CURTISS-WRIGHT

4600 East Tech Drive
Cincinnati, Ohio 45245
(513) 528-7900

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

SUBJECT: 10 CFR PART 21 REPORT REGARDING DISPOSITION OF A NONCONFORMANCE ON STRUTHERS-DUNN RELAY PART NUMBER B255XCXP125V FOR PSEG NUCLEAR LLC. Event No.: ML16162A679

The attachment to this letter provides a report in accordance with 10 CFR 21.21 pertaining to a potential deviation associated with Struthers-Dunn relays P/N B255XCXP125V supplied to PSEG Nuclear LLC.

A copy of the report will be mailed to our affected nuclear customers.

If you have any questions pertaining to this information, please contact Timothy Franchuk, Director of Quality Assurance, at 513-201-2176.

Sincerely,

Timothy Franchuk
Director, Quality Assurance
Nuclear Division
Curtiss-Wright

cc: Regional Administrator, USNRC, Region III

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NRR

10 CFR PART 21 REPORT REGARDING DISPOSITION OF A NONCONFORMANCE ON STRUTHERS-DUNN RELAY PART NUMBER B255XCXP125V FOR PSEG NUCLEAR LLC

This report is being provided as a final report in accordance with 10 CFR 21.21

(i) Name and address of the individual or individuals information the Commission.

Timothy Franchuk
Director, Quality Assurance
Nuclear Division
Curtiss-Wright
4600 East Tech Drive, Cincinnati, OH 45245

(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.

Struthers-Dunn Relay P/N: B255XCXP125V. Note that the original interim report identified the part number as B255XCXPFHSC125V, which contains designators "FHSC", which are an internal Curtiss-Wright numbering scheme.

(iii) Identification of the firm constructing the facility or supplying the basic component which fails to comply or contains a defect.

Curtiss-Wright, Nuclear Division.

(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.

PSEG has reported a failure of the reset coil within the Struthers-Dunn relay.

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

The discovery date of the deviation that requires evaluation is April 8, 2016, based on the date PSEG alerted Curtiss-Wright of the potential defect within the reset coil

(vi) In the case of a basic component which contains a defect or fails to comply, the number and location of these components in use at, supplied for, being supplied for, or may be supplied for, manufactured, or being manufactured for one or more facilities or activities subject to the regulations in this part.

Address	Address
PSEG Nuclear LLC Nuclear Business Unit Materials Center Alloway Creek Neck Road Hancocks Bridge, NJ 08038 Total Quantity: 104	Wolf Creek Generating Station 1550 Oxen Lane, N.E. Wolf Creek Generating Station Total Quantity: 10

vii) The evaluation and 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.

Evaluation: Findings as a result of the Curtiss-Wright Failure Analysis indicated that the reset coil failure was linked to the magnet wire insulation, the coil winding process, and the attachment of the coil leads to the magnet wire

Corrective Action: Struthers-Dunn has revised their reset coil assembly procedure such that the reset coil receives two wraps of insulation tape prior to laying the magnet wire terminations which are then soldered to the relay leads which connect to the pins at the base of the relay. Based on testing by Struthers-Dunn this two wrap process greatly increases dielectric strength which should eliminate the failure modes identified. Affected relays were returned to Struthers-Dunn to have the reset coil replaced using the revised reset coil assembly method. After the coils have been replaced they are sent to Curtiss-Wright Nuclear Division to be re-dedicated prior to being returned to the end user.

(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.

The observed failures are believed to be attributed to a cumulative effect from discrepancies noted in the coil's magnet wire insulation, the coil winding process, and human error during fabrication. Since the failures could not be traced back to a specific, single issue, there is no specific test that could be developed / employed to filter for this failure. Currently there have been only three confirmed failures, all with one specific reset coil model (125VDC) and one specific date code (1526). As no one specific issue could be identified as the root cause, Curtiss-Wright has conservatively established a time frame of concern as January 1st 2015 to May 31st 2016. This brackets reset coils made approximately six months prior to the failed date code up to the official date of the process change made by Struthers-Dunn. Purchasers are being advised to conduct their own evaluation to determine if a defect, which could create a substantial safety hazard, exists.