

REGULATOR INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 7902270296 DOC. DATE: 79/02/21 NOTARIZED: NO DOCKET #
 FACIL: 50-269 OCONEE NUCLEAR STATION, UNIT 1, DUKE POWER CO. 05000269
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 REGION 2, ATLANTA, OFFICE OF THE DIRECTOR

SUBJECT: LER 79-005/03L-0 ON 790122: CONTROL ROD DRIVELINE DC HOLDING
 POWER SUPPLY BREAKER FAILED TO TRIP DURING ON-LINE TESTS.
 CAUSED BY MECHANICAL LINKAGE NOT OPERATING CORRECTLY. MINOR
 ADJUSTMENTS BEING MADE TO TRIP MECHANISM.

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 TITLE: INCIDENT REPORTS

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		LTR	ENCL		LTR	ENCL
ACTION:	05 BC ORB #4	4	4			
INTERNAL:	01 REG FILE	1	1	02 NRC PDR	1	1
	09 I&E	2	2	11 MPA	3	3
	14 TA/EDO	1	1	15 NOVAK/KNIEL	1	1
	16 EEB	1	1	17 AD FOR ENGR	1	1
	18 PLANT SYS BR	1	1	19 I&C SYS BR	1	1
	20 AD PLANT SYS	1	1	21 AD SYS/PROJ	1	1
	22 REAC SAFT BR	1	1	23 ENGR BR	1	1
	24 KREGER	1	1	25 PWR SYS BR	1	1
	26 AD/SITE ANAL	1	1	27 OPERA LIC BR	1	1
	28 ACIDENT ANLYS	1	1	E JORDAN/IE	1	1
EXTERNAL:	03 LPDR	1	1	04 NSIC	1	1
	29 ACRS	16	16			

FEB 26 1979

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DUKE POWER COMPANY
OCONEE UNIT 1

Report Number: RO-269/79-5

Report Date: February 21, 1979

Occurrence Date: January 22, 1979

Facility: Oconee Unit 1, Seneca, South Carolina

Identification of Occurrence: CRD Breaker Failed to Trip During On-Line Test

Conditions Prior to Occurrence: 98% Full Power

Description of Occurrence:

At 1410 on January 22, 1979, Control Rod Drive (CRD) DC Holding Power Supply Breaker CB-1 failed to trip during the performance of an on-line trip test. Power to the DC undervoltage relay for breaker CB-1 was removed and the relay opened correctly, de-energizing the closing solenoid, but the breaker failed to open. The test was repeated several times, and the breaker operated correctly each time. All similar breakers in the CRD system were also tested in accordance with Oconee Nuclear Station Technical Specification 3.5.1.6 and determined to be operable. On January 31, 1979, breaker CB-1 failed in the same manner the first three times it was tested. The test was repeated six more times and it operated correctly each time. Again, all similar breakers were tested to verify proper operation.

Apparent Cause of Occurrence:

All of the breaker control circuit components functioned properly when DC power was removed. The undervoltage relay to breaker CB-1 opened, de-energizing the breaker's closing solenoid, but the breaker's mechanical linkage failed to operate correctly. It has been determined that minor adjustments to the trip mechanism were required in order to allow the breaker to trip properly.

Analysis of Occurrence:

The CRD System is designed so that the removal of either AC or DC power allows the control rods to drop into the core. DC power to the CRD mechanism is removed when undervoltage relays trip the DC holding power supply breakers. Two parallel breakers are provided for each safety control rod group so that each breaker may be tested independently during operation without tripping the reactor. When DC breaker CB-1 failed to trip during the on-line test, the AC breakers were tested and found to be operating correctly. Therefore, if a reactor trip had been required, AC power would have been removed and the control rods would have dropped. Thus, safe operation of the unit was not affected, and the health and safety of the public were not endangered.

