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

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

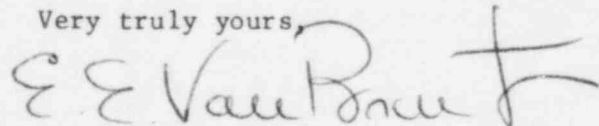
Subject: Final Report - DER 83-33
A 50.55(e) Potentially Reportable Deficiency Relating to GE
AKR-50 Breakers With EC-1 Trips May Have A Generic Defect
Which Could Cause A Malfunction.
File: 83-019-026; D.4.33.2

Reference: Telephone Conversation between T. Young and R. Tucker
on May 25, 1983

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 Management
ANPP Project Director

EEVB/RQT:ru

Enclosure

cc: See Page 2

*See Changes Made To Final Report Titles

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U. S. Nuclear Regulatory Commission
Page Two

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FINAL REPORT - DER 83-33
POTENTIAL REPORTABLE DEFICIENCY
ARIZONA PUBLIC SERVICE COMPANY (APS)
PVNGS UNIT 3

I. Description of Deficiency

As documented by APS letter ANPM-16183-JTB/SLK dated 4-29-83 (Attachment 1), General Electric (GE) notified APS of a generic defect in GE model AKR-50 circuit breakers with an EC-1 trip device which could prevent proper operation of the tripping device. GE had previously notified the Nuclear Regulatory Commission of this defect per GE to NRC letter dated 6-15-82 (Attachment 2). Attachment 2 also identifies two additional defects in their model AKR-30 and AKR-50 circuit breakers. APS was notified of these two additional defects per GE Service Advice 175-CPD 9.11, as indicated in APS letter ANPM-16317-JTB/SLK dated 5-18-83 (Attachment 3). This Deficiency Evaluation Report was subsequently initiated to evaluate these three defects, which are described in the following:

1. Failure of AKR-30 and AKR-50 low voltage power circuit breakers to close upon command due to failure of an incompletely hardened steel part in the breaker operator.
2. Failure of AKR-30 and AKR-50 low voltage power circuit breakers to close upon command due to failure of the molded case of a switch in the breaker closing circuitry. The failure is caused by improper curing of the molded case which encloses the switch mechanism.
3. Spurious tripping of AKR-50 low voltage power circuit breakers due to failure of ground break relay components. The failure is caused by a manufacturing defect in the silicon controlled rectifier used in the ground break relay.

The subject breakers are used in the following equipment for each unit at PVNGS:

<u>Breaker</u>	<u>Equipment</u>	<u>Breaker Number</u>	<u>Reference Bechtel Drawing(s)</u>
AKR-50	Class IE Battery Breaker	PKA-M4102	13-E-PKA-002
AKR-50	Class IE Battery Breaker	PKB-M4202	13-E-PKA-005
AKR-50	Class IE Battery Breaker	PKC-M4302	13-E-PKA-004
AKR-50	Class IE Battery Breaker	PKD-M4402	13-E-PKA-007
AKR-30	Reactor Trip Switchgear	TCB-1 and	13-E-SBB-001 and
AKR-30	Circuit Breakers	TCB-2	N001-13.03-166-1

II. Analysis of Safety Implications

1. Defects 1 and 2

The first and second defects described in "Condition Description" (an incompletely hardened steel part in the breaker operator and an improperly cured molded switch mechanism case, respectively) each result in a failure of the circuit breaker (AKR-30 and AKR-50) to close upon command

For the Class IE battery circuit breakers (model AKR-50), FSAR Technical Specification 16.3/4.8.2.3 (DC Distribution-Operating) requires all four Class IE battery banks to be energized and operable (i.e., capable of performing its design function) for plant operation. Should the Class IE battery breakers fail to close in preparation for startup, the technical specification would not be met, precluding the plant from starting up. During plant operation, these breakers are normally closed and are not operated.

For the reactor trip switchgear circuit breakers (model AKR-30), these circuit breakers must be closed before control rods can be withdrawn and the plant operated. These breakers are only opened after the control rods have been inserted and the reactor is being shut down.

Since these two defects, if left uncorrected, would not adversely affect the safety of operations of the plant during the lifetime of the plant, they are evaluated as not reportable under the requirements of 10CFR50.55(e).

Defect 3

The third defect described in "Condition Description" (a manufacturing defect in the silicon controlled rectifier used in the ground break relay) could result in spurious tripping of the circuit breaker. This defect, which exists in the model AKR-50 breakers, could result in a loss of a Class IE battery, which provides a backup source of power for the Class IE 125V DC power system.

This condition is evaluated as reportable under the requirements of 10CFR50.55(e) since, if left uncorrected, the operation of the safety-related 125V DC system could be impaired and the deficiency represents a significant deviation from performance specifications.

III. Corrective Action

Bechtel Construction will use the nonconformance report system to have the three identified breaker defects corrected prior to fuel load in each unit. The process of sequentially repairing the breakers at GE and at the jobsite is outlined in Attachment 3.

The PVNGS Project also considers "Defect 3" to be reportable under the requirements of 10CFR Part 21. As indicated by Attachment 2, GE has notified the NRC of this defect and this report therefore satisfies all project reporting requirements.

A copy of this report will be transmitted to the Bechtel Construction Manager to assure that the corrective action plan is properly coordinated.