



Additional Cause Description and Corrective Actions:

An evaluation of the problem of the HFA relays as identified in the General Electric service advisory bulletin S.A.721-PSM-152.2 has been completed. The clear Lexan coil spools identified in the service advisory bulletin are present in the safety system circuitry of Turkey Point Units No. 3 and 4, and St. Lucie Unit No. 1. Failure of a coil spool in a manner described by General Electric could prevent the actuation of a safeguard system. In FPL's judgement, the presence of these coil spools in the safeguards systems circuitry is a substantial safety hazard that is reportable to the USNRC under 10 CFR Part 21. Failure of the relay could cause a major system degradation as defined as a loss of redundancy if, in conjunction with a single failure, the nuclear safety related function could not be performed.

It is FPL's judgement that continued operations of all units is justified. It appears that the cracking of the Lexan coil spools is not as widespread as the Turkey Point LER 250-81-3 (dated January 19, 1981) first indicated. A review of descriptions of the spools made by Turkey Point personnel indicated only two of 184 spools show observable apparent cracks that could be of the type identified by G.E., as being potentially hazardous. A similar review of approximately 100 spools in the relays at St. Lucie indicate no observable cracks of the type identified as being potentially hazardous. It is also noted that of the hundreds of HFA relays present in the three plants (for many years), none have been found to have had pieces broken off the coil spools. In addition, failure of the spool such that a portion of the rim breaks off does not in itself impair the function of the relay. The broken piece must fail in such a manner as to jam the relay armature, and thus prevent the relay from performing its function. This type of failure is considered highly unlikely.

Since the mechanisms for the creation or growth of the cracks are unknown, all of the subject relays will be replaced in a timely manner with qualified replacements as recommended by General Electric. The anticipated delivery date for replacement relays is Mid-June of this year. Installation is scheduled (contingent upon receipt of the new relays) to coincide with the steam generator inspection outages on both units. The outages are scheduled to commence on July 5, 1981, for Unit No. 4 and September 20, 1981 for Unit No. 3.

In the interim, until all relays can be replaced, the following actions will be taken:

- (1) All HFA relays containing Lexan spools that exhibit observable cracks as described by General Electric will be replaced during the next Cold Shutdown. General Electric describes these cracks as starting at the corner of the square opening in the center of the flange and extending outward at approximately a 45 degree angle to the flats of the square opening toward the rim.

Our evaluation of the description of the cracks determined that the following relays may have this characteristic crack:

Turkey Point Unit No. 3	3A Sequencer	Relay 127X2/AB3
Turkey Point Unit No. 4	4A Sequencer	Relay 174/F04
St. Lucie	None	

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The 127X2/AB3 relay will be inspected during the next Cold Shutdown to determine the extent of the crack obscured by the armature. If found with the crack as described previously, it will be replaced.

The 174/FU4 relay is not susceptible to the cracked spool problem because it is continually energized. It provides an alarm on loss of DC control power to part of the sequencers. Should the relay's armature be jammed while de-energized, it would merely cause the alarm to remain on. Therefore, its immediate replacement is not deemed necessary.

Other possible indications are radial and are not considered detrimental to relay operation.

- (2) Inspection of all safety related HFA relays will be continued on a quarterly basis in accordance with an approved inspection procedure. Any relay spools showing new or growing cracks of those characteristic to the G.E. bulletin will be replaced.

A substantial safety hazard was determined to exist on January 26, 1981. On January 27, 1981, Mr. J. K. Hays, Plant Manager - Nuclear, Turkey Point Plant, notified Mr. C. Julian, Jr., Acting Section Chief for Reactor Projects - Section II, USNRC Office of Inspection & Enforcement - Region II.

St. Lucie Unit 2 (under construction) has been notified of this 10 CFR Part 21 item and St. Lucie Unit 1 has also submitted a 10 CFR Part 21 report on this item.