Arizona Public Service Company

September 28, 1984
ANPP-30683-TDS/TRB

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

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

Subject: Final Report, Revision 1 - DER 83-10
A 50.55(e) Reportable Condition Relating to Main Steam Relief Valves Tests Exceed Specified 5 Percent Blowdown Limit.
File: 84-019-026; D.4.33.2

Reference: A) Telephone Conversation between P. Narbut and G. Duckworth on February 28, 1983
B) ANPP-23271, dated March 17, 1982 (Interim Report)
C) ANPP-24004, dated June 8, 1982 (Time Extension)
D) ANPP-27394, dated July 25, 1982 (Time Extension)
E) ANPP-27975, dated October 7, 1983 (Time Extension)
F) ANPP-28258, dated November 18, 1983 (Time Extension)
G) ANPP-28609, dated January 12, 1984 (Time Extension)
H) ANPP-28953, dated February 28, 1984 (Final Report)

Dear Sir:

Attached is Revision 1 to our final written report of the deficiency referenced above, which has been determined to be Not Reportable under the requirements of 10CFR50.55(e). This revision provides clarification to the Analysis of Safety Implications.

Very truly yours,

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

EEVB/TRB/nj
Attachment

cc: See Page Two

IE-27 1/1

cc: Richard DeYoung, Director
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

T. G. Woods, Jr.
W. E. Ide
D. B. Fasnacht
A. C. Rogers
L. A. Souza
T. D. Shriver
D. E. Fowler
J. Vorees
J. R. Bynum
A. C. Gehr
W. J. Stubblefield
W. G. Bingham
R. L. Patterson
R. W. Welcher
H. D. Foster
D. R. Hawkinson
L. Clyde
D. Canady
J. D. Houchen
J. E. Kirby
D. N. Stover

Records Center
Institute of Nuclear Power Operations
1100 Circle 75 Parkway, Suite 1500
Atlanta, GA 30339

Mr. E. Licitra
U. S. Nuclear Regulatory Commission
Phillips Building
7920 Norfolk Avenue
Bethesda, MD 20814

FINAL REPORT - DER 83-10
DEFICIENCY EVALUATION 50.55(e)
ARIZONA PUBLIC SERVICE COMPANY (APS)
PVNGS UNITS 1, 2, 3

I. Description of Deficiency

The twenty Unit 1 Main Steam Safety Relief Valves (MSSV's) supplied by Combuston Engineering (C-E) and manufactured by Dresser Industries, were sent to Wyle Laboratories for inspection and testing due to a concern regarding the means of interim storage used at the Palo Verde site (see Deficiency Evaluation Report 82-54). In addition to set pressure and leakage checks, APS requested that the blowdown be measured. Blowdown had not been verified prior to the original delivery to the site because of test facilty limitations at that time. The Tag Nos. for the Unit 1 MSSV's are as follows:

SGE-PSV-554	SGE-PSV-559	SGE-PSV-574	SGE-PSV-579
555	560	575	691
556	561	576	692
557	572	577	693
558	573	578	695

The MSSV's were first disassembled and cleaned by Wyle. It was found that no permanent material damage had occurred to the valves, permitting testing to proceed on January 19, 1983. The first ten MSSV's tested failed to meet C-E's blowdown requirement of less than or equal to 5%. Blowdown for the tested valves ranged from 7% to 15%. In addition, in some cases inadequate lift, galling, and nonadjustability occurred.

The Dresser tests established that the valve design was deficient with regard to the blowdown adjustment, and corrective design changes were taken to drill the disk holders and to provide a simple anti-rotation pin. The latter change was not a deficiency per se but was done to better assure adjustability. These design modifications were implemented on the ten failed valves at Wyle and Dresser so that testing could proceed.

Also, C-E's review of the system requirements established that the minimum (valve closure) blowdown pressure could be 1,175 psig for all valves. This change was made to the C-E Testing Specification. Retesting was successful for the low pressure setpoint valves only after much trial and error during testing. Two other higher setpoint valves passed successfully at this time.

As agreed with C-E/Dresser, the other 14 valves were shipped to Dresser for rework (drilling disk holders and providing pins). These valves were subsequently sent back to Wyle for testing on March 29, 1983. Upon retesting, after factory rework and retesting, six of the fourteen valves failed. The six valves which failed were subsequently reworked by Wyle under Dresser's supervison and successfully tested on April 16, 1983.

The six failures were due to inadequate lift and disk holder galling. One valve which passed the test had a questionable reseating characteristic. This valve was disassemble and found to have inadequate clearance for disk holder movement.

II. Analysis of Safety Implications

For events other than steam generator tube rupture, there will be no change in the integrated steam flow to atmosphere. Accordingly, there will be no significant changes to either the accident analysis or offsite radiation exposures.

For a steam generator tube rupture, the slight increase in radiation exposure is still well within 10CFR 100 limits. CE has confirmed that the greater blowdown does not have any significant thermal hydraulic consequences which would aggravate FSAR Chapter 15 analyses.

Accordingly, this condition is evaluated as not reportable under 10CFR50.55(e) since if left uncorrected the condition would not represent a significant safety hazard.

III. Corrective Action

1. The MSSV's for Unit 1 have been corrected, returned to the jobsite, and reinstalled.

2. The MSSV's for Units 2 and 3 have been returned to the Dresser factory for rework.

3. After rework each Unit 2 and 3 valve will be tested and corrected at Wyle Laboratories in the same manner as the Unit 1 valves.

4. C-E Specification 14273-PE-701 Revision 5 (Bechtel Log No. N001-6.04-11) has been issued to specify a blowdown pressure of 1175 psi.

5. CESSAR table 5.4.13-2 is being revised by C-E to reflect revised blowdown criteria.