

50.55(e) Report

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Arizona Public Service Company

P.O. BOX 21666 • PHOENIX, ARIZONA 85036

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March 7, 1983
ANPP-23193-GHD/BSK

REGION V USE

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

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

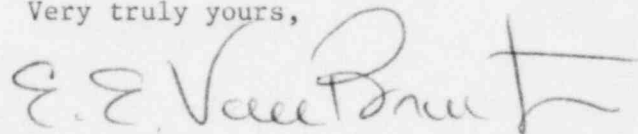
Subject: Final Report - DER 82-85
A 50.55(e) Reportable Condition Relating to
Harlo Relay Panels In Unit 1 Failed Tests Due To Supplier
Error Using DC Coils In AC Circuits
File: 83-019-026
D.4.33.2

Reference: (A) Telephone Conversation between A. D'Angelo and
G. Duckworth on January 7, 1983
(B) ANPP-22924, dated February 7, 1983 (Interim Report)

Dear Sir:

Attached is our final written report of the deficiency referenced above,
which has been determined to be 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

Enclosure

cc: See Attached Page 2

1827

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

March 7, 1983
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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 - DER 82-85
DEFICIENCY EVALUATION 50.55(e)
ARIZONA PUBLIC SERVICE COMPANY (APS)
PVNGS UNIT 1, 2 & 3

I. DESCRIPTION OF DEFICIENCY

During prerequisite testing of Control and Fuel Building HVAC systems, it was found that Harlo Corporation auxiliary relay panels, supplied from a 125V AC source, were furnished with 125V DC relays.

Purchase Order Specification 13-EM-022 Rev. 0 was issued March 28, 1977, requiring the supplier to provide relays in accordance with drawings and Bill of Material attached and made part of the specification. All the drawings attached to the released specification, and the Harlo drawings submitted to Bechtel, required DC relays (no AC relays were required at that time).

In 1979, some new systems were added, and new elementary drawings prepared. The new Bechtel drawings specified AC relays. The drawings were transmitted to the supplier for implementation; however, due to the expiration of agreed manufacturing cut off dates for Units 1 and 2, the manufacturer did not implement the changes, and delivered the panels without the required updates. Bechtel Engineering overlooked Harlo's position and assumed Harlo had updated the panels by installing AC relays. The discrepancy between the fabricated panels (with DC relays) and the Bechtel design (specifying AC relays) was not detected until prerequisite testing.

II. ANALYSIS OF SAFETY IMPLICATIONS

This condition is evaluated as Reportable. The subject relay panels are essential components of the Control and Fuel Building HVAC systems, both safety-related items. The DC relays render these systems inoperative, constituting a safety-significant condition. This condition represents a significant deficiency in final design, since the supplier drawings assigned Status 1 and the released interfacing Bechtel elementary drawings were not coordinated for consistency as required by established engineering practice and ANSI N45.2.11.

III. CORRECTIVE ACTION

- a. The condition will be corrected prior to fuel load by ordering the AC rated relays from the manufacturer and replacing the DC relays in the auxiliary relay panels for Units 1 and 2 as part of the work described in Design Change Packages 1SE-HF-007, 2CE-HF-007 and 3CE-HF-007. Seismic and environmental qualifications are not impacted by this condition since the replacement AC relays meet qualification requirements.
- b. Additional reviews of recent electrical design changes have indicated that they have been processed per the Design Change Package procedure which assures proper coordination with the interfacing organizations. The responsible Bechtel individuals have reviewed this document to serve as a training exercise to preclude recurrence.