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Corrective Action:

Immediately after it failed to trip on January 22, breaker CB-1 was retested several times and determined to be operable. On January 31, the breaker failed to operate correctly the first three times it was tested, but was tested six more times and operated properly each time. In addition, after both occurrences all other CRD system breakers were tested and determined to be operable. Based on recommendations by the manufacturer's representatives, minor adjustments to the mechanical trip mechanism and to the undervoltage relays for both the AC and DC breakers on Oconee Units 1, 2 and 3 are being made. It is anticipated that these adjustments will be completed prior to March 1, 1979.

LICENSEE EVENT REPORT

EXHIBIT A

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

01 | S | C | N | E | E | 1 | 2 | 0 | 0 | - | 0 | 0 | 0 | 0 | 1 | 0 | - | 0 | 0 | 3 | 4 | 1 | 1 | 1 | 1 | 4 | 5

7 8 9 14 15 25 26 30 37 38

LICENSEE CODE LICENSE NUMBER LICENSE TYPE CAT 58

CONT

01 | L | 6 | 0 | 5 | 0 | 0 | 0 | 2 | 6 | 9 | 7 | 0 | 1 | 2 | 2 | 7 | 9 | 8 | 0 | 2 | 2 | 1 | 7 | 9 | 9

7 8 60 61 68 69 74 75 80

REPORT SOURCE DOCKET NUMBER EVENT DATE REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

02 | On January 22 and January 31, 1979, CRD DC Holding Power Supply Breaker CB-1

03 | failed to trip during on-line tests. After each occurrence the breaker was

04 | retested and determined to be operable. All similar breakers were also tested

05 | each time and found operable, so a reactor trip would have been initiated by

06 | the removal of CRD AC power if it had been required. Thus, safe operation of

07 | the unit was not affected, and the health and safety of the public were not

08 | endangered.

09 | I A 11 | E 12 | B 13 | C R D R I V E 14 | Z 15 | Z 16

9 10 11 12 13 18 19 20

SYSTEM CODE CAUSE CODE CAUSE SUBCODE COMPONENT CODE COMP. SUBCODE VALVE SUBCODE

17 | 7 9 | 0 0 5 | 0 3 | L | 0

21 22 24 26 27 28 29 30 31 32

LER/RO REPORT NUMBER EVENT YEAR SEQUENTIAL REPORT NO. OCCURRENCE CODE REPORT TYPE REVISION NO.

18 | X | E | 19 | Z | 20 | 0 1 0 0 0 | Y | 23 | Y | 24 | L | 25 | G 0 8 0 | 26

33 34 35 36 37 38 40 41 42 43 44 47

ACTION TAKEN FUTURE ACTION EFFECT ON PLANT SHUTDOWN METHOD HOURS ATTACHMENT SUBMITTED NPRO-4 FORM SUB. PRIME COMP. SUPPLIER COMPONENT MANUFACTURER

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

10 | The breaker failed to open because its mechanical linkage did not operate

11 | correctly. It was determined that minor adjustments to the trip mechanism

12 | were required, and these adjustments are currently being made.

13 |

14 |

15 | E 28 | 0 9 8 | 29 | NA | 30 | On-Line Test | 31 | 32

7 8 9 10 12 13 44 45 46 80

FACILITY STATUS % POWER OTHER STATUS METHOD OF DISCOVERY DISCOVERY DESCRIPTION

16 | Z | 33 | Z | 34 | NA | 35 | NA | 36

7 8 9 10 11 44 45 80

ACTIVITY CONTENT RELEASER OF RELEASE AMOUNT OF ACTIVITY LOCATION OF RELEASE

17 | 0 0 0 | 37 | Z | 38 | NA | 39

7 8 9 11 12 13 44 80

PERSONNEL EXPOSURES NUMBER TYPE DESCRIPTION

18 | 0 0 0 | 40 | NA | 41

7 8 9 11 12 44 80

PERSONNEL INJURIES NUMBER DESCRIPTION

19 | Z | 42 | NA | 43

7 8 9 11 12 44 80

LOSS OF OR DAMAGE TO FACILITY TYPE DESCRIPTION

20 | N | 44 | NA | 45

7 8 9 10 44 80

PUBLICITY ISSUED DESCRIPTION