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**Florida  
Power**  
CORPORATION

July 18, 1984  
3F0784-12

Mr. J.P. O'Reilly  
Regional Administrator, Region II  
Office of Inspection and Enforcement  
U.S. Nuclear Regulatory Commission  
101 Marietta Street, NW, Suite 2900  
Atlanta, GA 30323

Subject: Crystal River Unit 3  
Docket No. 50-302  
Operating License No. DPR-72  
I.E. Bulletin 84-02 Revised Response  
Failure of GE Type HFA Relays In Use In Class 1E Safety Systems

Dear Sir:

Attached is Florida Power Corporation's (FPC's) revised response to the subject I.E. Bulletin which corrects information in the June 7, 1984 submittal and incorporates additional information to clarify what actions FPC has taken to address the concerns of this bulletin. This revision supercedes the June 7, 1984 submittal. One item, or group of items, was inadvertently omitted in our earlier response. This was due, in part, to the rather atypical formatting of the request.

Sincerely,

G.R. Westafer  
Manager, Nuclear Operations  
Licensing and Fuel Management

RHT:nrk

Attachment

cc: Document Control Desk (original)  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

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PDR ADDCK 05000302  
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I.E. BULLETIN 84-02  
FAILURE OF GE TYPE HFA RELAYS IN USE IN CLASS  
IE SAFETY SYSTEMS

FLORIDA POWER CORPORATION'S REVISED RESPONSE

ITEM 1a.

Develop plans and schedules for replacing (1) nylon or Lexan coil spool-type HFA relays used in normally energized safety-related applications and (2) nylon coil spool type HFA relays used in normally de-energized safety-related applications. The replacement relays and any replacements made in the future should meet the requirements of the applicable IEEE standards. The replacement program for energized and de-energized relays should be performed on a "best efforts" basis during plant outages of sufficient duration. The entire replacement program should be completed within two years from the date of this bulletin.

The replacement schedule should consider the following recommended priority:

- Nylon or Lexan normally energized in the reactor trip system.
- Nylon or Lexan normally energized in other safety-related applications.
- Nylon normally de-energized in the reactor trip system.
- Nylon normally de-energized in other safety-related applications.

RESPONSE 1a.

Crystal River Unit 3 (CR-3) has 121 HFA relays, of which 58 are safety-related and 63 are non-safety related. Due to the critical function of these relays, it is not advisable to replace them on-line. Relays will be replaced with new or rebuilt (with the new HFA 100 Series Spool Kits) relays as time permits during each outage of sufficient duration prior to Refuel V. All relays will either be rebuilt or replaced prior to restart following Refuel V.

ITEM 1b.

During the period before relay replacement, develop and implement surveillance plans that include:

- (1) Monthly functional tests of all reactor trip system normally energized relays that verify relay contacts change state when the relay coil is de-energized.
- (2) Visual inspections of all safety-related normally energized relays as soon as practical upon receipt of this Bulletin. Thereafter, similar inspections should be accomplished in conjunction with the monthly functional test. These visual inspections should verify that relay coils are not deteriorating (e.g., inspect coil bobbins for visible cracks or melting), and should confirm cleanliness of the relay pole pieces.

RESPONSE 1b.

1. Crystal River Unit 3 (CR-3) does not have GE HFA type relays in the Reactor Trip System.
2. On October 10, 1983, Surveillance Procedure SP-905, GE Type HFA Relay Spool Piece Inspection, was issued to establish periodic surveillance (initial, then every six months) of the GE HFA relays which will confirm cleanliness of the relay pole pieces; detect coil spool piece deterioration; and establish spool piece integrity until the old spool pieces are replaced with the new 100 Series HFA spool pieces.

ITEM 1c.

Provide a basis for continuing operation for the period of time until the normally energized relays are replaced. This basis should include a discussion of those measures addressed in Items 1a and 1b and any other preventive and/or corrective measures taken or planned.

RESPONSE 1c.

Surveillance Procedure SP-905 requires a visual inspection of all 121 GE HFA relays (both safety-related and non-safety-related) every six (6) months. The procedure requires a spool piece integrity test if any signs of deterioration are observed during the visual inspections.

