

RECEIVED
NRC

Arizona Public Service Company

P.O. BOX 21666 * PHOENIX, ARIZONA 85036

May 3, 1983

ANPP-23640-RQT/BSK

U. S. Nuclear Regulatory Commission
Region V
Creskide Oaks Office Park
1450 Maria Lane - Suite 210
Walnut Creek, California 94596-5358

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

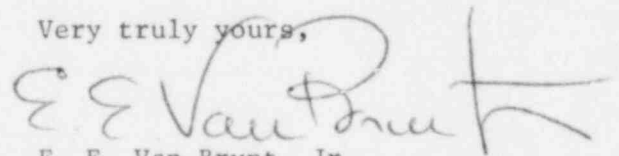
Subject: Final Report - DER 82-62
A 50.55(e) Report Relating to ESFA's DC Power Supply
Ground Detectors Supplied by CE Failed Preoperational
Tests
File: 83-019-026
D.4.33.2

Reference: (A) Telephone Conversation between J. Eckhardt and
G. H. Duckworth on October 21, 1982
(B) ANPP-22369, dated November 22, 1982 (Interim Report)
(C) ANPP-22822, dated January 26, 1983 (Time Extension)
(D) ANPP-23272, dated March 17, 1983 (Interim Report)

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
ANPP Project Director

EEVBJr/RQT:skc

Attachment

cc: See Page 2

Mr. D. M. Sternberg, Chief
ANPP-23640-RQT/BSK
May 3, 1983
Page 2

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

T. G. Woods, Jr.
G. C. Andognini
J. A. Roedel
D. B. Fasnacht
A. C. Rogers
B. S. Kaplan
W. E. Ide
J. Vorees
J. R. Bynum
P. P. Klute/D. D. Green
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

Records Center
Institute of Nuclear Power Operations
1100 Circle 75 Parkway - Suite 1500
Atlanta, Georgia 30339

FINAL REPORT - DER 82-62
DEFICIENCY EVALUATION 50.55(e)
ARIZONA PUBLIC SERVICE COMPANY (APS)
PVNGS UNIT #1

I. Description of Deficiency

Rochester Specification Technical Manual (Bechtel Log #N001-13.06-87) requirements for ESFAS Auxiliary Relay Cabinet Ground Detectors (P/N PR-2000) supplied by Combustion Engineering (CE) as part of the NSSS are:

- Fix Deadband: Less than 1% of Span (20MV)
- Repeatability: $\pm 0.5\%$
- Each Ground Detector must monitor the ESFAS DC Power Supplies and Alarm when resistance to ground is less than 100 K Ω .

During performance testing, per PVNGS Station Manual Procedure No. 92GS-OZZ48, subject equipment failed to meet performance requirements as follows:

- Deadband at 100 K Ω was $\approx 12\text{K}\Omega$
- Repeatability at 100 K Ω was as high as 100% (appeared to worsen with time).
- Relays malfunctioned in three (3) out of four (4) units.

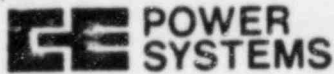
II. Analysis of Safety Implications

This condition is evaluated as Not Reportable. As indicated in CE Letter V-CE-18147, dated March 22, 1983 (attached), Procedure No. 92GS-OZZ48 was found to be inconsistent with the method used by Rochester to determine deadband and repeatability. Electro-Mechanics has retested the Ground Detectors for CE in accordance with Rochester's instructions and found them to be acceptable. Regarding the relay malfunctions, the three (3) out of four (4) malfunctioning relays required cleaning to operate. The necessity to clean the relays can be attributed to the length of time the relays were deenergized. Under normal conditions, the unit will be connected to the plant annunciator system and, therefore, current will pass through these normally closed contacts performing a cleaning action. Also, increased contact resistance will cause only spurious annunciation and will not prevent annunciation upon detection of an actual ground fault. The subject condition, therefore, is not safety significant, hence, it is Not Reportable under the requirements of 10CFR50.55(e).

III. Corrective Action

This Deficiency Evaluation Report will be transmitted to APS Operations to assure consistency between test procedures and specification requirements.

ATTACHMENT TO DER 82-62



March 22, 1983
V-CE-18147

Mr. W. G. Bingham
Bechtel Power Corporation
12400 East Imperial Highway
Norwalk, CA 90650

Subject: Arizona Nuclear Power Project
ESFAS Auxiliary Relay Cabinet
DER 82-62

Reference: Letter B/CE-E-42113 dated October 19, 1982

Dear Mr. Bingham:

The referenced DER suggests that the ESFAS Auxiliary Relay Cabinet ground detectors (Rochester P/N PR-2000) do not meet manufacturer's specifications. Therefore, C-E has been requested to evaluate the potential reportability of this condition under the requirements of 10 CFR 50.55(e).

C-E and Rochester have performed a review of the ANPP procedure and found it to be inconsistent with the method used by Rochester to determine dead band and repeatability. Electro-Mechanics, Inc. has retested these units for C-E in accordance with Rochester's instructions and found the ground detectors to be acceptable. Furthermore, the purpose of the ground detector is to provide a gross indication of a ground fault. A single fault would not effect circuit operation. Only when two faults exist at less than 1K ohms each is there a risk of circuit malfunction.

Regarding the open-air relays used internal to this unit, it is unfortunate that three out of four of the units required cleaning to operate. However, this is not unreasonable considering the length of time the units were deenergized. Under normal conditions the unit will be connected to the plant annunciator system and therefore current will pass through these normally closed contacts performing a cleaning action. Also, increased contact resistance will cause only spurious annunciation and will not prevent annunciation upon detection of an actual ground fault. It should be noted that our experience shows that once the ground detectors are in operation the contacts do operate properly.

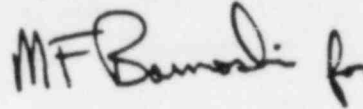
Therefore, based on the above discussion, C-E does not consider the noted conditions to be reportable under the requirements of 10 CFR 50.55(e). C-E's evaluation was performed in accordance with our Quality Assurance of Design Manuals as indicated by FAR No. 14273-593. This document is available for review at the C-E Windsor Office.

[illegible]

CE & I WERTNIK
U NELCHOR

Please feel free to contact us if you have any questions or comments.

Very truly yours,

A handwritten signature in dark ink, appearing to read "M. F. Bannock" followed by a small flourish.

C. Ferguson
Project Manager

CF/FMM:db
V-IPE-2348

cc: E. E. Van Brunt, Jr.
J. Vorees
W. H. Wilson
R. H. Holm
W. L. MacDonald
G. A. Butterworth
S. N. Mager
G. C. Andognini
D. B. Amrine
J. W. Dilk
J. R. Bynum