Arizona Public Service Company

August 1, 1984
ANPP-30096-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 84-10
A 50.55(e) Reportable Condition Relating To Abnormal Number Of Single Element RTD's Open Circuited
File: 84-019-026; D.4.33.2

Reference: A) Telephone Conversation between R. Dodds and T. Bradish on February 29, 1984
B) ANPP-29141, dated March 23, 1984 (Interim Report)
C) ANPP-29608, dated May 29, 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

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

EEVB/TRB:nj
Attachment

cc: See Page Two

IE-27

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

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FINAL REPORT - DER 84-10
DEFICIENCY EVALUATION 50.55(e)
ARIZONA PUBLIC SERVICE COMPANY (APS)
PVNGS UNITS 1, 2, 3

I. Description of Deficiency

RdF Corp. has identified a potential problem with its Single Element Resistance Temperature Detectors (RTDs) (P/N 21233) that have been honed to a minimum diameter of 0.247". The Dual Element RTDs manufactured by RdF (P/N 21252) are not affected. The RTDs are supplied to PVNGS by Combustion Engineering (C-E).

During final testing of several pieces at RdF in late August, 1983, an abnormal number of unit open-circuited thereby failing inspection. After an extensive analysis, RdF determined that the failures were the result of torsional twisting of the element and sheath during the honing operation leading to broken internal wires. RdF has revised their manufacturing procedures such that a majority of the honing takes place prior to assembly with only a small length of the element being honed after assembly. This will eliminate the problem in future pieces. PVNGS Units 1, 2 and 3 have RTDs with this potential problem and are identified by the following Unit Serial Numbers:

Unit 1	Unit 2	Unit 3
S/N 158	S/N 174	S/N 246 thru 255
S/N 159	S/N 178 thru 182	
S/N 224	S/N 185 thru 192	
S/N 225	S/N 227	
S/N 226	S/N 232 thru 235	
S/N 228	S/N 232 thru 245	
S/N 229		
S/N 231		
S/N 236		
S/N 238 thru 241		

II. Analysis of Safety Implications

All of the above RTDs were returned to RdF where they were inspected by X-ray and disassembly, and no defects were found. Consequently, this condition is evaluated as not reportable under 10 CFR Part 50.55(e) and Part 21.

III. Corrective Action

No corrective action is required since 100% inspection revealed no problem with the RTDs. In an unrelated issue, the PVNGS single element RTDs were upgraded by RdF for improved time response capabilities. The new elements were produced under RdF's revised manufacturing procedures.

Design Change Packages 1SM-RC-101, 2SM-RC-101 and 3CM-RC-101 included the upgraded RTDs as part of the overall change to the RTD thermowells.