



ENGINE SYSTEMS, INC.

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April 30, 2004

U.S. Nuclear Regulator Commission
Document Control Desk
Mail Stop 0P1-17
Washington, DC 20555

Subject: 10CFR21 Reporting of Defects and Non-Compliance -
Engine Systems, Inc. Report No. 10CFR21-0088, Rev. 0

Woodward DRU Controls

Dear Sir:

The enclosed report addresses a reportable notification about Woodward DRU controls (manufactured between November 2000 and January 2002) – P/N 9903-365, 9903-439 and 9903-470 .

A copy of the report has also been sent to the NRC.

Please sign below, acknowledging receipt of this report, and return a copy to the attention of Document Control at the address above (or, fax to number 252/446-1134) within 10 working days after receipt.

Yours very truly,

ENGINE SYSTEMS, INC.

Susan Woolard
Document Control

Please let us know if ANY of your mailing information changes - name of recipient, name of company/facility, address, etc. Mark the changes on this acknowledgment form and send to us by mail or FAX to the number above.

(93)

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Report No. 10CFR21-0088

Rev. 0: 04/30/04

10CFR21 REPORTING OF DEFECTS AND NON-COMPLIANCE

COMPONENT: Woodward DRU Controls (manufactured between Nov. 2000 & Jan. 2002)
P/N 9903-365, 9903-439 and 9903-470

SYSTEM: Governor Controls

CONCLUSION: Reportable in accordance with 10CFR21.

Prepared By: 
Engineering Manager

Date: 4/30/04

Reviewed By: 
Quality Assurance Manager

Date: April 30, 2004

REV	DATE	PAGE	DESCRIPTION

COMPONENT:

Woodward DRU Controls (manufactured between Nov. 2000 & Jan. 2002)
P/N 9903-365, 9903-439 and 9903-470

DISCUSSION:

Engine Systems Inc. (ESI) has concluded an investigation of a condition reported with a Woodward DRU control by Fairbanks Morse Engine (event number 40699).

Event 40699 states the following: "On April 21, 2004, Fairbanks Morse Engine evaluation determined a potential safety hazard exists for Woodward DRU's. The FM P/N is 12998236 and the Woodward P/N is 9903-439. The defect exhibits erratic ramp up of speed and hence the inability to reach rated RPM and inability to apply load to the engine. The cause has been traced to a random contamination problem of an integrated circuit (IC) in DRU's manufactured by Woodward between November 2000 and January 2002. The rate of occurrence is less than 10 in the US and approx 20 worldwide. There are approx 38,000 Woodward units worldwide that use this IC. Only one US nuclear utility has experienced this failure and the failure occurred during testing prior to declaration of operability. In all cases, the failure occurs within a very few hours of operation. Therefore, if a DRU has been installed and has been operating for many hours/years, it is not at risk for this failure."

The following DRU's were supplied by ESI that were manufactured between November 2000 and January 2002. None of these have experienced the condition report above.

SUSPECT DRU's SUPPLIED BY ESI

DRU S/N	Part Number	Customer	ESI S.O.	Ship date	24 hr Power up performed
12382054	9903-470	Korea-Yonggwang	*102141	Dec 2002	yes
12382055	9903-470	Entergy-River Bend	80843 *114277	May 2001 Nov 2003	no yes
12382056	9903-470	Entergy-River Bend	80843 *114277	May 2001 Nov 2003	no yes
12382057	9903-470	Entergy-River Bend	80843 *114277	May 2001 Nov 2003	no yes
13149513	9903-470	Dominion-Millstone	94806	Dec 2001	no
13149514	9903-470	Dominion-Millstone	94806	Dec 2001	no
13149515	9903-470	NPPD-Cooper Nuclear	*106919	Mar 2003	yes
13175373	9903-365	Exelon-Byron	93244	May 2002	no
13186111	9903-439	Duke-McGuire	92470	Feb 2002	no

Items with an asterisk (*) had the aluminum electrolytic capacitor replaced as per ESI report 10CFR21-0082. Because of the replacement, the control was treated as a repair and return item and therefore a 24 hour burn-in was performed. As standard practice, ESI requires all repair and return Woodward controls to have a 24 hour burn-in test performed after repair/refurbishment. The burn-in is not imposed for new controls.

CONCLUSION:

The suspect DRU's that have not been placed in service could experience the random IC failure identified by Event Number 40699. Some of this DRU's have been exposed to a 24 hour burn-in. ESI cannot determine if 24 hours is sufficient operating time to detect the failure; therefore, all customers with the suspect DRU's will be notified.

CORRECTIVE ACTION:

1. Customers must determine if a suspect DRU is in-service.
2. Suspect DRU's that have been operating successfully in service are not affected by this notification.
3. Suspect controls that have not been placed in service should be returned to ESI to have the IC replaced. Contact ESI's Customer Service department with the part number and serial number of the DRU.