Arizona Public Service Company
P.O. BOX 21666 • PHOENIX, ARIZONA 85036

November 23, 1982
ANPP-22374-GHD/BSK

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 82-41
A 50.55(e) Reportable Condition Relating to
G. E. Switchgear in Unit 3 Control Building Has
Improperly Crimped AMP Termination Lugs.
File: 82-019-026
D.4.33.2

Reference: (A) Telephone Conversation between J. Eckhardt and
G. Duckworth on August 2, 1982
(B) ANPP-21756 dated September 1, 1982 (Interim Report)

Dear Sir:

Attached is our final written report of the Reportable Deficiency, under 10CFR50.55(e) referenced above.

Very truly yours,

E. E. Van Brunt

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

EEVBJr/GHD:db

Enclosure

cc: See Attached Page 2

IE27

cc: Richard DeYoung, Director
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U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

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FINAL REPORT - DER 82-41
DEFICIENCY EVALUATION 50.55(e)
ARIZONA PUBLIC SERVICE COMPANY (APS)
PVNGS UNITS 1, 2 and 3

I. DESCRIPTION OF DEFICIENCY

During testing of class IE 4.16kv switchgear IE-PBA-S03 and IE-PBB-S04, two (2) conductors were found pulled from the crimped area of the termination lug barrel(s), and some of the crimped lugs within the equipment did not exhibit marks which identify correct use of crimping tools and dies.

The attached General Electric (GE) letter provides the criteria and corrective action for providing acceptable termination crimps in switchgear furnished by GE under Bechtel specification 13-EM-009. A followup random inspection performed by Bechtel Construction using GE criteria in Unit 3 switchgear (7 cubicles noted below) revealed that not all lug terminations were in compliance; however, no open circuits were apparent. In some cases, conductors were less than flush with the crimp connector barrel, and the ends of the wires were not visible under high intensity light and magnification.

SWGR CUBICLE	TERM. BLOCK	TERM. POINT
3E-PBS-S03S	RRF	H1
3E-PBS-S03N	RRF	H1
3E-PBB-S04L	SC	11
3E-PBB-S04L	RRF	X1
3E-PBB-S04M	SA	1
3E-PBB-S04M	RRF	X1
3E-PBB-S04P	SE	4
3E-PBB-S04F	RRF	X1
3E-PBB-S04R	SC	5
3E-PBB-S04R	SH	3
3E-PBB-S04R	DD	11

II. ANALYSIS OF SAFETY IMPLICATION

This condition is evaluated as Reportable. Connections with reduced contact area in termination lug barrels do not adequately assure the degree of electrical continuity required for reliable operations. If inadequately crimped lugs were left uncorrected, potential open circuits could jeopardize safety related functions of this switchgear.

III. CORRECTIVE ACTION

All vendor terminations utilizing crimp-type lugs in switchgear supplied by GE under specification 13-EM-009 shall be inspected for compliance to GE's visual criteria:

> "The conductor shall be flush or protrude through the connector barrel up to approximately 1/16 inch."

Any connectors which do not meet this requirement shall be removed and have a new AMP connector installed in accordance with Bechtel's termination practices established in construction specification 13-EM-306 (including proper usage and traceability of crimping tools.).

This condition will be corrected via the following Design Change Packages:

10E-PG-015
20E-PG-015
30E-PG-015

In addition to reportability under 10CFR50.55(e), PVNGS Project considers this deficiency to be Reportable by the supplier under the requirements of 10CFR Part 21. Deficiency Evaluation Report 82-41 addresses the reporting requirements specified under 10CFR 21.21(b) (3) with the exception of sub-part (vi) which requires the number and location (customers and/or facilities) of other possible defective equipment. A copy of this report has been sent to GE requesting their review for reporting under 10CFR Part 21, including number and location of all components supplied.

Enclosure (2)

TK

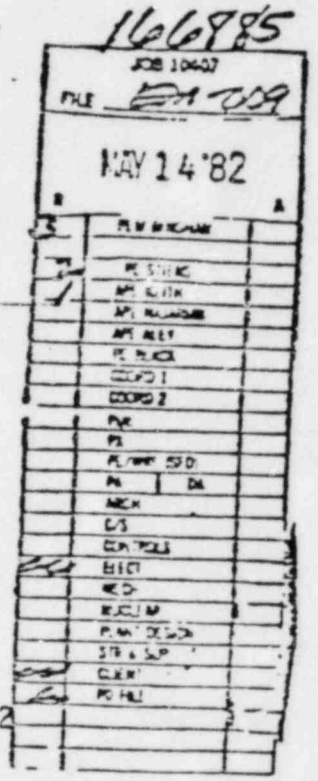
GENERAL ELECTRIC

ELECTRIC UTILITY

SALES DIVISION

GENERAL ELECTRIC COMPANY, 9350 E. FLAIR DR., EL MONTE, CALIFORNIA 91734
Phone: (213) 572-5200
MAILING ADDRESS: P.O.BOX 2830,TERMINAL ANNEX, LOS ANGELES, CALIF. 90051

May 14, 1982



Bechtel Power Corporation
P.O. Box 60850
Terminal Annex
Los Angeles, CA 90060

Attn: W. G. Bingham

Subj: ANPP
4.16 kV Switchgear
P.O. EM-009
Your Feb. 25, 1982 Letter

Gentlemen:

The first item in your letter was answered in my 3-24-82 letters. The second item in your 2-25-82 letter concerned AMP connectors.

The conductor should be flush or protrude through the connector barrel up to approximately 1/16 inch. Any connectors which do not meet this requirement should have new AMP connectors installed.

Very truly yours,

L. R. Fickel
Sales Engineer

/bl

cc: Bob Welsher - Bechtel
M. Torikian - Bechtel