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REGION VISE

U. S. Nuclear Regulatory Commission  
Region V  
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Attention: Mr. T. W. Bishop, Director  
Division of Resident  
Reactor Projects and Engineering Programs

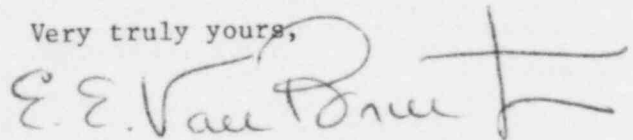
Subject: Final Report - Revision 1 - DER 83-33  
A 50.55(e) Reportable Condition Relating to CE AKR-50 Breakers  
with EC-1 Trips May Have A Generic Defect Which Could Cause A  
Malfunction  
File: 83-019-026; D.4.33.2

Reference: A) Telephone Conversation between T. Young and R. Tucker on  
May 25, 1983  
B) ANPP-24170, dated June 24, 1983 (Final Report)

Dear Sir:

Enclosed is revision one of the subject Deficiency Evaluation Report  
under the requirements of 10CFR50.55(e). This revision lists the  
specific nonconformance reports and breakers included in the corrective  
action plan.

Very truly yours,



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

EEVB/KCP:ru

Attachment

cc: See Page Two

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PDR ADOCK 05000530  
S PDR

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Mr. T. W. Bishop  
DER 83-33  
Page Two

cc: Richard DeYoung, Director  
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FINAL REPORT - REVISION 1 - DER 83-33  
POTENTIAL REPORTABLE DEFICIENCY  
ARIZONA PUBLIC SERVICE COMPANY (APS)  
PVNGS UNIT 3

I. Description of Deficiency

As documented by APS Memo ANPM-16183-JTB/SLK dated, 4-29-83 (Attachment 1 - See Reference (B)), 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 - See Reference (B)). 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 Memo ANPM-16317-JTB/SLK dated, 5-18-83 (Attachment 3 - See Reference B).

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 AKE-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 the EC-1 trip device on the 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	Class Reactor Trip Switch	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 EC-1 tripping device on 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 (See Reference (B)).

The PVNGS Project also considers "Defect 3" to be reportable under the requirements of 10CFR Part 21. As indicated by Attachments 2 and 4 (See Reference (B)), 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.

* <u>Unit 1</u>		<u>Unit 2</u>		<u>Unit 3</u>	
<u>NCR NO.</u>	<u>Brk. No.</u>	<u>NCR No.</u>	<u>Brk. No.</u>	<u>NCR No.</u>	<u>Brk. No</u>
SE-2182	M41 through M44	SE-1974	M41	EJ-2905	M41
		SE-1933	M42		M42
SE-2272	E01B	SE-2270	M43		M43
	SBA		M44		M44
	SBB		E01B	ZT-3082	E01B
			AC03	EJ-3081	AC03
			BC03		BC03

#### Spare Breakers

<u>NCR No .</u>	<u>Qty .</u>
EJ-2906	2
SE-2271	3

