

Arizona Public Service Company

P.O. BOX 21866 • PHOENIX, ARIZONA 85033

March 9, 1984
ANPP-29036-BSK/TRB

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

Attention: Mr. T. W. Bishop, Director
Division of Resident
Reactor Projects and Engineering Programs

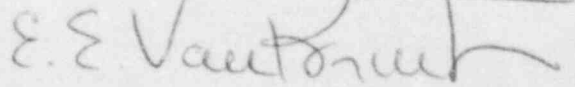
Subject: Final Report, Revision 1 - DER 82-50
A 50.55(e) Reportable Condition Relating to Flexible Conduit
Couplings Between Unit 1 Auxiliary And Control Buildings May Be
Damaged If Seismic Events Exceed 3/4 Inch Movement.
File: 84-019-026; D.4.33.2

Reference: A) Telephone Conversation between J. Eckhardt and G. Duckworth
on September 10, 1982.
B) ANPP-21974, dated October 8, 1982 (Interim Report)
C) ANPP-22612, dated December 22, 1982 (Time Extension)
D) ANPP-23417, dated April 4, 1983 (Time Extension)
E) ANPP-23944, dated June 1, 1983 (Time Extension)
F) ANPP-24075, dated June 17, 1983 (Final Report)
G) Telephone conversation between P. Narbut and T. Bradish on
February 16, 1984.

Dear Sir:

Enclosed is revision one of the subject Deficiency Evaluation Report
under the requirements of 10CFR50.55(e). This revision is submitted to
change the final disposition from Not Reportable to Reportable.

Very truly yours,



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

EEVB/TRB:db
Attachment

cc: See Page Two

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Mr. T. W. Bishop
DER 82-50
Page Two

cc: Richard DeYoung, Director
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FINAL REPORT, REV. 1 - DER 82-50
DEFICIENCY EVALUATION 50.55(e)
ARIZONA PUBLIC SERVICE COMPANY (APS)
PVNGS UNITS 1

I. Description of Deficiency

During Field Inspection, the Field Engineer questioned seismic capability of installed electrical conduit expansion/deflection couplings in the dead space between the Unit 1 Auxiliary and Control Buildings. Note 4 on Bechtel Drawings 13-E-ZJC-052 and 13-E-ZJC-053 specify the use of "Standard Flexible Fittings" for all conduit installed between the Auxiliary and Control Buildings; however, expansion/deflection type couplings without seismic qualification had been installed. The installed expansion/deflection couplings are subject to excessive shear type offsets beyond the specified limit of the coupling.

II. Analysis of Safety Implications

Wyle Laboratories performed a detailed analysis of the expansion/deflection couplings (DX fitting) based on extensive testing. Details and results of the analysis are provided in Wyle Report No. 26406-1 (Bechtel Log No. E600-22-1), entitled "Evaluation of Electrical Conduit Connections Between the Auxiliary and Control Buildings for the APS Palo Verde Nuclear Generating Station." The Wyle Laboratories analysis demonstrated the structural integrity of the DX fitting but did not address conditions with cables installed in the fittings. The analysis had determined that all DX fittings between the Auxiliary and Control Buildings will withstand all postulated relative motion between these buildings during an SSE event without damage to the fitting. Since the evaluation excluded cables in the conduit, it did not represent the as-built condition of the installed DX fittings. Based on the analysis performed by Wyle Laboratories, this condition was initially evaluated as Not Reportable as transmitted in Reference (F). Subsequent to the Wyle Report No. 26406-1, an Engineering analysis of the installed conduit expansion/deflection couplings (DX fitting) entitled "Conduit DX Fitting Investigation for PVNGS Unit 1 Study No. 13-ES-400", was prepared January 27, 1984. This analysis evaluated the effects on the installed cables during a seismic event SSE, and established acceptability criteria. The results indicated 15 cases where the cables could sustain significant damage adversely affecting their safety-related capability.

Based on the above, this condition has been re-evaluated as reportable under the requirements of 10CFR50.55(e) since, if this condition were to remain uncorrected it could adversely affect the safe operations of the plant during an SSE. The PVNGS project also evaluates this condition as reportable under the requirements of 10CFR Part 21. This report also satisfies all reporting requirements under 10CFR Part 21.

III. Corrective Action

- A. NCR EJ-2285 will be dispositioned "use as is" except for conduits identified in DCP 1SE-ZA-109, Rev. 0 and 2SE-ZA-111, Rev. 0.
- B. The "Conduit DX Fitting Investigation for PVNGS Unit 1" established the basis for Unit 1 DCP 1SE-ZA-109, Rev. 0. This DCP calls for conduit/DX fitting system modification that includes conduit support modifications and/or DX fitting removal. Also, the DCP provides a procedure for replacing the DX fitting with neoprene sheets, tape and zipper tubing.

The analysis for Unit 2 began 2/6/84. A walkdown will be performed during the week of February 13, 1984 to complete the DX fitting investigation and propose corrective action to be implemented by DCP 2SE-ZA-111, Rev. 0, prior to fuel load for Unit 2.

Unit 3 is unaffected by this deficiency since Corrective Action III Part C was implemented before the completed construction of the conduits and DX fittings in the seismic gap.

- C. Note 4 on Bechtel Drawings 13-E-ZJC-052 and 13-E-ZJC-053 and Bechtel Drawing 13-E-ZJC-050 ("Conduit and Tray Notes, Symbols and Details") have been revised to clarify the type of conduit fitting to be used between the Auxiliary and Control Buildings. Future installations will be made in accordance with the revised notes.