



June 17, 2022

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

Subject: USNRC 10CFR Part 21 Notification

Reference: Arnold Magnetics Power Supply Part Number PBM-24-106

Pursuant to 10CFR 21.21 (d) (3) (ii), Nutherm International, Inc. is providing written notification of the identification of a potential defect found in Arnold Magnetics Power Supplies Part Number PBM-24-106

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) Arnold Magnetics Power Supplies Part Number PBM-24-106 to the following facility:

Tennessee Valley Authority – Browns Ferry 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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On March 15, 2022 Nutherm was notified that an Arnold Magnetics Power Supply Part Number PBM-24-106 failed during burn in. At approximately 5 hours into the 24 hour burn in the output voltage went to zero and the AC ripple was outside the maximum tolerance. This power supply had successfully endured a 100 hour burn in at the Nutherm facility.

The power supply was returned to Nutherm for failure analysis. Upon receipt, an inspection was performed on the internals of the power supply. This inspection showed areas of excessive heat and discoloration of internal components. The unit passed all functional acceptance criteria. The unit was subjected to an additional 24 hour burn in. During this time there were no interruptions of output and the unit passed all functional acceptance criteria after this burn in. Nutherm then returned the power supply to the manufacturer for review and further failure analysis.

The manufacturer, Arnold Magnetics, determined that the EMI filter assembly was not functioning as designed. The preliminary failure analysis performed by Arnold Magnetics indicated that the failure of the EMI filter assembly was caused by missing no-mex paper between the PFC module and the rear plate. The manufacturer's root cause analysis indicates that the assembler of this unit did not install the no-mex paper in accordance with the Arnold Magnetics manufacturing procedure.

Potentially impacted Arnold Magnetics components is limited to part number PBM-24-106 with date of manufacture after January 1, 2019:

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

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- 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.

Tennessee Valley Authority – Browns Ferry Nuclear Station

Part Number: PBM-24-106

Nutherm Part Number: 59606

Purchase Order Nutherm Traceability Number

6996728 15444-01

- 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.

The manufacturer has opened an internal corrective action to prevent recurrence of this condition. Nutherm shall revise the dedication plan for this item to include a positive identification of the proper installation of the no-mex paper during an internal inspection of the Arnold 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).

The impacted customers were notified of this condition on June 17, 2022.

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- 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.

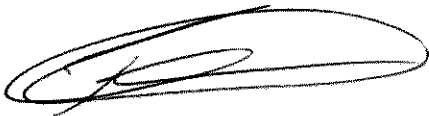
Items manufactured prior to January 1, 2019 are not impacted by this defect or failure to comply. This issue has been corrected by the manufacturer and will not impact any future procurements. Failure was observed during burn in after approximately 105 hours. Units installed for longer than this time without exhibiting failure may be considered to have provided reasonable assurance that the no-mex paper was properly installed.

- 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

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