

# Brown Boveri Electric, Inc.

Manufacturer of I-T-E Electrical Power Equipment

June 16, 1981



81-449-000  
Part 21

Mr. Victor Stello, Jr.  
Director,  
Office of Inspection & Enforcement  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Stello:

The purpose of this report is to advise the Nuclear Regulatory Commission of the potential problem with overcurrent relays manufactured by Brown Boveri Electric, Inc. These relays are the ITE-50H and ITE-50D Series produced from 1976 through October, 1980. These relays are designated as "High-dropout" units. This means that they should be self-resetting when the current drops slightly below the pickup setting. BBEL published data states that the contacts should drop out when the input current to the relay falls below 98% of the pickup setting.

The nature of the potential problem is that the relay may not drop out upon the reduction in current. This is due to an integrated circuit designated as U4 on the drawout printed circuit board of the relay. The integrated circuit is manufactured in two versions designated as the "A" chip and the "B" chip. The relays manufactured with the "A" chip are susceptible to the problem described above. Relays manufactured with the "B" chip version are not susceptible to the problem.

The integrated circuit, manufactured by RCA is not defective. The "B" chip is not dependent on rise and fall time for this application. Testing has demonstrated that not all the "A" chips could successfully duplicate the potential problem.

The integrated circuit may be identified by numbers printed on its body. The "A" chip is identified with the numbers 4047A and the "B" chip is identified with the numbers 4047B. (There may be additional prefix and suffix letters, but only the four digits and the first following letter are of consequence).

For inspection purposes, the drawout circuit board may be withdrawn from its case while in service without causing any CT circuits to be open-circuited; however, all output contacts will appear to revert to the open state.

IE19  
5/11

IE17

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There have been no reported problems with these overcurrent relays at any of the Nuclear Power Generating Stations where they are being used. BBEL is taking steps to notify these users of the potential problem in order that corrective action can be implemented at their convenience.

A list of the location and approximate number of overcurrent relays with this potential problem are included as an attachment to this letter. If you require any additional information on this matter, please contact Mr. E. W. Rhoads at 215-628-7660.



D. D. DUVALL

Vice President & General Manager  
Switchgear Systems Division

EWR/jm  
Attachment

cc: W. D. Breder  
D. Dalasta  
C. L. Downs  
W. E. Laubach  
E. W. Rhoads  
C. J. Village

## BBEL SWITCHGEAR WITH ITE-50D OR 50H

## OVERCURRENT RELAYS

<u>ITE SALES ORDER</u>	<u>LOCATION</u>	<u>APPROXIMATE NO. OF UNITS</u>
33-50651	Duquesne Light/Beaver Valley II	20
33-51014	TVA/Bellefonte	50
33-51128	Gulf States Utilities/River Bend	4
33-51261	Texas Utilities Services Inc./ Comanche Peak	120
33-51659	Washington Public Power Supply System/WNP 1 & 4	110
33-52224 & 33-52260	Public Service Gas & Electric/ Hope Creek	17
37-52313	TVA/Hartsville 1 & 2	25
37-52449	TVA/Hartsville 3 & 4/Phipps Bend 1 & 2	1
37-52454	TVA/Hartsville 3 & 4/Phipps Bend 1 & 2	12
33-52769 & 33-52914	Houston Light & Power/South Texas Project	6
33-53566	Duke Power/Oconee	2

NOTE: This list includes all 50D & 50H overcurrent relays in the equipment, only a portion of which are used in Class 1E applications.

## OVERCURRENT RELAYS SOLD TO

## ORIGINAL EQUIPMENT MANUFACTURERS

<u>ITE SALES ORDER</u>	<u>LOCATION</u>	<u>APPROXIMATE NO. OF UNITS</u>
34-24662/3	HK Porter/York Electropanel Washington Public Power Supply System WPN 1 & 4	43
34-29584	Golden Gate Switchboard Taiwan Power	4
34-32354	Systems Control Corp. Duquesne Light/Beaver Valley II	2
34-34770	Gould, Finksburg, Md. Consumers Power/Midland Project	4