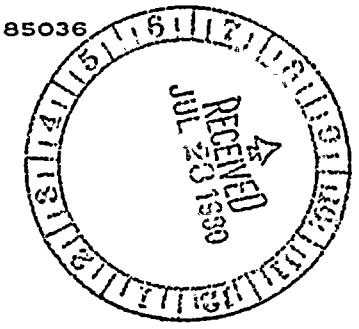
ARIZONA PUBLIC SERVICE COMPANY
P. O. BOX 21666 · PHOENIX, ARIZONA 85036

July 21, 1980
ANPP-15971-JEC/BSK



U. S. Nuclear Regulatory Commission
Region V
Walnut Creek Plaza - Suite 202
1990 North California Boulevard
Walnut Creek, California 94596

Attention: Mr. G. S. Spencer, Chief
Reactor Construction and
Engineering Support Branch

Subject: A 50.55(e) Reportable Condition Relating to Inadequately Design Reinforcing Steel in the Walls of the Main Steam Support Structure for Unit 1
File: 80-019-026

Reference: Telephone Conversation between G. Hernandez and B. S. Kaplan on June 20, 1980 (DER 80-17)

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

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

EEVBJr/JEC:skc

Attachment

80-66

cc: Victor Stello, Jr., Director
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

A. C. Gehr
Snell & Wilmer

R. L. Robb
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W. E. Ide
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A. C. Rogers
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R. W. Welcher
D. R. Hawkinson
J. A. Brand

FINAL REPORT

REPORTABLE DEFICIENCY 50.55(e)

ARIZONA PUBLIC SERVICE COMPANY (APS)

PVNGS UNIT #1

I Description of Deficiency

The five-way restraints for the Main Feedwater (MFW) lines are supported by the walls of the main steam support structure (MSSS). These structural steel restraints had to be designed elastically for postulated pipe break loads in order to minimize the movement of the MFW pipe. A dynamic load factor (DLF) of 2.0 is conservatively selected whenever a constant force is suddenly applied to a linear elastic support system. This DLF was utilized in the design of the five-way restraints. However, a DLF inadvertently was not used in the design of the concrete walls of the MSSS. This condition was discovered during a final design review.

II Analysis of Safety Implications

The MSSS and its five-way restraint is required to restrain and to minimize the movement of the MFW line in the event of a postulated pipe break. In an investigation of the MSSS walls to resist the postulated pipe break loads with a DLF of 2.0, one local area of the exterior wall was shown to be overstressed with regard to elastic stress limits. While this condition does not necessarily mean that the wall would fail, it does imply that there would be local yielding of the wall, which could result in unacceptable movement of the pipe.

This condition is considered a reportable deficiency based on two considerations:

1. If the condition were not detected and corrected, it is possible that it would be significant to safety.

2. This condition was not detected during the initial design review.

III Corrective Action

For Units #2 and #3, a design change was made by adding additional reinforcing steel and increasing the design strength of the concrete, so that the MSSS meets the established design criteria (Drawings 13-C-ZCS-700, Revision 6; 701, Revision 6, DCN #6 and #7; and 702, Revision 4, DCN #6 and #7).

For Unit #1, a design change package will be implemented so that the design meets all established criteria, by adding an adequately supported steel beam under the wall so that the original design basis for the wall is satisfied.

All engineering personnel responsible for the design have been instructed to carefully check to assure that all applicable criteria are included in the design.