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CF

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79-163-000

Alabama Power
the southern electric system

October 16, 1979

10 CFR Part 21 Report
Certain G.E. Induction Disc Relays
At Alabama Power Company
J. M. Farley Unit 1

U. S. Nuclear Regulatory Commission
Office of Inspection & Enforcement
Region II
101 Marietta Street, N. W.
Suite 3100
Atlanta, Georgia 30303

Dear Sir:

Alabama Power Company has made an assessment of G.E. Service Advice Bulletin #721-PSM-162.2 at Farley Nuclear Plant Unit One. This bulletin advises that certain induction disc relays may have an adhesive back-stop condition caused by a petroleum jelly lubricant which, under high temperature conditions, can migrate from the time dial to the backstop. At room temperature, the lubricant can become adhesive and cause pickup values to be higher than setpoint values.

An investigation has identified the use of the affected relays in certain 4160 volt safety related systems. Consequently, there exists a potential substantial safety hazard under 10 CFR Part 21.

The attachment identifies the affected relays, the 4160 safety related systems, and the corrective action being taken.

Yours very truly,

F. L. Clayton, Jr.

FLCjr/TNE/mmb
Attachment
cc: Director, IE (40 copies)
Director, MIPC (3 copies)

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ATTACHMENT

The following information is submitted in accordance with 10CFR Part 21 -section 21.21.

1. Defective Basic Component - G.E. supplied induction disc relays of the following criteria:

   IAC, IAV, ICR or IJVC relays

   with

   date code less than 50 followed by any of the following two letter codes:

   any first letter followed by H, J, K, L, or M; or the letter combination AN, BN, CN, DN, EN, DG, EG, FG, GG, HG, JG, KG, LG, or MG.

   These relays are used in 4160 volt switchgear protection schemes.

2. Nature of Problem - The affected relays require a higher than normal pick-up on the induction disc. This is due to an adhesive backstop condition caused by the petroleum jelly lubricant which, under high temperature conditions, can migrate from the time dial to the backstop. At room temperature, the lubricant can become sticky and cause pickup values to be higher than setpoint values.

3. Background Data - On July 30, 1979, the affected relays were added to the Farley Unit 1 preventive maintenance program. At this time, the Generating Plant Technical Services Group at Farley Nuclear Plant was directed to perform the preventive maintenance. On September 27, 1979, the Generating Plant Technical Services Group provided preliminary results that were found by testing the affected relays. Subsequent engineering review identified the potential reportability under 10CFR21.21 on October 11, 1979.

4. Degree of Problem - The affected relays were found in certain 4160 volt safety related systems. They are:

Safety Related System	Number of Affected Relays
Diesel Generators	20
Bus H and Bus J	37
Bus K and Bus L	28
Bus F and Bus G	82
Total	167

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Preliminary results found by testing the setpoint pickup values of a sample of the affected relays are:

Breaker	Phase	Setpoint Pickup Value	Pickup
DJ01	3	6.0 amps	8.5 amps
DJ02	3	4.5 amps	9.0 amps
DJ03	2	4.0 amps	5.5 amps
DJ01	2	6.0 amps	7.5 amps
DH01	2	6.0 amps	7.5 amps
DH05	3	4.0 amps	6.5 amps

The adhesive backstop condition which causes a higher pickup value than the setpoint value compromises the ability of the relays to perform their designated function. That is, although this condition does not make any safety related equipment inoperable, it can be considered to constitute a reduction in the degree of protection provided to safety related systems.

5. Corrective Action - The affected relays are presently being cleaned of the lubricant and recalibrated to the setpoint pickup values. This action has been completed on the 20 relays in the Diesel Generators the 37 relays in Buses H and J and the 28 relays in Buses K and L. The 82 relays in Buses F and G are being worked. These remaining relays are expected to be completed by October 20, 1979.

   In addition to the present corrective action, the affected relays have been added to the Farley Unit 1 Preventive Maintenance Program. This program provides for a periodic cleaning and recalibration of the relays.