

50.55(e) Report

ARIZONA



PUBLIC SERVICE COMPANY

STA. 3003

P.O. BOX 21666 - PHOENIX, ARIZONA 85036

July 6, 1982  
ANPP-21321-GHD/BSK

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

Attention: Mr. T. W. Bishop, Chief  
Reactor Construction Projects Branch

Subject: Final Report - DER 81-57  
A 50.55(e) Reportable Condition Relating to G.E. 10CFR21  
Report on Type HMA Auxiliary Relays Having Excess Uninsulated  
Flexible Leads Which Could Cause Short Circuits.  
File: 82-019-026  
D.4.33.2

Reference: (1) Telephone Conversation between Bob Dodds and  
George Duckworth on January 5, 1982  
(2) ANPP-20078, dated February 3, 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, Jr.  
APS Vice President  
Nuclear Projects  
ANPP Project Director

EEVBJr/GHD:db

Enclosures

cc: See Attached Page 2

U. S. Nuclear Regulatory Commission  
Attention: Mr. T. W. Bishop, Chief  
July 6, 1982  
ANPP-21321-GHD/BSK  
Page 2

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

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FINAL REPORT - DER 81-57  
DEFICIENCY EVALUATION 50.55(e)  
ARIZONA PUBLIC SERVICE COMPANY (APS)  
PVNGS UNITS 1, 2 & 3

I. Description of Deficiency

Pursuant to a General Electric 10CFR Part 21 Report, Bechtel has been notified that some of the type HMA auxiliary relays manufactured from 1976 through June, 1981, may have the following problem:

The length of the uninsulated flexible leads connected to the movable contacts exceeds the allowable dimensions and can result in reduced spacing between the leads and the coil circuits. This condition introduces the possibility of circuit connection between the flexible leads on the HMA contact-circuits and the adjacent coil circuit terminals.

II. Analysis of Safety Implications

This condition has been evaluated as reportable by the manufacturer, and the subject components exist in the equipment delivered to the jobsite. Bechtel Engineering has determined that the identified HMA relays are installed in safety related switch gear, load centers, and AC distribution panels, plus other non-safety related equipment, all of which has been delivered for the three units.

III. Corrective Action

Bechtel Engineering has provided Bechtel Construction with the list of equipment to inspect for these relays (IOM-E-9536 dated February 5, 1982). Construction shall perform the necessary modifications in accordance with rework identified by General Electric in their Service Advice Number SA721-PSM166.1. Startup shall verify that the necessary modification has been implemented during the test program prior to turn over. The corrective action will be documented on a combination of nonconformance reports and startup work permits.

ATTACHMENT TO DER 81-57  
**Bechtel Power Corporation**

Interoffice Memorandum

To **W. J. Stubblefield**

Subject **ANPP Job 10407  
HMA Relays**

File No. **EM-009**

Date **IOM-E-9536 MOC 184997  
February 5, 1982**

From **W. G. Bingham**

Of **Engineering**

At **LAPD** Ext. **539**

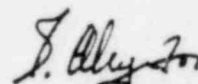
Copies to **W. H. Wilson  
R. R. Stiens  
E. J. Stwertnik  
P. Herman  
T. E. Hartman  
V. M. Torikian  
All w/enclosure**

Reference: (A) Deficiency Evaluation Report (DER),  
December 22, 1981  
(B) GE Letter to W. G. Bingham, December 10, 1981  
(C) GE Letter to W. G. Bingham, November 5, 1981

We have been advised by GE per Reference (C) that Dave Porter of Installation and Service Engineering is working direct with you regarding GE Service Advices. This is to request you to check the GE HMA relays per Reference (B) and to issue Non-Conformance Reports for defective relays, if found.

Nonconforming items should be returned to GE for replacement. Action should be brought to the attention of R. C. Danford of GE I&SE Phoenix office and D. Porter.

Please submit copies of all activities to Engineering for our record.

