

50.55(e) Report

Arizona Public Service Company

P.O. BOX 21666 • PHOENIX, ARIZONA 85036

November 2, 1982

ANPP-22177-GHD/BSK

RECEIVED
APC

1502 NOV -8 AM 11:17

REGION V/13E

U. S. Nuclear Regulatory Commission
Region V
Creekside Oaks Office Park
1450 Maria Lane - Suite 210
Walnut Creek, California 94596-5368

Attention: Mr. D. M. Sternberg, Chief
Reactor Projects Branch 1

Subject: Final Report - DER 81-12
A 50.55(e) Report Relating to Mating Force of
125V DC Pull-Out Fuse Blocks Decreases After
Several Insertions and Removals
File: 82-019-026
D.4.33.2

Reference: (A) Telephone conversation between J. Eckhardt and
B. S. Kaplan on May 21, 1981
(B) ANPP-18237, dated June 18, 1981 (Interim Report)
(C) ANPP-19545, dated November 25, 1981 (Interim Report,
Revision 1)
(D) ANPP-19869, dated January 11, 1982 (Interim Report,
Revision 2)
(E) ANPP-20465, dated March 18, 1982 (Interim Report,
Revision 3)
(F) ANPP-21234, dated June 21, 1982 (Time Extension)
(G) ANPP-21589, dated August 10, 1982 (Interim Report,
Revision 4)

Dear Sir:

Attached is our final written report of the deficiency referenced above,
which has been determined to be Not Reportable under the requirements of
10CFR50.55(e).

Very truly yours,

E. E. Van Brunt, Jr.
APS Vice President
Nuclear Projects Management
ANPP Project Director

EEVBJr/GHD:db

Attachment

cc: See Attached Page 2

8211120313 821102
PDR ADOCK 05000528
S PDR

IE27

U. S. Nuclear Regulatory Commission
Attention: Mr. D. M. Sternberg, Chief
Page 2

November 2, 1982
ANPP-22177-GHD/BSK

cc: Richard DeYoung, Director
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

T. G. Woods, Jr.
J. A. Roedel
D. B. Fasnacht
G. C. Andognini
A. C. Rogers
B. S. Kaplan
W. E. Ide
J. Vorees
J. A. Brand
A. C. Gehr
W. J. Stubblefield
W. G. Bingham
R. L. Patterson
R. W. Welcher
R. M. Grant
D. R. Hawkinson
L. E. Vorderbrueggen
G. A. Fiorelli

Lynne Bernabei, Esq.
Harmon & Weiss
1725 "I" Street, NW
Suite 506
Washington, D. C. 20006

R. L. Greenfield
Assistant Attorney General
Bataan Memorial Building
Santa Fe, New Mexico 87503

FINAL REPORT - DER 81-12

DEFICIENCY EVALUATION 50.55(e)

ARIZONA PUBLIC SERVICE COMPANY (APS)

PVNGS UNITS 1, 2 & 3

I. DESCRIPTION OF DEFICIENCY

The pull-out fuse blocks supplied as a component of the d.c. control circuitry of the safety-related 480 Volt Load Centers by Brown Boveri Electric Incorporated (BBE), were found to have a substantial reduction in the mating force requirement after several insertions and removals. This condition was considered unacceptable because of the question as to whether the electrical contacts mated properly to assure their safety related function of maintaining reliable and interruptable electrical paths in d.c. tripping circuits of 480 Volt Load Center air circuit breakers.

The cause of the deficiency is attributed to the inadvertent annealing of the fuse clip while brazing it to its mounting terminal during the manufacture of the fuse block assemblies by the subtier supplier Gould, Inc., Bellefontaine, Ohio.

The Class IE equipment affected by this condition are identified by the following equipment tag numbers:

1,2,&3-E-PGA-L31	1,2,&3-E-PGB-L32
1,2,&3-E-PGA-L33	1,2,&3-E-PGB-L34
1,2,&3-E-PGA-L35	1,2,&3-E-PGB-L36

BBE has reviewed this condition and has provided instructions for corrective action on all fuse blocks furnished in the above equipment. A mechanical retaining clip is to be attached to the fuse block cover. This clip will mate with the fuse block body creating a positive retaining force. The connection is purely mechanical and the electrical ratings of the device will not be impaired.

