

RECEIVED  
NRC

Arizona Public Service Company

1984 SEP 27 AM 10:58

September 24, 1984  
ANPP-30632-TDS/TRB REGION V MSF

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

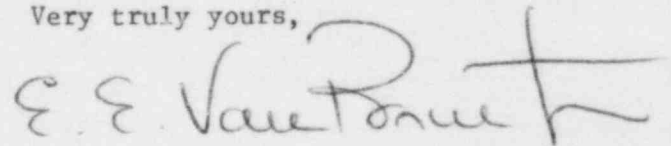
Subject: Final Report - DER 84-46  
A 50.55(e) Reportable Condition Relating to Refueling Water  
Tank Penetration Sleeves.  
File: 84-019-026; D.4.33.2

Reference: A) Telephone Conversation between D. Hollenbach and T. Bradish  
on July 17, 1984  
B) ANPP-30259, dated August 16, 1984 (Interim Report)  
C) ANPP-30446, dated September 6, 1984 (Time Extension)

Dear Sir:

Attached is our final written report of the Reportable Deficiency under  
10CFR50.55(e), referenced above.

Very truly yours,



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

EEVB/TRB/nj  
Attachment

cc: See Page Two

8410100603 840924  
PDR ADOCK 05000528  
S PDR

IE-27.11

Mr. T. W. Bishop  
DER 84-46  
Page Two

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

T. G. Woods, Jr.  
D. B. Karner  
W. E. Ide  
D. B. Fasnacht  
A. C. Rogers  
L. A. Souza  
D. E. Fowler  
T. D. Shriver  
C. N. Russo  
J. Vorees  
J. R. Bynum  
J. M. Allen  
J. A. Brand  
A. C. Gehr  
W. J. Stubblefield  
W. G. Bingham  
R. L. Patterson  
R. W. Welcher  
H. D. Foster  
D. R. Hawkinson  
L. E. Vorderbrueggen  
R. P. Zimmerman  
S. R. Frost  
L. Clyde  
M. Woods  
T. J. Bloom  
D. N. Stover

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

FINAL REPORT - DER 84-46  
DEFICIENCY EVALUATION 50.55(e)  
ARIZONA PUBLIC SERVICE COMPANY (APS)  
PVNGS UNITS 1, 2, 3

I. Description of Deficiency

Following completion of the final stress calculation for the Chemical and Volume Control system (CH), it was determined that no design calculation had been performed for the sleeve-to-pipe cap plate connection for two 20-inch diameter pipes penetrating the Refueling Water Tank (See Figure 1). Calculations were performed and revealed that the connection would be overstressed during a seismic event due to loads resulting from seismic anchor movement.

Evaluation

In the original configuration, relative movement between the Refueling Water Tank and the Essential Pipe Tunnel during a seismic event would cause a relative transverse movement between the sleeve and the pipe. This movement created the overstress condition in the sleeve-to-pipe connection. To prevent this movement, the annular space between the sleeve and the pipe shall be filled with non-shrink grout. Calculation No. 13-CC-CT-015 has been performed to verify that this modification will prevent the overstress condition. This action will ensure that the system will not fail in the event of an SSE and that the leak-tight integrity of the Refueling Water Tank will be maintained.

The root cause is an oversight on the part of design engineering to perform a required evaluation. The final stress calculations provide a check on this type of oversight, and the lack of this calculation was discovered during final stress analysis.

II. Analysis of Safety Implications

The condition described herein affects the safety injection pump suction nozzle connection for the CH system and could prohibit that system from performing its intended safety function during or after a safe shutdown earthquake (SSE). Based on this, the condition is evaluated as safety significant and reportable under the requirements of 10CFR50.55(e). In addition, due to the design deficiency, the PVNGS project has evaluated the condition to be reportable under the requirements of 10CFR Part 21.

III. Corrective Action

1. Remedial Action

Design Change Packages (DCPs) 1SC, 2CC, and 3CC-ZY-134 have been prepared and will be issued to perform and document the required grouting work for all 3 Units.