  
W. G. Bingham

WGB:RB:pb

Enclosures: (1) Deficiency Evaluation Report (DER),  
December 22, 1981 (2 pages, 1 copy)  
(2) GE Letter to W. G. Bingham, December 10, 1981  
(2 pages, 1 copy)  
(3) GE Letter to W. G. Bingham, November 5, 1981  
(1 page, 1 copy)  
(4) List of Equipment Where "HMA" Relay is Used  
(1 page, 1 copy)

## LIST OF EQUIPMENT WHERE "HMA RELAY" IS USED

EQUIPMENT	RELAY DESIGNATION	LOCATION
1. ALL 13•8 kV SWGR BRKRS	Anti-Pumping Relay - 52Y	SWGR Bldg., Turbine Bldg. Startup XFMR, Yard, etc/
2. ALL 4•16 kV SWGR BRKRS	Anti-Pumping Relay - 52Y	SWGR Bldg., Cont. Bldg., Clg. Tower
3. 480V L.C. PGA-L31 Compt. L31C	Aux. Relay - 51X, 51X	Control Bldg. - El. 100'
4. 480V L.C. PGB-L32 Compt. L32C	Aux. Relay - 51X,	Control Bldg. - El. 100'
5. 480V L.C. PGB-L34 Compt. L34C	Aux. Relay - 51X,	Control Bldg. - El. 100'
6. 480V L.C. PGA-L35 Compt. L35C	Aux. Relay - 51X, 51X	Control Bldg. - El. 100'
7. 480V L.C. PGB-L36 Compt. L36C	Aux. Relay - 51X, 51	Control Bldg. - El. 100'
8. 120VAC PWR PNL Class 1E E-PNA-D25	Aux. Relay - RA, RE	Control Bldg. - El. 100'
9. 120VAC PWR PNL Class 1E E-PNB-D26	Aux. Relay - RA, RE	Control Bldg. - El. 100'
10. 120VAC PWR PNL Class 1E E-PNC-D27	Aux. Relay - RA, RE	Control Bldg. - El. 100'
11. 120VAC PWR PNL Class 1E E-PND-D28	Aux. Relay - RA, RE	Control Bldg. - El. 100'
12. 120VAC PWR PNL Non-Class 1E E-NNN-D11	Aux. Relay - RA1,RA2,RE	Control Bldg. - El. 120'
13. 120VAC PWR PNL Non-Class 1E E-NNN-D12	Aux. Relay - RA1,RA2,RE	Control Bldg. - El. 120'
14. 120VAC PWR PNL Non-Class 1E E-NNN-D15	Aux. Relay - RA1,RA2	Turbine Bldg. - El. 100'
15. 120VAC PWR PNL Non-Class 1E E-NNN-D16	Aux. Relay - RA1,RA2	Auxiliary Bldg. - El. 120'

These date codes cover the period from January 1976 through June 1981.

It is recommended that HMA relays with any of the above listed date codes be inspected for lead to terminal spacing. If it is determined that the flexible leads can touch the coil circuit terminals, the condition should be corrected by assembling a heat shrinkable insulating tubing over the contact terminals. The assembly procedure follows:

1. Remove the mounting screw from the moveable contact support at the front of the relay, then remove the top portion of the support along with the two captive coil springs.
2. Place a 5/8 inch long by 0.3 inch inside diameter piece of heat shrinkable tubing over each of the moveable contacts and slide the tubing along the contacts and flexible leads and all the way onto the contact terminals. The tubing will cover the terminals and approximately 5/16 of an inch of the flexible leads.
3. Replace the moveable contacts in the contact support and position the flexible leads in the lead slots in the support. Reassemble the contact support, springs and mounting screw. The screw should be tightened sufficiently to compress the lockwasher under the head of the screw.
4. Shrink the tubing about the terminals and flexible leads by applying moderate heat, in the order of 150°C, from a source such as an electric air gun.
5. Check freedom of operation of the relay by depressing and then releasing the contact support assembly. The support assembly should snap back to its original position when it is released and there should be no indication of friction or binding.

HMA relay calibration (operating voltage) is determined by the amount of tension on the HMA control spring. As spring tension will not be changed by application of the tubing, recalibration of the relays is not considered necessary. However, if the user wishes to check the calibration after application of the tubing, test instructions in the applicable HMA instruction book should be followed.

Three places where HMA relays are used are: 1. inside a HKA29EM12 relay assembly, 2. as the anti-pump relay on the Magna-Blast breaker, GE # 0137A7575, and 3. as the anti-pump relay on the Power-Vac breaker, GE # 282A2008.

General Electric will supply the insulating tubing at no cost to you. You will need two (2) pieces of GE # 0127A7827 P446 tubing 5/8 inch long for each relay. The offer of this tubing will remain available until May 12, 1983. We expect that you will provide the necessary labor and testing facilities for installation. Please contact the undersigned for the tubing, specifying the number of relays you wish to repair and their date codes. Should you require further assistance, please contact the undersigned.

The Nuclear Regulatory Commission has been informed of this problem pursuant to 10CFR21.

*Norman P. David*

Norman P. David  
Field Engineer

NPD:rmh