

Engine Systems Inc

175 Freight Road

Rocky Mount

NC 27804

FROM

TO

Name: Susan Woolard

Phone: Fax: 7134351000

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NRC Operations Center

Sent: 10/15/25 at: 9:02:40 AM

6 page(s) (including cover)

Subject: Report No. 10CFR21-0139, Rev. 0

Comments:

See attached.

**ENGINE SYSTEMS, INC.**175 Freight Road
Rocky Mount, NC 27804Telephone: 252/977-2720
Fax: 252/446-1134**TELEFAX**

Date: October 15, 2025
Company: NRC Operations Center
Fax Number: 301/816-5151
Verification No.: 301/816-5100
Reference: Report No. 10CFR21-0139, Rev. 0
From: Dan Roberts

Dear Sir / Madam:

Following this cover is a copy of our report 10CFR21-0139, Rev. 0, for a 10CFR21 reportable notification for a Power Driven Potentiometer with loose relay sockets, P/N ESI50258.

A copy of the report will be mailed to the NRC Document Control Desk and to our affected nuclear customer.

Should you have questions, please let us know.

Sincerely,

ENGINE SYSTEMS, INC.

Dan Roberts
Quality Manager



ENGINE SYSTEMS, INC.

175 Freight Road, Rocky Mount, NC 27804

Telephone: 252/977-2720

Fax: 252/446-1134

Report No. 10CFR21-0139

Rev. 0: 10/15/25

**10CFR21 REPORTING OF DEFECTS
AND NON-COMPLIANCE**

COMPONENT: Power Driven Potentiometer with loose relay sockets
P/N ESI50258

SYSTEM: Emergency Diesel Generator

CONCLUSION: Reportable in Accordance With 10CFR21

Prepared By: *Yu Lin*
Engineering Manager

Date: 10/15/25

Reviewed By: *Da Roberts*
Quality Manager

Date: 10-15-25

Report No. 10CFR21-0139

Record of Revisions

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REV	DATE	PAGE	DESCRIPTION
0	10/15/25	-	Original Issue.

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Pursuant to 10 CFR 21.21(d)(4), ESI is presenting the required information as follows:

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

<i>Dan Roberts</i>	<i>John Kriesel</i>
<i>Quality Manager</i>	<i>Engineering Manager</i>
<i>Engine Systems Inc.</i>	<i>Engine Systems Inc.</i>
<i>175 Freight Rd.</i>	<i>175 Freight Rd.</i>
<i>Rocky Mount, NC 27804</i>	<i>Rocky Mount, NC 27804</i>

- (ii) Identification of the basic component supplied within the United States which fails to comply or contains a defect.

Power Driven Potentiometer (PDP), P/N ESI50258

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

Engine Systems Inc. (ESI)

- (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.

Relay sockets used to retain relays K1 and K2 on P/N ESI50258 were found to have low retention force. The function of the K1 and K2 relays in this device is to switch polarity to the motor of the PDP to change direction of rotation when an external raise or lower command is given. The motor within the PDP rotates a potentiometer that provides a resistance input to the emergency diesel generator's automatic voltage regulator (AVR). This resistance is used to adjust the terminal voltage setpoint of the generator. Without both relays installed, the raise and lower function of the PDP is inoperable, thus preventing adjustment of the generator output voltage.

The safety-related function of the PDP is to maintain the potentiometer resistance at a predetermined value ("preposition") that corresponds to the desired generator voltage setpoint when operating during an emergency event. There is a scenario where the PDP is adjusted to a value other than the normal voltage setpoint and if the K1 or K2 relays were to dislodge during a subsequent emergency event, the PDP would not return to its preposition setpoint and therefore the generator terminal voltage would not return to its desired voltage setpoint. In this scenario, ability of the EDG to carry its safety-related loads could be impacted.

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

August 27, 2025

- (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.

The extent of condition is qty 2 devices supplied to Prairie Island that contained suspect relay sockets from same date code.

Customer	Customer PO	ESI Sales Order	Part Number Ordered	Serial Numbers	ESI C-of-C Date
Northern States Power Company - Prairie Island	4000032504	3024999	ESI50258	3024999-1.1-1 3024999-1.1-2	January 13, 2025

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- (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.

For Prairie Island:

Of the two serial numbers affected, 3024999-1.1-2 has been returned to ESI and the device has been reworked by replacing both relay sockets and adding relay hold down springs. Serial number 3024999-1.1-1 should be evaluated for the same condition and returned to ESI for the same rework.

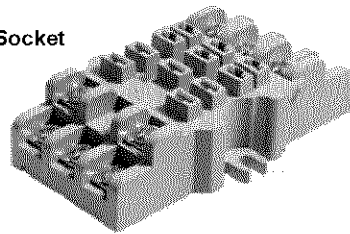
For ESI:

The PDP design has been updated to add relay hold down springs for positive relay retention. Part number ESI50258 has been made obsolete and replaced with part number ESI50258A to designate the addition of relay hold down springs. This change occurred on September 24, 2025.

- (viii) Any advice related to the potential 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.

Representative images of the socket and relay used in ESI50258 are provided below to aid in component identification.

Relay Socket



Relay

