

Central File

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VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

December 19, 1979

Mr. James P. O'Reilly, Director
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

Serial No. 918/110279A
PO/RMT:baw
Docket Nos. 50-280
50-281
50-338
50-339

Subject: IE Bulletin 79-25
Failures of Westinghouse BFD
Relays in Safety-Related Systems

Dear Mr. O'Reilly:

This is in response to IE Bulletin No. 79-25, "Failures of Westinghouse BFD Relays in Safety-Related Systems". Our responses for North Anna Power Station Unit Nos. 1 and 2 and Surry Power Station Unit Nos. 1 and 2 are attached.

Very truly yours,

C. M. Stallings

C. M. Stallings
Vice President-Power Supply
and Production Operations

Attachment

cc: Director, Office of Inspection and Enforcement
Division of Reactor Operation Inspection
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

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North Anna Power Station
Response to IE Bulletin 79-25
Failures of Westinghouse BFD Relays
in Safety-Related Systems

1. Determine whether or not the following Westinghouse BFD/NBFD relays are used or planned for use in safety-related systems at your facilities:
 - a. Type BFD, style 46E7352 or 766A235, coil style 503C428G21
 - b. Type BFD, style 5069A95, coil style 1259C71G19
 - c. Type BFD, style 5072A49, coil style 1271C50G01

Response

An investigation was conducted at the North Anna Power Station to determine whether or not relays of the type listed in the bulletin are used or were planned for use in safety-related systems. It was determined that relays of that type are not currently in use or planned for use in any safety-related systems. Based on this determination, responses to items 2 and 3 of the bulletin are not required.

Surry Power Station
Response to IE Bulletin 79-25
Failures of Westinghouse BFD Relays
in Safety-Related Systems

1. Determine whether or not the following Westinghouse BFD/NBFD relays are used or planned for use in safety-related systems at your facilities:
 - a. Type BFD, style 46E7352 or 766A235, coil style 503C428G21
 - b. Type BFD, style 5069A95, Coil style 1259C71G19
 - c. Type BFD, style 5072A49, coil style 1271C50G01

Response

A review has been performed to determine if any of the Westinghouse BFD type relays noted in Item 1 of IE Bulletin 79-25 are in use or planned for use in safety-related systems. Surry currently utilizes the Item 1B relays in all Engineered Safeguards Systems for Logic Trains. A limited number of the Item 1C units are also in use in these systems.

2. If such relays are used or planned for use, identify the safety-related systems involved, specific function of relays and provide in written form your plans for a test and/or replacement program which will assure design performance of affected relays.

Response:

The relays involved and the specific function of each relay are listed in Table 1 of this attachment. A program is being generated whereby all the relays identified in Table 1 will be replaced with Item 1C units. Following replacement of all relays in a given system, existing performance tests will be accomplished to verify logic and relay operability. Since the program will involve replacing safety-related components, the effort will be handled through the Design Change Program.

3. The program to assure performance of affected relays shall include, but not be limited to, the following:
 - a. Establishment and adherence to a periodic testing and/or replacement schedule to assure operability of applicable relays.
 - b. The basis for the test interval of 3A. above including the data base upon which the initial test schedule is established.
 - c. Development of approved procedures to be utilized by qualified personnel for the testing and/or replacement of applicable relays.
 - d. Relay failures found during program testing are to be documented in final report and reported at the time of finding in accordance with license requirements.

Response:

- a. Unless otherwise directed, the establishment of a periodic testing program to ensure relay operability will not be done. The safety-related systems involved are currently subject to monthly logic testing during which the relays are cycled. Consequently, malfunctioning units will be discovered and appropriate corrective action taken. The replacement of all affected relays in Unit 2 safety-related systems will be accomplished prior to returning the unit to service after the current outage and those in Unit 1 during the upcoming Steam Generator Replacement Project outage.
- b. The basis for the test interval noted in item 3a above is documented in the Surry Power Station Technical Specifications.
- c. The relays will be replaced in accordance with an existing approved maintenance procedure (EMP-C-RT-24). However, prior to performing the work, the procedure will be modified to include testing of the new relays for armature overtravel and undertravel. This testing will meet the requirements and recommendations of Westinghouse Technical Bulletin HSD-TB-79-05.
- d. During the course of the replacement program, defective relays will be recorded and reported in accordance with reporting requirements. At the end of the program for each unit, a report will be generated and forwarded with the results of all testing.

