

DUKE POWER COMPANY

POWER BUILDING

422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28242

WILLIAM O. PARKER, JR.  
VICE PRESIDENT  
STEAM PRODUCTION

March 12, 1979

TELEPHONE: AREA 704  
373-4083

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

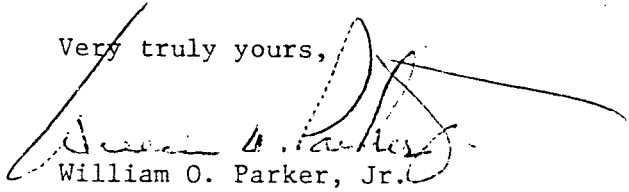
Re: Oconee Unit 1  
Docket No. 50-269

REGULATORY DOCKET FILE COPY

Dear Mr. O'Reilly:

Please find attached a supplement to Reportable Occurrence Report RO-269/79-5. Subsequent to the event which resulted in the original report but prior to implementation of the corrective action, a similar incident occurred. This report is being submitted pursuant to Oconee Nuclear Station Technical Specifications 6.2 and 6.6.2.1.b(2), which concerns operation in a degraded mode permitted by a limiting condition for operation, and describes an incident which is considered to have no significance with respect to its effect on the health and safety of the public.

Very truly yours,



William O. Parker, Jr.

SRL:scs  
Attachment

cc: Director, Office of Management Information  
and Program Control



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DUKE POWER COMPANY  
OCONEE UNIT 1

Report Number: RO-269/79-5

Report Date: March 12, 1979

Occurrence Dates: January 22, 31, and February 8, 1979

Facility: Oconee Unit 1, Seneca, South Carolina

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

Conditions Prior to Occurrence: 99% Full Power

Description of Occurrence:

On January 22, 1979, Control Rod Drive (CRD) DC Holding Power Supply Breaker CB-1 failed to trip during the performance of the Reactor Protective System (RPS) Channel C on-line trip test. This constitutes operation in a degraded mode, but Oconee Nuclear Station Technical Specification 3.5.1.6 permits operation to continue provided that the condition is corrected and the remaining trip devices are tested within eight hours. 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. In addition, to satisfy the requirements of Technical Specification 3.5.1.6, the other CRD breakers were tested 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 additional times, and the breaker operated correctly each time. Again, all similar breakers were tested to verify proper operation. Breaker CB-1 again failed to trip the first time it was tested on February 8, 1979, but it operated correctly the next six times the test was performed. The other CRD breakers were also verified to be operable.

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 and de-energized the 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 RPS 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. DC power is removed when undervoltage relays trip the DC holding power supply breakers as a result of a drop in voltage to the relays. 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 tests, the AC breakers were tested and found to be operating correctly.

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Analysis of Occurrence Continued:

If a reactor trip had been required, AC power would have been removed and the control rods would have dropped. Therefore, although these incidents constituted operation of the unit in a degraded mode, they did not affect safe operation. Thus, the health and safety of the public were not endangered.

Corrective Action:

Breaker CB-1 was retested after each incident and found to be operating correctly. In addition, all other CRD breakers were tested and determined to be operable. Since January 18, 1979, the breakers have been tested weekly, rather than at the normal monthly intervals, to assure operability until corrective actions could be taken. Based on recommendations by the manufacturer, 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 have been made. No failures have been experienced by the breakers since the adjustments were made.

LICENSEE EVENT REPORT

EXHIBIT A

CONTROL BLOCK: 

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 (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

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3	0	3	0	8	1	7	9
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EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

012 On January 22 and 31 and February 8, 1979, CRD DC Holding Power Supply  
013 Breaker CB-1 failed to trip during on-line test. After each test the  
014 breaker was retested and determined operable, and all similar breakers were  
015 also tested and found operable, so a reactor trip would have been initiated  
016 by the removal of CRD AC power if it had been required. Thus, although the  
017 unit momentarily operated in a degraded mode, safe operation was not affected,  
018 and the health and safety of the public were not endangered.

019 SYSTEM CODE: I A (11); CAUSE CODE: E (12); CAUSE SUBCODE: B (13); COMPONENT CODE: C R D R V E (14); COMP. SUBCODE: Z (15); VALVE SUBCODE: Z (16);  
17 LER/RD REPORT NUMBER: 7 9; SEQUENTIAL REPORT NO.: 0 0 1 5; OCCURRENCE CODE: 0 3; REPORT TYPE: L; REVISION NO.: 1;  
ACTION TAKEN: X (18); FUTURE ACTION: E (19); EFFECT ON PLANT: Z (20); SHUTDOWN METHOD: Z (21); HOURS: 0 0 0 0; ATTACHMENT SUBMITTED: Y (22); APPROX. FORM SUB.: Y (24); PRIME COMP. SUPPLIER: L (23); COMPONENT MANUFACTURER: G 0 8 1 0 (25)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

110 All the control circuit components operated properly, but the breaker failed  
111 to open because its mechanical linkage did not operate correctly. It was  
112 determined that minor adjustments to the trip mechanism were required, and  
113 these adjustments have now been completed.  
114

115 FACILITY STATUS: E (28); % POWER: 0 9 4 9 (29); OTHER STATUS: NA (30); METHOD OF DISCOVERY: B (31); DISCOVERY DESCRIPTION: On-line test (32)

116 ACTIVITY CONTENT RELEASED: Z (33); AMOUNT OF ACTIVITY: NA (35); LOCATION OF RELEASE: NA (36)

117 PERSONNEL EXPOSURES: NUMBER: 0 1 0 0 (37); TYPE: Z (38); DESCRIPTION: NA (39)

118 PERSONNEL INJURIES: NUMBER: 0 0 0 0 (40); DESCRIPTION: NA (41)

119 LOSS OF OR DAMAGE TO FACILITY: TYPE: Z (42); DESCRIPTION: NA (43)

120 PUBLICITY ISSUED: N (44); DESCRIPTION: NA (45)