

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

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 FACIL: 50-287 OCONEE NUCLEAR STATION, UNIT 3, DUKE POWER CO.
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 REGION 2, ATLANTA, OFFICE OF THE DIRECTOR

DOCKET #
 05000287

SUBJECT: LER 79-002/03L-0 ON 790118: CONTROL ROD DRIVE LINE AC VOLTAGE
 POWER SUPPLY BREAKER FAILED TO TRIP DURING ON-LINE TEST.
 CAUSED BY FAILURE OF MECHANIC LINKAGE. MINOR ADJUSTMENTS
 BEING MADE TO TRIP MECHANISM.

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	16 EEB	1	1	17 AD FOR ENGR	1	1
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	20 AD PLANT SYS	1	1	21 AD SYS/PROJ	1	1
	22 REAC SAFT BR	1	1	23 ENGR BR	1	1
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DUKE POWER COMPANY
OCONEE UNIT 3

Report Number: RO-287/79-2

Report Date: February 19, 1979

Occurrence Date: January 18, 1979

Facility: Oconee Unit 3, 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 0830 on January 18, 1979, Control Rod Drive (CRD) AC Voltage Power Supply Breaker 10 failed to trip during the performance of an on-line trip test. Power to the AC undervoltage relay for breaker 10 was removed. The relay opened correctly and de-energized the closing solenoid, but the breaker failed to open. When the test was repeated, the breaker operated correctly. Proper breaker operation was verified by performing the test six more times. 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.

Apparent Cause of Occurrence:

All control circuit components of the breaker operated correctly, but when the closing solenoid was de-energized, 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 from the CRD mechanism allows the control rods to drop into the core. AC power to the CRD mechanism is removed when undervoltage relays trip parallel breakers 10 and 11 as a result of a drop in voltage to the relays. Parallel breakers are provided so that each breaker may be tested independently during operation without tripping the reactor. When breaker 10 failed to trip during the on-line test, all DC breakers were tested and found to be operating correctly. Therefore, if a reactor trip had been required DC power would have been removed and the control rods would have dropped, despite the failure of breaker 10 to operate correctly. Thus, safe operation of the unit was not affected, and the health and safety of the public were not endangered.

Corrective Action:

Immediately after it failed to trip, breaker 10 was retested and operated correctly each time. In addition, all other CRD system breakers were tested and determined to be operable. Based on recommendations by the manufacturer's representatives,

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Corrective Action (Continued):

minor adjustments are being made to the mechanical trip mechanism and to the undervoltage relays for both the AC and DC breakers on Ocone Units 1, 2 and 3. It is anticipated that these adjustments will be completed prior to March 1, 1979.

LICENSEE EVENT REPORT

EXHIBIT A

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

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

LICENSEE CODE 14 15 LICENSE NUMBER 25 26 LICENSE TYPE 30 57 CAT 58

CONT

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

REPORT SOURCE 60 61 DOCKET NUMBER 68 69 EVENT DATE 74 75 REPORT DATE 80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES 10

02 On January 18, 1979 CRD AC Voltage Power Supply Breaker 10 failed to trip

03 during an on-line test. It was immediately retested and found to be operat-

04 ing correctly. All similar breakers were also tested and found operable, so

05 a reactor trip could have been initiated by removal of CRD DC power if it had

06 been necessary. Thus, safe operation of the unit was not affected, and the

07 health and safety of the public were not endangered.

08

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

SYSTEM CODE 9 10 CAUSE CODE 11 CAUSE SUBCODE 12 COMPONENT CODE 13 COMP. SUBCODE 15 VALVE SUBCODE 16

17 7 9 0 0 2 0 3 L 0

LER/RO REPORT NUMBER 21 22 SEQUENTIAL REPORT NO. 24 25 OCCURRENCE CODE 28 29 REPORT TYPE 30 31 REVISION NO. 32

X E Z Z 0 0 0 0 Y Y L G 0 8 0

ACTION TAKEN 33 FUTURE ACTION 34 EFFECT ON PLANT 35 SHUTDOWN METHOD 36 HOURS 37 ATTACHMENT SUBMITTED 40 NPRO-4 FORM SUB. 42 PRIME COMP. SUPPLIER 43 COMPONENT MANUFACTURER 44

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 B 31 On-Line Test

FACILITY STATUS 8 9 % POWER 10 12 OTHER STATUS 13 30 METHOD OF DISCOVERY 44 45 DISCOVERY DESCRIPTION 46 80

16 Z 33 Z 34 NA NA

ACTIVITY CONTENT 8 9 RELEASED OF RELEASE 10 11 AMOUNT OF ACTIVITY 12 35 LOCATION OF RELEASE 13 36

17 0 0 0 37 Z 38 NA

PERSONNEL EXPOSURES 8 9 NUMBER 10 11 TYPE 12 39 DESCRIPTION 40 80

18 0 0 0 40 NA

PERSONNEL INJURIES 8 9 NUMBER 10 11 DESCRIPTION 12 41 80

19 0 42 NA

LOSS OF OR DAMAGE TO FACILITY 8 9 TYPE 10 11 DESCRIPTION 12 43 80

20 N 44 NA

ISSUED DESCRIPTION 8 9 45 80

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