2. Action to Preclude Recurrence

All Pipe connections to safety-related tanks will be checked to verify that a final calculation has been performed and that the proper nozzle loads have been considered in the final design. Any deficiency identified during this check will be documented in accordance with Project Procedures and will cross-reference this DER. A training class was given on August 21, 1984 to reemphasize the need to ensure that the interfaces between piping and equipments/structures be properly addressed.

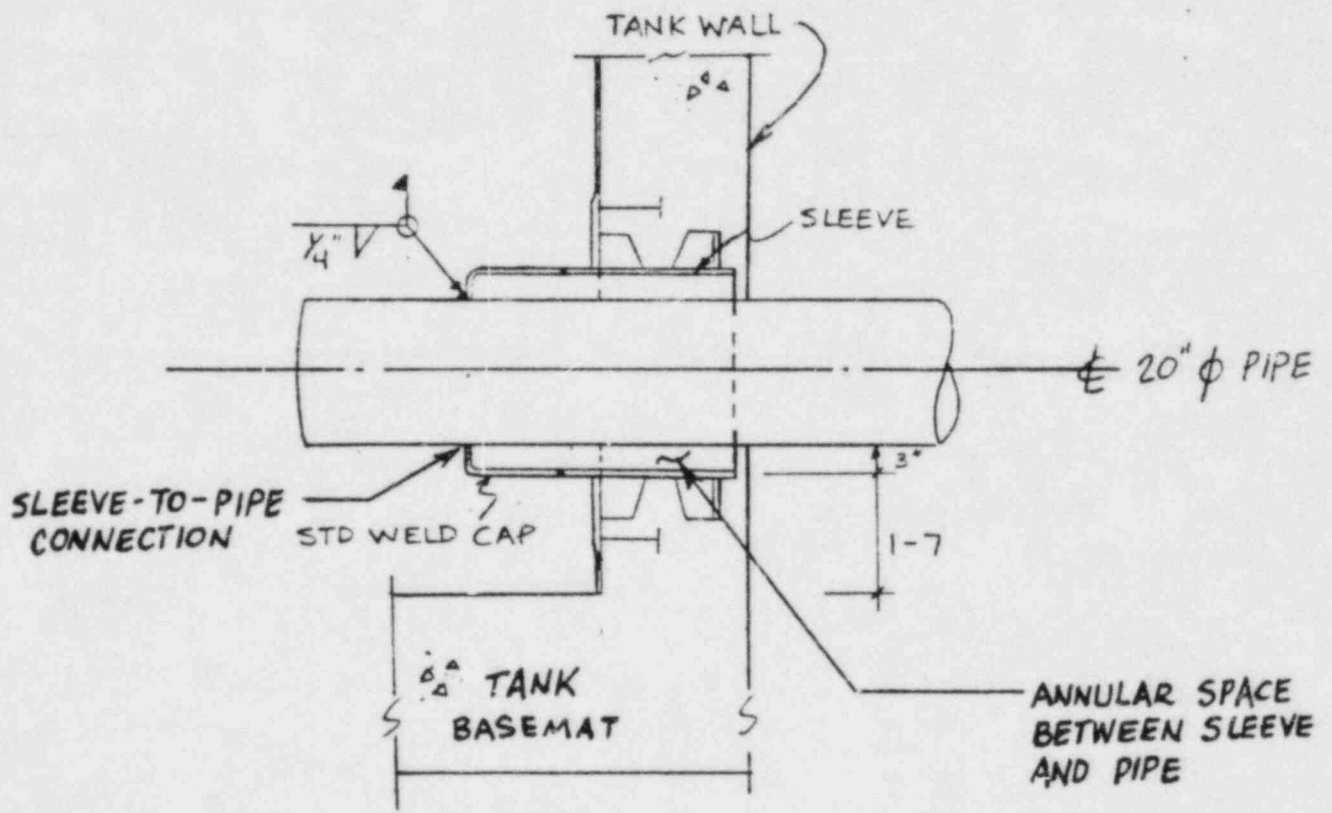


FIGURE 1