



November 1, 2022

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

Subject: USNRC 10CFR Part 21 Notification

Reference: Nutherm/Sola Hevi-Duty Uninterruptible Power Supply (UPS), S4K2U1000-NM191

Pursuant to 10CFR 21.21 (d) (3) (ii), Nutherm International, Inc. is providing written notification of the identification of a potential defect found in Nutherm/Sola Hevi-Duty Uninterruptible Power Supply (UPS), S4K2U1000-NM191.

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

- i. Name and address of the individual or individuals informing the NRC.

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.

It has been identified that Nutherm International, Inc has supplied one (1) Nutherm/Sola Hevi-Duty Uninterruptible Power Supply (UPS), S4K2U1000-NM191 to the following facility:

Constellation Energy (Formerly Exelon Generation Co., LLC) – Clinton Nuclear Station

- 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.

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Nutherm was notified by the customer that the Sola/ Hevi-Duty Uninterruptible Power Supply (UPS), S4K2U1000-NM191 provided under Exelon PO 00610912, did not power up properly. The unit was returned to Nutherm for failure analysis. Inspection of the internals showed damage to transistors. When energized, the output was out of specification.

Nutherm sent the UPS to an independent vendor for review and further failure analysis evaluation. The vendor determined that two transistors, Q8 and Q9, and one resistor, R96, were damaged and burnt. Additionally, one electrolytic capacitor (C7) was found to be installed with reverse polarity on the daughter card. The capacitor failed due to application of reverse voltage. It is likely that this capacitor failure is the root cause of the unit's failure and caused an overcurrent condition that destroyed Q8, Q9, and R96.

The unit was refurbished by Exelon Power Labs in 2018 as part of the work provided under PO 00610912. As part of this refurbishment electrolytic capacitor (C7) was replaced. Upon notification of this potential issue, Power Labs reviewed the previous project and confirmed with Nutherm that the capacitor was installed in reverse polarity.

This power supply had successfully endured a 100 hour burn in at the Nutherm facility during the initial project.

Nutherm has only sent this specific unit to Constellation Power Labs for refurbishment. Nutherm has not refurbished other previously supplied Sola/ Hevi-Duty UPS, S4K2U1000. Potentially impacted Sola/ Hevi-Duty UPS, S4K2U1000-NM191, is limited to this unit with serial number 08155R0056AF031.

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

October 31, 2022.

- vi. In the case of a basic component which contains a defect or failure to comply, the number and location of all such components in use at, supplied for one or more facilities or activities subject to the regulations of 10CFR21.

Constellation Energy – Clinton Nuclear Station

Part Number: S4K2U1000-NM191

Serial Number: 08155R0056AF031

Purchase Order

00610912

Nutherm Traceability Number

MRA 102969 RO 1/01

- 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.

Nutherm shall revise the dedication plan for this item to include a positive identification of the proper installation electrolytic capacitors during an internal inspection of the Sola/Hevi-Duty Power supply. This revision to the dedication plan will be transmitted to the impacted customer for review and approval prior to dedication activities of this item. These activities shall be documented and tracked via a Nutherm Corrective Action Report (CAR).

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The impacted customers were notified of this condition on November 1, 2022.

- 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.

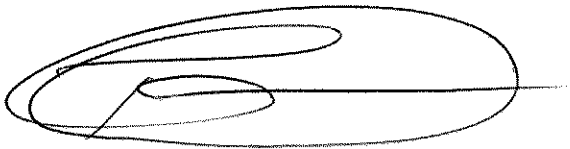
No other units are impacted by this defect or failure to comply. This issue has been identified as a single failure on this component only. This issue will not impact any future procurements.

- ix. In the case of an early site permit, the entities to whom an early site permit was transferred.

Not applicable.

If you have any questions, please contact Adrienne Smith at 618-244-6000, extension 3034, email adrienne.smith@nutherm.com or Rodger Edwards at 618-244-6000, extension 3050 email rodger.edwards@nutherm.com.

Sincerely,
NUTHERM INTERNATIONAL, INC.



Thomas A. Sterbis
President

TAS/abs