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May 29, 1984  
ANPP-29612-TDS/TRB

REGISTRATION

U. S. Nuclear Regulatory Commission  
Region V  
Creskside 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: Interim Report, Revision 1 - DER 82-76  
A 50.55(e) Potentially Reportable Deficiency Relating to  
Target Rock Valves Do Not Meet Specification/Test Requirements  
File: 84-019-026; D.4.33.2

Reference: A) Telephone Conversation between P. Narbut and G. Duckworth  
on November 24, 1982  
B) ANPP-22590, dated December 23, 1982 (Interim Report)  
C) ANPP-23223, dated March 10, 1983 (Time Extension)  
D) ANPP-23641, dated May 3, 1983 (Time Extension)  
E) ANPP-27523, dated August 5, 1983 (Time Extension)  
F) ANPP-28247, dated November 17, 1983 (Time Extension)  
G) ANPP-28608, dated January 12, 1984 (Time Extension)  
H) ANPP-28884, dated February 15, 1984 (Time Extension)  
I) ANPP-29288, dated April 12, 1984 (Time Extension)

Dear Sir:

The NRC was notified of a potentially reportable deficiency in Reference A, an Interim Report was transmitted by Reference B, and Time Extensions were requested by References C, D, E, F, G, H, and I. At that time, it was estimated that a Final Report would be available by May 30, 1984.

Due to the extensive investigation and evaluation required, a revised Interim Report is attached. It is now expected that this information will be finalized by July 20, 1984, at which time a complete report will be submitted.

Very truly yours,

*E. E. Van Brunt / TRB/C*

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

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S PDR

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Attachment

cc: See Page Two

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Mr. T. W. Bishop  
DER 82-76  
Page Two

cc: Richard DeYoung, Director  
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INTERIM REPORT - REVISION 1 - DER 82-76  
 POTENTIAL REPORTABLE DEFICIENCY  
 ARIZONA PUBLIC SERVICE COMPANY (APS)  
 PVNGS UNITS 1, 2, & 3

I. Potential Problem

A total of thirty (30) Target Rock solenoid valves have been supplied by Combustion Engineering (C-E) to PVNGS. Twenty-four (24) one-inch valves Model 77L-001 were assigned to be installed as Safety Injection Tank Vent valves (eight per unit) and are identified by the following unit tag numbers:

1JSIAHV605	2JSIAHV605	3JSIAHV605
1JSIAHV606	2JSIAHV606	3JSIAHV606
1JSIAHV607	2JSIAHV607	3JSIAHV607
1JSIAHV608	2JSIAHV608	3JSIAHV608
1JSIBHV613	2JSIBHV613	3JSIBHV613
1JSIBHV623	2JSIBHV623	3JSIBHV623
1JSIBHV633	2JSIBHV633	3JSIBHV633
1JSIBHV643	2JSIBHV643	3JSIBHV643

Six (6) two-inch Model 77L-003 Target Rock solenoid valves were assigned to be installed as Pressurizer Auxiliary Spray valves (two per unit) and are identified by the following unit tag numbers:

1JCHAHV205	2JCHAHV205	3JCHAHV205
1JCHAHV203	2JCHAHV203	3JCHAHV203

During this period of time C-E determined that four (4) valves would be returned to C-E for additional testing in accordance with NUREG-0588. Unit 1 & 2 valves were installed at this time, so valves were selected from Unit 3 stock and identified by model numbers, serial numbers and size as follows:

<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Unit Tag Numbers</u>
77L-001	17	1"	3JSIAHV605
77L-001	18	1"	3JSIAHV606
77L-003	5	2"	3JCHBHV203
77L-003	6	2"	3JCHAHV205

Inspection of these valves by C-E revealed deficiencies which can be identified as visual inspection items prior to testing and items found during the testing program as follows:

1. Prior to environmental testing

- a. Incorrect Valve Assembly - Examination found an off-center insulating washer wedged in the land between the pressure housing and the lower case of the reed switch housing. This prevented pressure from the assembly nut being transmitted to the bottom of the solenoid housing and the lower O-ring seal. The misalignment was corrected.

- b. Significant Missing Parts - The delivered valves lacked O-ring seals on both valves [5] and [6]. In addition, rubber grommets protecting the solenoid leads from chafing by the housing were missing on valves [17] and [18]. The missing O-rings were replaced.

2. Attributed to environmental testing program

- a. Limit switch valve position indicator failures, due to improper curing within the reed switch assembly.
- b. Valve Failed to Open - About 75% through the seismic test, valve [5] failed to open due to an electrical short in the solenoid leads, which welded together at a point about 1-inch from the solenoid. On disassembly, the solenoid was observed to be free to move in all directions.

The lead wires of the other valve tested [18] were also damaged to the extent of exposing the conductors, but they had not as yet come into contact either with each other or with the housing, where the grommet was missing.

- c. Valve Failed to Close - Although valve [18] was still operating electrically at termination of the test, it was unable to seat properly in the closed position because the soft seat ring had started to come out of its retention groove in the end of the plunger.

II. Approach To and Status of Proposed Resolution

The Project has initiated Investigative Request 018 to determine if other Target Rock valves exhibit similar problems. Results of this I/R will be documented by the Final Report for this DER.

III. Projected Completion of Corrective Action and Submittal of the Final Report

Evaluation of this condition and submittal of the Final Report is forecast to be completed by July 20, 1984.