TABLE 1

RELAY NUMBER		FUNCTION	NUMBER
BFD-665	IRBXA	INTR. RANGE BLOCK	1
BFD-665	IRBXA	INTR. RANGE BLOCK	1
BFD-485	FC	COOLANT FLOW	1
BFD-485	FC	COOLANT FLOW	1
BFD-485	AST 1	TURBINE AUTO STOP	1
BFD-485	27-1-XA	UNDervOLTAGE	1
BFD-485	SV1	TURBINE STOP VALVE	1
BFD-22	RT1	REACTOR TRIP	6
BFD-485	FC	COOLANT FLOW	2
BFD-485	AST 2	TURBINE AUTO STOP	1
BFD-485	27-2-XA	UNDervOLTAGE	1
BFD-485	SV2-XA	TURBINE STOP VALVE	1
BFD-225	RT	REACTOR TRIP	6
BFD-665	SRB	SOURCE RANGE BLOCK	2
BFD-665	PRB	POWER RANGE BLOCK	2
BFD-485	P8	PERMISSIVE P8	2
BFD-485	P10	PERMISSIVE P10	2
BFD-485	FC	COOLANT FLOW	2
BFD-485	AST 3	TURBINE AUTO STOP	1
BFD-485	27-3-X4	UNDervOLTAGE	1
BFD-485	SV3-XA	TURBINE STOP VALVE	1
BFD-245	AFP 1,2,3	AUX. FEED PUMP START	3
BFD-245	TXXA	TURBINE TRIP	1
BFD-665	AFP-YA	AUX. FEED PUMP START	1
BFD-485	P7-YAXA	PERMISSIVE PT	1
BFD-665	33XA	HOT LEG STOP VALVE	6
BFD-335	33YA	HOT LEG STOP VALVE	9
BFD-485	SV4	TURBINE STOP VALVE	2
BFD-225	RT2	REACTOR TRIP	2
BFD-845	SI	SAFETY INJECTION	1
BFD-445	PRB	PERMISSIVE & BLOCK SIGNAL	1
BFD-845	LTA	MAIN STEAM ISOLATION	1
BFD-225	SIR	HIGH CONT. PRESSURE	1
BFD-845	SI1	SAFETY INJECTION	1
BFD-845	SI2	SAFETY INJECTION	1
BFD-845	SI3	SAFETY INJECTION	1
BFD-485	SI4	SAFETY INJECTION	1
BFD-485	SI5	SAFETY INJECTION	1
BFD-485	SI6	SAFETY INJECTION	1
BFD-485	CII	SFGDS. ACTUATION (SAFETY INJECTION)	1
BFD-445	RT-A	REACTOR TRIP	1
BFD-225	FIY	FEEDWATER ISOLATION	1
BFD-225	F2Y	FEEDWATER ISOLATION	1
BFD-225	F3Y	FEEDWATER ISOLATION	1
BFD-845	SL1	STEAM LINE ISOLATION	1
BFD-845	SL2	STEAM LINE ISOLATION	1
BFD-485	63XI	HI STM LINE DIFF. PRESS.	1
BFD-445	63X2	HI STM LINE DIFF. PRESS.	1
BFD-445	63X3	HI STM LINE DIFF. PRESS.	1
BFD-225	74-A	STEAM LINE ISOLATION	1
BFD-225	74-A	STEAM LINE ISOLATION	1

TABLE I (CONT'D.)

<u>RELAY NUMBER</u>	<u>FUNCTION</u>	<u>NUMBER</u>
BFD-225 FIR-A	FEEDWATER ISOLATION	1
BFD-445 FIX-A	FEEDWATER ISOLATION	1
BFD-225 F2R-A	FEEDWATER ISOLATION	1
BFD-445 F2-XA	FEEDWATER ISOLATION	1
BFD-225 F3R-2	FEEDWATER ISOLATION	1
BFD-445 F3-XA	FEED FLOW	1
BFD-445 SDX5-A	STEAM DUMP	1
BFD-485 SDX6-A	STEAM DUMP	1
BFD-485 SDX7-A	STEAM DUMP	1
BFD-845 S1A-AY	SAFETY INJECTION	1
BFD-445 3/4 CLS-1A	CONSQ. LIMIT.	1
BFD-445 3 CLS-1AM + 3CL - 1AMX	CONSQ. LIMIT.	2
BFD-225 CR-CLS1A1 THRU CA-CLS 1A14	CONSQ. LIMIT.	14
BFD-445 3/4 CLS-2A (x 2) 3 CLS-1AM-X (Two 3 CL-1AMY Trains)	CONSQ. LIMIT.	3
BFD-845 CR-CLS-2A1 THRU CR-CLS-2A4	CONSQ. LIMIT.	4
BFD-665 CR-CLS-2A5	CONSQ. LIMIT.	1
BFD-485 CR-CLS-2A7	CONSQ. LIMIT.	2
CR-CLS-2A6	CONSQ. LIMIT.	
	TOTAL	147
	x 2 (2 Units)	= 294