II. ANALYSIS OF SAFETY IMPLICATIONS

This condition is evaluated as not reportable under the requirements of 10CFR50.55(e) since, if left uncorrected, the condition would not have presented a safety significant condition. All IE 480V load center breaker d.c. tripping circuits utilizing the subject fuse blocks contain d.c. voltage supervision relays which provide main control room annunciation on loss of control voltage. Operations personnel are thus advised of any loss of continuity in the d.c. control circuitry for the IE 480V load centers, and in the absence of this alarm annunciation feature, are assured that the fuse blocks are in position and voltage is available to operate the breakers and supply power to safety related equipment as required.

III. CORRECTIVE ACTION

For Unit 1, Test Exception Report P-G-002 will be dispositioned to perform field modifications in accordance with BBE's recommended corrective action as per the attached letter.

NCR's will be initiated to implement the BBE provided modification in Units 2 and 3.

Verification that the modification has been completed will be included in the Startup procedures.



Brown Boveri Electric, Inc.

Attachment to DER 81-12

Manufacturer of I-T-E Electrical Power Equipment

August 17, 1982

Bechtel Power Corporation
P. O. Box 60860
Terminal Annex
Los Angeles, CA 90060

Attention: Mr. W. G. Bingham
Project Engineering Manager
Los Angeles Power Division

Subject: Arizona Nuclear Power Project
Bechtel Job Number 10407
Purchase Order 10407-13-EM-017
Brown Boveri Electric S.O. 33-52187

Dear Mr. Bingham:

This letter is to serve as our final report in response to your Deficiency Evaluation Report number 81-12 wherein you reported that the mating forces of the 125VDC control power fuse blocks decreases substantially after several insertions and removals. The report further indicated that the pullout fuse blocks were manufactured by Bulldog Electric Products Company and were supplied as a component with the 480 volt load centers.

Although the mold lettering on the fuse block indicates that it is manufactured by Bulldog Electric Products Company, the fuse block is actually made by Gould Inc., Bellefontaine, Ohio. It is identified as part number UB20116. In some cases, when the U-shaped female clip is brazed to its mounting terminal it has possibly been annealed causing it to lose its spring pressure. This condition does not exist on all of the fuse block assemblies; it exists on a small percentage of them.

For corrective action, the vendor has furnished a mechanical retaining clip which will be attached to the fuse block cover with an existing screw. This mechanical retaining clip on the fuse block cover will mate with the fuse block body making a positive retaining force. This connection is purely mechanical. It will have no contact with the current carrying parts. It is fully visible and accessible and does not require that the equipment be deenergized to install it. Also, the vendor has advised us that the electrical rating of the device will not be impaired due to the annealing of the female copper clips in the body of the fuse block.

Handwritten file number 172346, job number 10407, and a routing slip with names like E. SIMMS, M. NEIGH, and S. NAJARIAN.



The mechanical retainers to be installed in the fuse block cover have already been delivered to our Phoenix District Office. Some of these have been delivered to the jobsite for installation. The mechanical retainers can be installed at your convenience. In order to eliminate the need for any inspection or test as to the condition of the fuse block, the mechanical retainers should be installed on every fuse block cover. This minor modification should have no impact on installation or checkout operations.

To the best of our knowledge, this fuse block has not been used in any other nuclear application, other than the Palo Verde Nuclear project. Corrective action will be required at the Palo Verde units 1, 2 and 3. When Bechtel/Arizona Public Service files their final 10CFR5055(e) report, it should close out this matter. A 10CFR part 21 report will not be required since this matter was limited to the Palo Verde project and, completion of the corrective action at this location will close out this matter in its entirety.

E. W. Rhoads
Manager, Quality Assurance

EWR:ne

- cc: J. A. Cosgrove
- J. W. Ferral
- M. D. Hatfield
- J. A. Huntsman
- A. E. Johnson
- W. E. Laubach
- J. J. McAlinn