

Arizona Public Service Company

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July 12, 1984
ANPP-29952-TDS/TRB

REGION VISE

U. S. Nuclear Regulatory Commission
Region V
Creskide 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

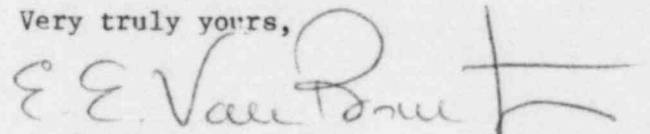
Subject: Final Report - DER 84-31
A 50.55(e) Reportable Condition Relating To Unsealed Piping
Penetrations In The MSSS.
File: 84-019-026; D.4.33.2

Reference: A) Telephone Conversation between P. Narbut and T. Bradish on
May 17, 1984
B) ANPP-29861, dated June 6, 1984 (Interim Report)

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.
AFS Vice President
Nuclear Production
ANPP Project Director

EEVB/TRB:db
Attachment

cc: See Page Two

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Mr. T. W. Bishop
DER 84-31
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
J. Self
D. Canady
T. J. Bloom

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

FINAL REPORT - DER 84-31
DEFICIENCY EVALUATION 50.55(e)
ARIZONA PUBLIC SERVICE COMPANY (APS)
PVNGS UNITS 1, 2, 3

I. Description of Deficiency

The Main Steam Support Structure (System ZM) Detailed Design Criteria, paragraph 1.5.2, states: "The portion of the structure below elevation 100 feet - 0 inches shall be designed to be watertight both from external sources of water and internal sources above elevation 100 feet - 0 inches." Contrary to this criteria, floor penetrations for piping in the Main Steam Support Structure floor slab at elevation 100 feet are not sealed. The penetration seal schedule for drawing 13-A-ZYD-175, Rev. 1 specifically states "no seal required" for penetrations 1 through 13 which are detailed on the floor insert and penetration drawing 13-A-ZYD-485, Rev. 0.

II. Analysis of Safety Implications

Safety-related A and B-train Auxiliary Feedwater (AFW) Pumps are located in this structure below elevation 100 feet. These pumps are required to function under certain accident conditions including feedwater or steam line breaks. For a design basis pipe rupture in this structure, the unsealed floor slab penetrations at elevation 100 feet would expose the AFW pumps to environmental conditions for which they have not been qualified, and the operability of the AFW pumps would not be assured. The resulting loss of auxiliary feed capability could adversely affect the safe shutdown of the reactor. This deficiency represents a defect in the design of a structure important to hardware safety, which if left uncorrected, could have precluded the safe shutdown of the reactor; consequently, it is evaluated as reportable under 10CFR50.55(e). Since the subject floor slab penetrations have not been delivered or offered for acceptance it is evaluated as not reportable under 10CFR21.

III. Corrective Action

Design Change Packages 1SA-ZM-011, 2SA-ZM-011 and 3CA-ZM-011 including revisions to drawings 13-A-ZYD-175 and 13-A-ZYD-096 will be issued to add appropriate seals to the open penetrations through the Main Steam Support Structure floor slab at elevation 100 feet. The physical modifications will be completed prior to fuel load for each unit.

The requirement to limit the propagation of high energy pipe break temperature, pressure and flooding effects to certain areas within a structure is unique to the MSSS and was not adequately addressed during separation review meetings held during the design of the MSSS. Correction of this specific design deficiency satisfactorily closes out this issue.

Mr. T. W. Bishop
ANPP-29952
Page Two

A detailed review of penetration seals throughout the plant is not required as a result of this deficiency in the MSSS. Fire barrier sealing requirements are currently receiving a complete review as part of the project fire protection effort to revise and update the fire hazards analysis and fire protection evaluation report to support fuel load for Unit 1. This effort includes physical verification of design and as-built configuration conformance to licensing requirements and commitments. Incorporation of radiation barrier sealing requirements into the physical design has been assured through prior detailed reviews of design drawings by the Nuclear discipline. Bioshield surveys during initial reactor startup and power ascension will confirm the adequacy of the plant shielding, including seals. Finally, a substantial design review to identify unsealed conduits and conduit penetrations below grade for protection against simple flooding was conducted as a corrective action for DER 83-41.