

Arizona Public Service Company

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REGION V

May 24, 1984  
ANPP-29585-TDS/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

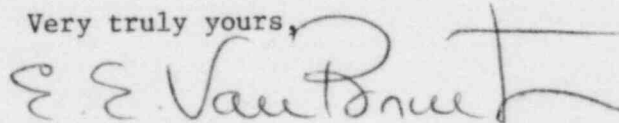
Subject: Final Report - DER 83-64  
A 50.55(e) Reportable Condition Relating to Pressure Relief  
Valves By Target Rock Failed To Meet Prerequisite Tests  
File: 84-019-026; D.4.33.2

Reference: A) Telephone Conversation between P. Johnson and R. Tucker on  
September 28, 1983  
B) ANPP-28096, dated October 26, 1983 (Interim Report)  
C) ANPP-28371, dated January 26, 1984 (Time Extension)  
D) ANPP-28966, dated February 29, 1984 (Time Extension)  
E) ANPP-29177, dated March 28, 1984 (Time Extension)

Dear Sir:

Attached is our final written report of the deficiency referenced above,  
which has been determined to be Not Reportable under the requirements of  
10CFR50.55(e).

Very truly yours,



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

EEVB/TRB:ru  
Attachment

cc: See Page Two

8406050517 840524  
PDR ADOCK 05000529  
S PDR

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Mr. T. W. Bishop  
DER 83-64  
Page Two

cc: Richard DeYoung, Director  
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U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

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FINAL REPORT - DER 83-64  
DEFICIENCY EVALUATION 50.55(e)  
ARIZONA PUBLIC SERVICE COMPANY (APS)  
PVNGS UNITS 2, and 3

I. Description of Deficiency

During a visual inspection of Unit 2 subsystems 2EC01 and 2EC02, it was revealed that external factory applied calibration seals to Target Rock Model 76-Q-XXX Pressure Relief Valves (PSV's), supplied under specification purchase order 13-JM-691, were broken. Field investigation could not detect the exact cause of broken seals. Vendor delivered valves did not have broken seals. The valves were removed and sent to APS for re-testing in accordance with Station Test Procedure 73ST-9ZZ01 and are identified by the following unit tag numbers:

2J-ECA-PSV-0075  
2J-ECB-PSV-0076  
2J-ECB-PSV-0098  
2J-ECB-PSV-0100

The re-testing of these valves determined that they failed performance testing, due to excessive seat leakage. Based on the sample valve test failures, all installed Unit 2 and 3 valves were removed and re-tested by APS. A total of twenty-nine (29) out of the thirty (30) valves tested failed on excessive seat leakage and are identified as follows:

\* 2J-ECA-PSV-0075  
2,3J-ECB-PSV-0076  
2,3J-ECA-PSV-0095  
2,3J-ECB-PSV-0096  
2,3J-ECA-PSV-0097  
2,3J-ECB-PSV-0098  
2,3J-ECA-PSV-0099  
2,3J-ECB-PSV-0100  
2,3J-ECA-PSV-0101  
2,3J-ECB-PSV-0102  
2,3J-ECA-PSV-0103  
2,3J-ECB-PSV-0104  
2,3J-ECB-PSV-0105  
2,3J-ECB-PSV-0108  
2,3J-ECB-PSV-0117

\* Unit 3 valve passed performance test

The Target Rock (T/R) field representative conducted a verification test program, at the jobsite, using a T/R supplied test rig apparatus.

For the test program, four (4) valves were selected. Two (2) new unpackaged valves were retrieved from the jobsite warehouse and two (2) valves were selected from the previous failed performance testing and are identified as follows:

<u>New-Unpackaged Valves</u>	<u>Previous Failed Valves</u>
3J-ECB-PSV-0106	3J-ECA-PSV-0095
3J-ECB-PSV-0109	3J-ECA-PSV-0101

The four (4) valves were tested, using the T/R test apparatus, with the results as follows:

<u>New-Unpackaged Valves</u>	<u>Previous Failed Valves</u>
3J-ECB-PSV-0106	3J-ECA-PSV-0095
3J-ECB-PSV-0109	3J-ECA-PSV-0101
Valves passed setpoint and leakage requirements.	Valves failed test, based on excessive leakage.

Valves 3J-ECA-PSV-0095 and 0101 were disassembled. It was revealed that the disc seating areas of both valves had surface indentations which prevented the valves from reseating properly thus causing excessive leakage.

T/R has attributed this condition to foreign material contained in the APS test media, and lack of an accumulator on the APS test rig. T/R has stated that the lack of an accumulator and entry of foreign materials were the probable cause of the hammered peening effect on the disc areas.

T/R letters TRC-C-31340 and C-420 and ANPP Conference Notes No. CN-E-1416 support the T/R claim that performance failures of the valves were due to inadequate field test apparatus and entry of foreign materials during testing.

A review of Unit 1 valves, determined that no deficiencies were documented during hot functional testing. The valves were installed as received from the vendor and were not removed for additional testing.

## II. Analysis of Safety Implications

These relief valves are in the Essential Chilled Water (ECW) System, and leakage from them would deplete the water supply in the Chilled Water Expansion tank. Safety-grade instruments would detect this depletion. When the water in this tank reached the "Low-Low" level, makeup water would automatically be added from the Demineralized Water (DW) System.

If, for any reason, makeup water is not available from the DW System, then the plant operator will get an alarm signal so he can select makeup water from the Condensate Storage Tank. Thus, if this condition had been left uncorrected the ECW System would still have been able to fulfill its function with no adverse impact on the safety of plant operations. Based upon the above, this condition is evaluated as not reportable under the requirements of 10CFR 50.55(e).

Since this condition does not represent a defect in a delivered component, but is due solely to improper field testing, it is evaluated as not reportable under the requirements of 10CFR Part 21.

### III. Corrective Action

- A. The T/R test apparatus will remain at the jobsite for APS use until procurement or fabrication of an adequate test rig is achieved.
- B. NCRs SM-2216 and 2885 will be dispositioned to return defective valves to T/R for refurbishment. Valve refurbishment is scheduled to be completed prior to fuel load for the respective units.