

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT  
WASHINGTON, D. C. 20555

July 1, 1983

IE INFORMATION NOTICE NO. 83-45: ENVIRONMENTAL QUALIFICATION TEST OF  
GENERAL ELECTRIC COMPANY "CR-2940"  
POSITION SELECTOR CONTROL SWITCH

Addressees:

All holders of a nuclear power reactor operating license (OL) or construction permit (CP).

Purpose:

This information notice is provided as a notification of a potentially significant problem pertaining to the premature degradation and failure of a Dupont TM "Delrin" switch cam within the General Electric (GE) "CR-2940" four-position selector switch. It is expected that recipients will review the information for applicability to their facilities. No specific action or response is required.

Description of Circumstances:

Recently, the Philadelphia Electric Company performed environmental qualification testing on the General Electric (GE) position control switch, model "CR-2940". On January 5, 1983, the Philadelphia Electric Company reported to the NRC that the test specimen failed to function following the radiation aging phase, after it was exposed to a radiation dose of 37 megarads (33.5 megarads plus margin). Upon disassembly of the test specimen, the cause for failure was attributed to the Dupont TM "Delrin" material used specifically for the switch cam. The cam material was found to have fractured into many small pieces, thereby changing the setting of the contact arrangement of the four-way position switch during the test.

The Philadelphia Electric Company indicated that the model "CR-2940" control switch was installed at the Peach Bottom facilities to operate safety-related equipment in the RHR, Core Spray, HPCI, and the RCIC pump rooms. The licensee reported that as an immediate corrective measure, necessary wiring modifications to the GE "CR-2940" control switches were made to assure that safety-related equipment will function as required at the Peach Bottom facilities. Furthermore, the licensee is reviewing long term actions to provide switches which will meet environmental requirements.

Another related matter involved a recent 10 CFR 50.55(e) report to the NRC from the Cleveland Electric Company on the GE "CR-2940" tandem block switch assemblies. The report highlights that these switch assemblies contained blocks with loose mounting screws, and these screws were retightened and retorqued.

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10/18/83

If you have questions regarding this matter, please contact the Regional Administrator of the appropriate NRC Regional Office, or this office.



Edward L. Jordan, Director  
Division of Emergency Preparedness  
and Engineering Response  
Office of Inspection and Enforcement

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Attachment:  
List of Recently Issued IE Information Notices

LIST OF RECENTLY ISSUED  
IE INFORMATION NOTICES

Information Notice No.	Subject	Date of Issue	Issued to
83-44	Potential Damage to Redundant Safety Equipment as a Result of Backflow Through the Equipment	07/01/83	All power reactor facilities holding an OL or CP
83-43	Improper Settings of Intermediate Range (IR) High Flux Trip Setpoints	06/24/83	All power reactor facilities holding an OL or CP
83-42	Reactor Mode Switch Modifications	06/23/83	All BWR facilities holding an OL or CP
83-41	Actuation of Fire Suppression System Causing Inoperability of Safety-Related Equipment	06/22/83	All power reactor facilities holding an OL or CP
83-40	Need to Environmentally Qualify Epoxy Grouts and Sealers	06/22/83	All power reactor facilities holding an OL or CP
83-39	Failure of Safety/Relief Valves to Open at BWR - Interim Report	06/22/83	All power reactor facilities holding an OL or CP
83-38	Defective Heat Sink Adhesive and Seismically Induced Chatter in Relays Within Printed Circuit Cards	06/13/83	All power reactor facilities holding an OL or CP
83-37	Transformer Failure Resulting From Degraded Internal Connection Cables	06/13/83	All power reactor facilities holding an OL or CP
83-36	Impact of Security Practices on Safe Operations	06/09/83	All power reactor facilities holding an OL or CP
83-35	Fuel Movement with Control Rods Withdrawn at BWRs	05/31/83	All power reactor facilities holding an OL or CP

OL = Operating License  
CP = Construction Permit

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