An initial inspection was performed October 6-8, 1983. Eight (8) safety-related relays were identified with cracked or broken spool pieces. All eight were replaced with the new HFA relays and satisfactorily passed functional testing. The eight (8) old relays that were removed, were subsequently rebuilt with the new 100 series spool pieces. SP-905 has been performed two (2) times as of June 25, 1984. The initial performance of SP-905 was January 20, 1984. No cracked or broken spool pieces were found in any of the 121 relays inspected. SP-905 was performed again on April 13, 1984. One (1) cracked spool piece in a safety-related relay was identified and the relay was replaced with a rebuilt relay.

The performance of SP-905 every 6 months and the low incidence of spool piece cracking as verified by the aforementioned inspections coupled with the short period of time until Refuel V begins (March, 1985), provide a basis for continuing operation until the normally energized relays are replaced.

ITEM 1d.

Provide a written report of the above actions, including schedules for completion. This report is to be submitted to the NRC within 120 days of receipt of this bulletin.

RESPONSE 1d.

Table 1 shows the number of relays Florida Power Corporation has replaced as of June 25, 1984. The remaining 105 relays will be replaced as noted in Response 1a. by the end of Refuel V (Summer 1985).

ITEM

Although the specific details involving the identified relay failures described above may not directly apply to your facility(ies), you are asked to review the general concerns expressed in the bulletin for applicability at your facility(ies). For example, if a different type of relay is used for the same safety functions described in this bulletin, or relays with similar

materials are used for other safety-related functions, past operating history and the manufacturer's recommendations should be reviewed to determine if additional action is appropriate. Your response should describe the results of the review, and, if the general concerns apply, you should describe the short-term and long-term corrective actions to be taken and the schedules thereof.

RESPONSE

Florida Power Corporation is initiating an investigation to obtain the information requested above. This information will be submitted to your office by February 28, 1985.

TABLE 1

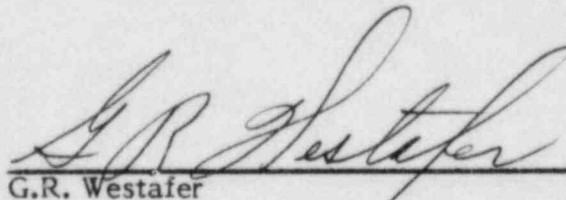
STATUS OF HFA RELAY REPLACEMENT AND INSPECTIONS  
AS OF JUNE 25, 1984

DATE	NUMBER OF RELAYS REPLACED				COMMENTS
	SAFETY-RELATED		NON-SAFETY		
	W/New Relay	W/Rebuilt Relay	W/New Relay	W/Rebuilt Relay	
10/06- 10/08/83		8			An inspection was performed and identified all 8 as having cracked or broken spool pieces.
01/20/84					SP-905 initially performed. No cracked or broken spool pieces identified.
04/13/84		1			SP-905 was performed for the second time and identified one relay as having a cracked spool.
04/18/84				3	Replaced as part relay change-out program, no cracked or broken spool pieces found.
04/19/84				3	Replaced as part of relay change-out program; no cracked or broken spool pieces found.
05/01/84		1			Replaced as part of relay change-out program; no cracked or broken spool pieces found.

STATE OF FLORIDA

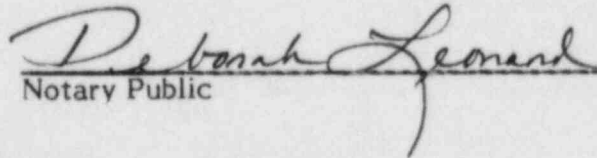
COUNTY OF PINELLAS

G.R. Westafer states that he is the Manager, Nuclear Operations Licensing and Fuel Management for Florida Power Corporation; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission the submitted information concerning I.E. Bulletin Number 84-02 Revised Response, and that all such statements made and matters set forth therein are true and correct to the best of his knowledge, information, and belief.



G.R. Westafer  
Manager, Nuclear Operations Licensing and Fuel  
Management

Subscribed and sworn to before me, a Notary Public in and for the State and County above named, this 18th day of July, 1984.



Notary Public

Notary Public, State of Florida at Large,

My Commission Expires:

NOTARY PUBLIC STATE OF FLORIDA  
MY COMMISSION EXPIRES NOV 19 1986  
BONDED THRU GENERAL INSURANCE UND