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George Lanik

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NS-EPR-2744

March 31, 1983

Mr. R. C. DeYoung, Director
Division of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Phillips Building
7920 Norfolk Avenue
Bethesda, MD 20014

Dear Mr. DeYoung:

This is to confirm the telephone conversation of March 31, 1983 between R. A. Wiesemann and R. B. Miller of my staff and Mr George Lanik of the NRC. In that conversation, I reported that Westinghouse had informed its operating utility customers of the potential for intermittent malfunction of reactor trip switchgear that employs the DS-416 undervoltage (UV) trip device. To minimize the potential on any reactor trip switchgear utilizing this device, Westinghouse has recommended inspections as discussion below.

Westinghouse recently has been advised by one utility that one of the two main reactor trip breakers at each plant did not trip during preplanned testing. At one plant, three malfunctions occurred out of a total of 116 cycles. At the other plant, only one malfunction occurred in over 400 cycles. The reliability of the DS-416 UV device is supported by functional factory tests, vendor qualification programs, and periodic surveillance testing at operating plants in which no malfunctions have been reported. Therefore, these malfunctions are considered to be random in nature.

The owner of the two plants involved, in close cooperation with Westinghouse, has removed the UV trip device from one of the reactor trip breakers that malfunctioned and returned it to Westinghouse for a detailed examination to determine, if possible, the reason for such malfunctions.

Based upon a review at the plant site and at Westinghouse, the following have been identified as the potential factors for the reported occurrences.

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TABLE 1

Reactor Trip Switchgear - Type DS-416

Utility	Plant
Alabama Power	Joseph M. Farley #1* Joseph M. Farley #2*
Carolina Power & Light	Shearon-Harris #1 Shearon-Harris #2
Commonwealth Edison	Byron #1 Byron #2 Braidwood #1 Braidwood #2
Duke Power	Catawba #1 Catawba #2
Duke Power	McGuire #1* McGuire #2*
Duquesne Light	Beaver Valley #2
Georgia Power	Alvin W. Vogtle #1 Alvin W. Vogtle #2
Houston Lighting & Power	South Texas #1 South Texas #2
New Hampshire P.S.	Seabrook #1 Seabrook #2
Northeast Utilities	Millstone #3
Public Service of Indiana	Marble Hill #1 Marble Hill #2
SNUPPS - Kansas Gas & Electric	Wolf Creek #1
SNUPPS - Union Electric	Calloway #1
South Carolina Electric & Gas	Virgil C. Summer*
TVA	Watts Bar #1 Watts Bar #2
Texas Utility Generating Co. Texas Utilities	Comanche Peak #1 Comanche Peak #2

