSTATE CONTROLS CORRECTIVE ACTION:

The evaluation of these systems (as detailed in the cause section) is currently scheduled to be completed by or before January 31st, 2025 with further information on required corrective action(s) to follow by or before February 7th, 2025.



Appendix A

Affected Site	Site Purchase Order	AMETEK SCI Sales Order	Model	Quantity
Southern Nuclear Company – Vogtle	SNG31574-0144	96000101	85-IS0150-14	2
	SNG31574-0144	96000101	85-IS0150-14	4
	SNG31574-0144	96000101	85-IS0075-12	3
	SNG31574-0200	96000136	85-IS0150-14	1
	SNG31574-0200	96000136	85-IS0150-14	2
	SNG31574-0197	96000138	85-IS0075-12	4
	SNG31574-0197	96000138	85-IS0075-12	3
	SNG31574-0226	96000144	85-IS0150-14	1
	SNG31574-0336	96000173	85-IS0150-14	1
	SNG31574-0414	96000190	85-IS0150-14	5
	SNG10332311	96000193	85-IS0150-14	2
Constellation Energy - Ginna	602585	96000125	85-IS0075-12	1