

50.55(e) Report

Arizona Public Service Company

P.O. BOX 21666 • PHOENIX, ARIZONA 85036

APR 11 1983
April 6, 1983
ANPP-23442-BSK/RQT

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

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

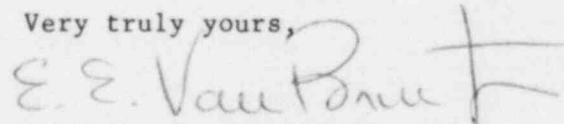
Subject: Final Report, Revision 1 - DER 82-41
A 50.55(e) Report Relating to G. E. Switchgear in Unit 3
Control Building Has Improperly Crimped AMP Termination Lugs
File: 83-029-026; D.4.33.2

Reference: A) Telephone Conversation between J. Eckhardt and
G. Duckworth on August 2, 1982
B) ANPP-21756 dated September 1, 1982 (Interim Report)
C) ANPP-22374 dated November 23, 1982 (Final Report)

Dear Sir:

Enclosed is revision one of the subject Deficiency Evaluation Report under the requirements of 10CFR50.55(e). This revision corrects the listing of Design Change Package numbers noted in corrective action statement and provides additional clarification of equipment to be inspected for compliance with crimp requirements.

Very truly yours,



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

EEVB/RQT:wp
Attachment

cc: See Attached Page Two

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

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

I. Description of Deficiency

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

General Electric (GE) provided criteria for corrective action for providing acceptable termination crimps in switchgear furnished by GE under PVNGS specification 13-EM-009. A follow-up 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.

<u>SWGR CUBICLE</u>	<u>TERM. BLOCK</u>	<u>TERM. POINT</u>
3E-PBA-S03S	RRF	H1
3E-PBA-S03N	RRF	H1
3E-PBB-S04L	SC	11
3E-PBB-S04L	RRF	X1
3E-PBB-S04M	SA	1
3E-PBA-S04M	RRF	X1
3E-PBB-S04P	SE	4
3E-PBB-S04P	RRF	X1
3E-PBA-S04R	SC	5
3E-PBB-S04R	SH	3
3E-PBB-S04N	DD	11

II. Analysis of Safety Implications

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 Class IE terminations and those non-Class IE terminations associated with the non-Class IE Auxiliary Feedwater Pump, which utilize AMP crimp type lugs in switchgear (Units 1, 2, 3) supplied by GE under specification 13-EM-009 shall be inspected for compliance to GE's visual



criteria, which provide that the conductor shall be approximately flush with or protrude through the connector barrel up to approximately 1/16". 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).

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This condition will be corrected via the following Design Change Packages: 10E-PB-018; 20E-PB-018; 30E-PB-018

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In addition to reportability under 10CFR50.55(e), PVNGS Project considers the 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 10CFR21.21(b) (3) with the exception of sub-part (vi) which requires the number and location (customers and/or facilities) of other possibly 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.