



Arizona Nuclear Power Project

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December 12, 1984
ANPP-31454-TDS/TRB

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REGION V

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

Attention: Mr. D. F. Kirsch, Acting Director
Division of Reactor Safety and Projects

Subject: Final Report - DER 84-13
A 50.55(e) Reportable Condition Relating To HVAC Acceptance
Criteria.
File: 84-019-026; D.4.33.2

Reference: A) Telephone Conversation between P. Johnson and T. Bradish on
March 13, 1984
B) ANPP-29229, dated March 13, 1984 (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 Production
ANPP Project Director

EEVB/TRB/nj
Attachment

cc: See Page Two

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Mr. D. F. Kirsch
DER 84-13
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cc: Richard DeYoung, Director
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FINAL REPORT - DER 84-13
DEFICIENCY EVALUATION 50.55(e)
ARIZONA PUBLIC SERVICE COMPANY (APS)
PVNGS UNITS 1, 2, 3

I. Description of Deficiency

As a result of an investigation by The Waldinger Corporation (TWC), it was discovered that there are two generic problems which preclude the installed HVAC ducts from complying with the Bechtel-established TWC acceptance criteria for seismic conditions as follows:

- A. Insufficient detail on Bechtel design drawings. Examples of these deficiencies are:
- ° Maximum size of datum plates not specified on drawing 13-C-00C-011, Detail 4.
 - ° Extension of duct band ears is shown "as required" with no maximum given (Ref: FCR #20,756-C).
- B. Incorrect interpretation of the Bechtel design drawings and Field Change Requests (FCRs) by TWC. Examples of these deficiencies are:
- ° Knee brace angle does not conform to slope as specified on drawing 13-C-00C-011, Note 5.
 - ° Misinterpretation of DCN #2 on drawing 13-C-00C-032 by TWC concerning the installation of longitudinal bracing to work points.

The root cause of this deficiency was failure to provide sufficient detail on engineering drawings and failure during installation to correctly interpret engineering requirements shown on the drawings.

In order to identify individual installed supports which do not comply with seismic acceptance criteria, Bechtel Engineering initiated a walkdown program to inspect 100% of all Q and R HVAC supports and all potential hazard conditions (Class 'S' supports over Class Q and R systems). Bechtel Engineering developed acceptance criteria and design Change Packages LSM-HA-030, HD-009, HF-014, HC-040, and HJ-035 were initiated to perform the walkdown inspection in Unit 1. A summary of the results of the Unit 1 walkdown are given below.

No. of supports inspected that meets engineering drawing/criteria requirements	=	2096	(83.7%)
No. of supports inspected that do not meet requirements but are acceptable by calculations/analysis (use-as-is)	=	337	(13.5%)
No. of supports inspected that do not meet requirements and required work	=	70	(2.8%)
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Total No. of supports inspected	=	2503	(100.0%)

II. Analysis of Safety Implications

The condition described herein affects all safety-related HVAC systems and could prohibit the systems from performing the intended safety function during or after a Safe Shutdown Earthquake. No other safety system is directly affected by this condition.

Based upon the above, this condition is evaluated as reportable under the requirements of 10CFR50.55(e) as a safety significant deficiency; since, if left uncorrected, it could have precluded this system from performing its safety functions.

Also, this condition represents a substantial safety hazard and is evaluated as reportable under the requirements of Part 21.

This report satisfies reporting requirements under both 10CFR50.55(e) and 10CFR Part 21, since this deficiency is restricted to PVNGS.

III. Corrective Action

Deficiencies identified during the Unit 1 walkdown were documented by Nonconformance Reports MA-2303, MC-2304, MG-2305, MR-2306, and MJ-2330. These deficiencies will be completed prior to entry into Mode 6.

The comprehensive walkdowns for Units 2 and 3 are currently being accomplished by Design Change Packages 2SM and 3CM-HA-030, HD-009, HF-014, HC-040, and HJ-035. The resulting deficiencies will be analyzed and will be documented and corrected by issuance of Nonconformance Reports. These Nonconformance Reports will cross-reference this DER. This corrective action plan will be completed prior to operating license in each unit.

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In order to prevent recurrence of this condition, all engineering drawings for HVAC supports have been revised to provide sufficient details to assure proper installation and to prevent misinterpretation by TWC.

This condition is isolated to this particular subcontract since this is the only case where Bechtel was responsible for the design and the subcontractor was responsible for installation and inspection. The results of other independent inspections such as the NRC CAT Audit of 1983 indicate that this condition is limited to the Bechtel/TWC interface.