*Indicates Operating Plants

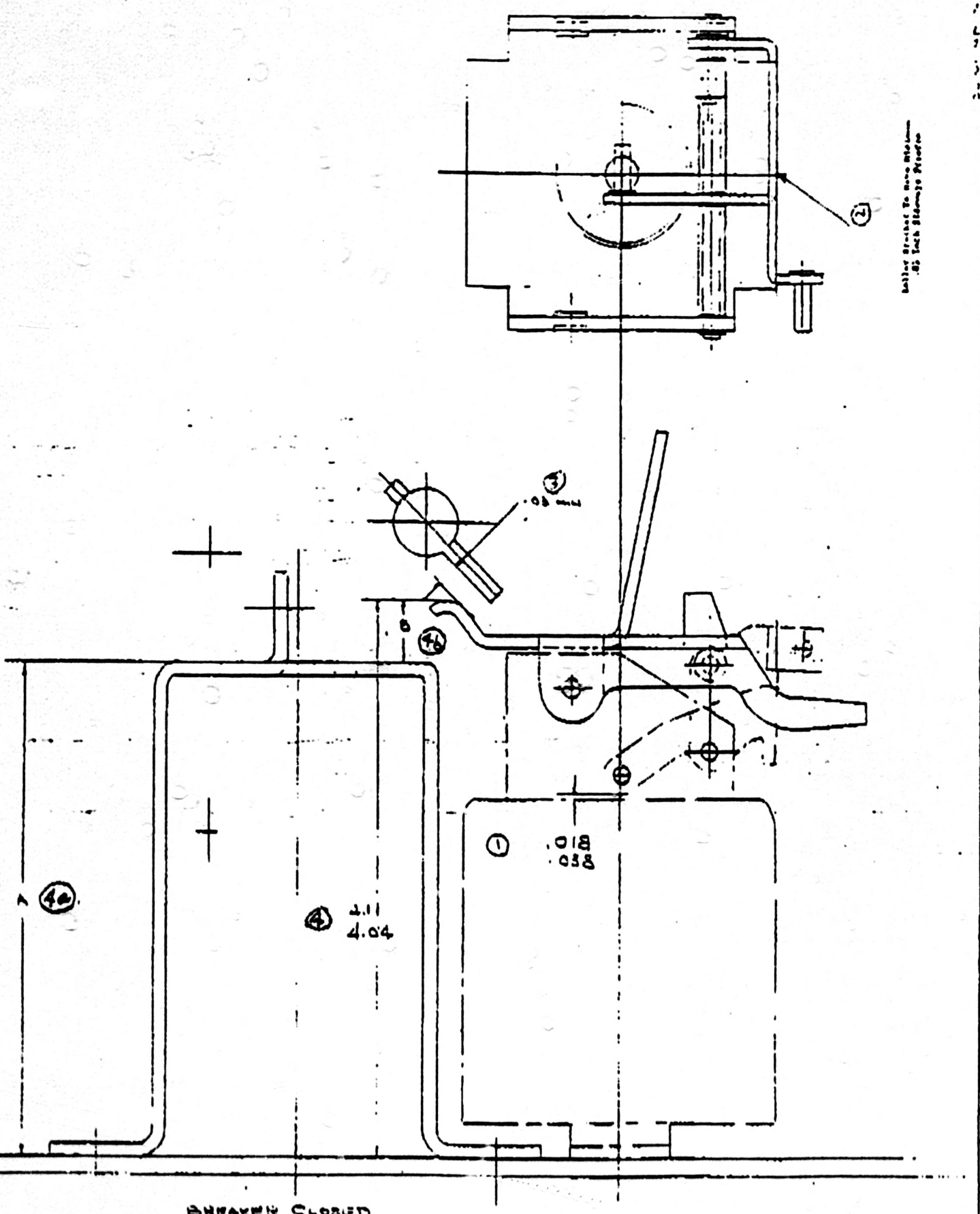

Figure 1
Sheet 1 of 2

Westinghouse Electric Corporation
TYPE DS U.V. TRIP DEVICE
Outline & Dimensions

Figure 1
Sheet 2 of 2

UV TRIP DEVICE IN PLACE CHECKING PROCEDURE

1. Remove breaker from enclosure and place it on work bench.

2. Connect control power and operate the breaker at least twice to check the tripping of the breaker on loss of voltage to undervoltage trip device.

3. NOTE THAT DURING THESE CHECKS, THE BREAKER IS CLOSED (STORED ENERGY) AND UV TRIP DEVICE ENERGIZED WITH NOMINAL VOLTAGE. EXERCISE EXTREME CAUTION IN PERFORMING THESE CHECKS. IT IS PREFERRED THAT BREAKER BE LOCKED IN CLOSED POSITION.

4. From the opening in the left side sheet, insert filler gauge and check the gap (1).

5. Check the sideways freedom of the roller bracket for minimum clearance of .03 inches (2), i.e., sideways freedom of the bushing.

6. With suitable filler gauge, check gap between trip pin and reset lever as shown at (3). .03 inch minimum indicates satisfactory interface.

7. These measurements are to be made only if dimension (3) is not met. Measure A & B. A+B should add up to 4.04 to 4.11, (4). If dimension (4), i.e., A+B, is within the specified range, the trip bar should be replaced. If dimension (4) is outside the specified range, the UV assembly should be replaced.

8. All measurements on Figure 1 are in inches.

a. Manufacturing variations permitted interference between the moving core and the roller bracket on one of the UV devices which appears to be related to the intermittent malfunctions. A further factor may have been lack of side-to-side clearance of the roller bracket

b. Lack of minimum gap between the UV trip reset lever and the breaker trip bar pin appears to be related to the malfunction of the second UV device.

To determine if other DS-416 UV trip devices installed in the field are also susceptible to similar malfunctions, the dimensions identified in Figure 1 must be verified. Westinghouse is requesting that the utilities listed in Table 1 make these dimensional measurements and provide us with the results for our further evaluation of this potential unreviewed safety question.

Until the dimensions are verified, Westinghouse has further recommended that the control room operators actuate the manual reactor trip switch at the Main Control Board when a demand for an automatic reactor trip is observed. If the installed devices meet all the critical dimensions identified in Figure 1, the recommendation for manual reactor trip may be removed. However, if either the UV trip device or the trip bar is found to be out of tolerance with respect to the dimensions identified in Figure 1, Westinghouse recommends that replacement devices be installed.

Westinghouse operating utility customers are being informed that Westinghouse is reporting this to the NRC as a potential unreviewed safety question under 10CFR50.59 for operating plants. For plants under construction Westinghouse is requesting more information to determine if a significant deficiency exists.

If you have any additional questions, please contact me or Clarence Draughon of my staff at (412) 374-5761.

Sincerely,

E. P. Rahe, Manager
Nuclear Safety Department