UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555

September 29, 1988

NRC INFORMATION NOTICE NO. 88-69, SUPPLEMENT 1: MOVABLE CONTACT FINGER BINDING IN HFA RELAYS MANUFACTURED BY GENERAL ELECTRIC (GE)

Addressees:

All holders of operating licenses or construction permits for nuclear power reactors.

Purpose:

This notice is provided as a supplement to Information Notice No. 88-69 to alert recipients of additional information regarding binding of the movable contact fingers in HFA relays manufactured by GE. It is expected that recipients will review the information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems. However, suggestions contained in this information notice do not constitute NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances:

On August 12, 1988, GE submitted a written 10 CFR Part 21 notification to the NRC concerning binding of the movable contact fingers in HFA relays. GE stated that one user of HFA relays had reported difficulty making wipe and gap settings on some of their HFA relays due to binding of a movable contact finger in the phenolic finger support assembly. GE also stated that the binding of a movable contact arm could interfere with the relay contact wipe and gap, and that proper contact wipe and gap is necessary to maintain correct operation and seismic rating of the relay.

Additional discussions with GE have indicated that the area of interest is where the "pigtail" is attached to the movable contact finger. Attachment of the "pigtail" to the movable contact finger is accomplished by "sandwiching" the "pigtail" between the movable contact finger and a metal sleeve and then welding the components together. It appears that this process has allowed the production of movable contact fingers that are wider than the allowable tolerance. This creates the possibility that a movable contact finger will experience binding in the "H" shaped slot of the armature phenolic support assembly. This condition affects all HFA relays with a date code prior to WC (September 1988). GE has stated that no other relays are affected.

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Discussion:

The binding condition discussed above was identified when a licensee experienced difficulties making a correct wipe and gap setting after making modifications to a relay. As discussed in Information Notice 83-19 "General Electric Type HFA Relay Contact Gap and Wipe Setting Adjustments," a proper wipe and gap setting is necessary to ensure that a relay can perform its intended function. Additional information regarding making a proper wipe and gap setting is contained in GE Service Information Letter No. 44, Supplement 4. In addition, GE has indicated that if contacts have been changed from normally open to normally closed or vice versa by turning the fixed contact over, or if maintenance has been performed that required partial relay disassembly, the relay contact wipe and gap (as well as pick-up voltage) adjustments should be checked. GE has also recommended that the wipe and gap settings be periodically checked.

Addressees may wish to ensure that the appropriate plant personnel are aware of the potential for binding of the movable contact fingers in HFA relays. In addition, addressees may wish to contact GE, as appropriate, to obtain additional information regarding maintenance, adjustment, and repair of HFA relays.

No specific action or written response is required by this information notice. If you have any questions about this matter, please contact one of the technical contacts listed below or the Regional Administrator of the appropriate regional office.

for Carl H. Berlinger *

Charles E. Rossi, Director
Division of Operational Events Assessment
Office of Nuclear Reactor Regulation

Technical Contacts: Ray Scholl, NRR
(301) 492-1171

Jack Ramsey, NRR
(301) 492-1167

Attachment: List of Recently Issued NRC Information Notices

LIST OF RECENTLY ISSUED
NRC INFORMATION NOTICES

Information Notice No.	Subject	Date of Issuance	Issued to
88-78	Implementation of Revised NRC-Administered Requalification Examinations	9/22/88	All holders of OLs or CPs for nuclear power reactors.
88-77	Inadvertent Reactor Vessel Overfill	9/22/88	All holders of OLs or CPs for BWRs.
88-76	Recent Discovery of a Phenomenon not Previously Considered in the Design of Secondary Containment Pressure Control	9/19/88	All holders of OLs or CPs for nuclear power reactors.
88-75	Disabling of Diesel Generator Output Circuit Breakers by Anti-Pump Circuitry	9/16/88	All holders of OLs or CPs for nuclear power reactors.
88-74	Potentially Inadequate Performance of ECCS in PWRs During Recirculation Operation Following a LOCA	9/14/88	All holders of OLs or CPs for W and B&W-designed nuclear power reactors.
88-73	Direction-Dependent Leak Characteristics of Containment Purge Valves	9/8/88	All holders of OLs or CPs for nuclear power reactors.
88-72	Inadequacies in the Design of dc Motor-Operated Valves	9/2/88	All holders of OLs or CPs for nuclear power reactors.
88-71	Possible Environmental Effect of the Reentry of COSMOS 1900 and Request for Collection of Licensee Radioactivity Measurements Attributed to That Event	9/1/88	All holders of OLs or CPs for nuclear power reactors, fuel cycle licensees, and Priority 1 material licensees.
88-70	Check Valve Inservice Testing Program Deficiencies	8/29/88	All holders of OLs or CPs for nuclear power reactors.

OL = Operating License
CP = Construction Permit

Discussion:

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*SEE PREVIOUS CONCURRENCES

	D/DOEA:NRR	*C/OGCB:DOEA:NRR	*RPB:ARM	*SAD/DEST:NRR
	CERossi	CHBerlinger	TechEd	AThadani
	09/23/88	09/22/88	09/06/88	09/14/88
*OGCB:DOEA:NRR	*EAB:DOEA:NRR	*EAB:DOEA:NRR	*AC/EAB:DOEA:NRR	*C/ICSB:DEST:NRR
JERamsey	RScholl	PBaranowsky	JJaudon	SNewberry
09/08/88	09/08/88	09/20/88	09/22/88	09/14/88

Discussion:

The binding condition discussed above was identified when a licensee (after making modifications to a relay) experienced difficulties making a correct wipe and gap setting. As discussed in Information Notice 83-19 "General Electric Type HFA Relay Contact Gap and Wipe Setting Adjustments" (see Attachment 1), a proper wipe and gap setting is necessary to ensure that a relay can perform its intended function (additional information regarding making a proper wipe and gap setting is contained in GE Service Information Letter No. 44, Supplement 4.) In addition, GE has indicated that if contacts have been changed from normally open to normally closed or vice versa by turning the fixed contact over, or if maintenance has been performed that required partial relay disassembly, the relay contact wipe and gap (as well as pick-up voltage) adjustments should be checked. GE has also recommended that the wipe and gap settings be periodically checked.

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Attachments:
1. Information Notice 83-19
2. List of Recently Issued NRC Information Notices

Concurrence from a Tech. Editor was obtained for this notice on approx. 9/6/88. JE Ramsey

concurred with Williams EAB:DOEA PBaronwosky 9/20/88	AC:EAB:DOEA CHB JJaudon 9/22/88				
OGCB:DOEA JRamsey 9/8/88	EAB:DOEA RScholl 9/8/88	C:ICSB:DEST SNewberry 9/14/88	SAD:DEST 9/14 AThadani 9/14/88	C:OGCB:DOEA CHB CHBerlinger 9/22/88	D:DOEA CERossi 9/ /88