

CONTROL BLOCK: | | | | | | | (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

CON'T

0	1
7	8

REPORT SOURCE

L	6	0	5	0	0	0	2	6	6	7	1	2	0	6	8	2	8	1	2	2	0	8	2	9
60	61	DOCKET NUMBER						68	69	EVENT DATE						74	75	REPORT DATE						80

0 2 Following manufacturer's suggested relay coil replacement, two Westing-
0 3 house NBFD relays were noted to have excessive dropout times after being
0 4 deenergized. This caused these reactor protection relays to remain in
0 5 the energized position longer than designed potentially delaying pro-
0 6 tective action. This nonconservative mode of failure constituted a re-
0 7 portable event per TS 15.6.9.2.A.9. This event was also reported under
the provisions of 10 CFR 21.

09		SYSTEM CODE		CAUSE CODE		CAUSE SUBCODE		COMPONENT CODE				COMP. SUBCODE		VALVE SUBCODE					
7	8	I	B	B		B		R	E	L	A	Y	X	A	Z				
		9	10	11		12		13					14						
17		EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE		REPORT TYPE		REVISION NO.									
LER/RO REPORT NUMBER		8	2	—		0	2	6	/	0	1	T	—	0					
		21	22	23		24		26	27	28		29	30	31					
ACTION TAKEN	FUTURE ACTION	EFFECT ON PLANT		SHUTDOWN METHOD		HOURS		ATTACHMENT SUBMITTED		NPRD-4 FORM SUB.		PRIME COMP. SUPPLIER		COMPONENT MANUFACTURER					
A	A	Z		Z		0	0	0	0	Y		N		N		W	1	2	0
33	34	35		36		37		40	41		42		43		44		47		

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 Inspection of the failed coils indicates that what appeared to be the
1 1 coil filler epoxy had leaked into the plunger cavity. This epoxy would
1 2 then inhibit plunger movement to the extent that the relay could become
1 3 sluggish or fixed in the energized position. The failed coils were re-
1 4 placed with the previous model prior to plant startup from refueling.

FACILITY STATUS		% POWER	OTHER STATUS	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION
1	5	H (28)	0 0 0 (29) N/A	A (31)	Technician Observation

8		9		10		12		13		44		45		46		80	
ACTIVITY		CONTENT		RELEASED		OF RELEASE		AMOUNT OF ACTIVITY		(35)		LOCATION OF RELEASE		(36)			
1	6	Z	(33)	Z	(34)	N/A						N/A					

PERSONNEL EXPOSURES									
NUMBER			TYPE	DESCRIPTION	(39)				
1	2	0	0	0	(37) Z	(38) N/A			

		7	8	9	11	12	13	
		PERSONNEL INJURIES						
		NUMBER				DESCRIPTION		
A	B	10	10	10	10	10	N/A	(41)

7 8 9 11 12 80

LOSS OF OR DAMAGE TO FACILITY (43)

TYPE DESCRIPTION

8212290327 821220

PDR ADOCK 05000266

S

1 9 2 (42) N/A PDR
7 8 9 10
PUBICITY
RESOLUTION (45)
NRC USE ONLY

ISSUED		DESCRIPTION													
2	0	Z	(44) N/A												
7	8	9	10												

C. H. Fox

68 69 80

414/277-2011

NAME OF PREPARER

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PHONE:

414/277-2811

017-928

ATTACHMENT TO LICENSEE EVENT REPORT NO. 82-026/01T-0

Wisconsin Electric Power Company
Point Beach Nuclear Plant Unit 1
Docket No. 50-266

A partial replacement of Westinghouse NBFD relays took place during the Unit 1 refueling outage which ended on December 9, 1982. Replacement of 62 NBFD relays was completed on November 24, 1982. The replacement program was necessary to correct a previous problem identified with the NBFD relay coils (see Licensee Event Report No. 81-016/01T-0). Testing of the replaced relays began on December 1, 1982, approximately one week after the relays had been energized. A failure was noted on a normally energized coil in the reactor protection logic. Upon disassembly, the coil was found to have epoxy-like material in the coil sleeve which caused the failure (excessive dropout time). A testing and investigation program was initiated to determine if this was an isolated failure or if other coils could have experienced the same failure mechanism.

On December 4, 1982 another relay on Unit 1 failed by the same mechanism. It was then decided to replace all of the reactor trip relays on Unit 1 and do further testing on Unit 2. Unit 2 reactor protection relays were replaced during a refueling outage in May 1982. Unit 2 relays have been tested on a monthly frequency with no abnormalities found. The retest program verified no failures on Unit 2. In addition, two Unit 2 relays were selected at random and removed and disassembled for inspection. No abnormalities were noted. The relays for both units operate at similar coil voltages and operating temperatures. The safeguard relays have not been changed to the new coil design on either unit.

All the reactor trip relays on Unit 1 were replaced. During this replacement, two additional relays were found with coil filler leakage although the material had not entered the coil sleeve area. After replacement with the previous design coil, pretests were performed successfully.

On December 6, 1982 the Nuclear Engineering Section Safety Review Committee met and determined that the component failure was reportable per 10 CFR 21 and under Technical Specification 15.6.9.2.A.9.

Discussions were held with the manufacturers on December 6, 1982. The failure mechanism was symptomatic of an improper epoxy mix which prevents proper curing of the filler material. When the coils are energized and operating temperatures attained, the improperly prepared filler material can soften and become liquid. Upon cooling, it would reharden but would never cure due to the improper mix. All failed coils observed have been marked with the date code 8203.

On December 9, 1982 Westinghouse issued memorandum WES-1197 which gave suggested interim corrective action for licensees with NBFD relays or coils received after October 29, 1981. The corrective action which had been taken and was described previously was again reviewed. Unit 2 relays will continue to be tested in accordance with existing procedures with additional emphasis on observing appropriate dropout characteristics. Due to the nature of the failure and the successful operation of the Unit 2 relays for the past six months, this action is considered appropriate. The remaining relays with the potential problem in Unit 1 will be tested on their periodic frequency and inspected for free and unrestricted movement and observed for prompt dropout upon deenergization. These relays are associated with the block or permissive logic functions in the reactor protection system. None of the safeguards relays are affected by this coil. A special order will be issued to the plant staff familiarizing them with the nature and scope of the relays affected and with direction to verify proper operation as called for. Final corrective action has yet to be determined.

This event is reportable in accordance with Technical Specification 15.6.9.2.A.9. The 24-hour report dated December 7, 1982 fulfilled 10 CFR 21 reporting requirements. The Resident Inspector has been notified regarding this event.