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ARIZONA

STA. 3003



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Certified By Dot Hoack
PUBLIC SERVICE COMPANY

P.O. BOX 21666 - PHOENIX, ARIZONA 85036

June 4, 1982
ANPP-21131-GHD/BSK

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

Attention: Mr. T. W. Bishop, Chief
Reactor Construction Projects Branch

Subject: Final Report - DER 81-10
A 50.55(e) Report Relating to Hardened Washers Not
Used As Required by ASME Code
File: 82-019-026
D.4.33.2

Reference: (A) Telephone Conversation between J. Eckhardt and
C. T. Lewis on May 12, 1981
(B) ANPP-18183, dated June 9, 1981 (Interim Report)
(C) ANPP-19520, dated November 20, 1981 (Interim
Report, Revision 1)
(D) ANPP-20228, dated February 22, 1982 (Interim
Report, Revision 2)

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, Jr.
APS Vice President
Nuclear Projects
ANPP Project Director

EEVBJr/GHD:skc

Attachment

cc: See Attached Page 2

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U. S. Nuclear Regulatory Commission
Attention: Mr. T. W. Bishop, Chief
ANPP-21131-GHD/BSK
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cc: Richard DeYoung, Director
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U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

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FINAL REPORT - DER 81-10
DEFICIENCY EVALUATION 50.55(e)
ARIZONA PUBLIC SERVICE COMPANY (APS)
PVNGS UNITS 1, 2 and 3

I. Description of Deficiency

Specification 13-PM-209, Section 4.3.1.2, requires supports to be fabricated to ASME Section III, Subsection NF. ASME Section III, Subsection NF, Paragraph 4724 requires bolts tightened by means of a calibrated torque wrench shall be installed with a hardened washer under the nut or head, whichever is the element turned in tightening.

Bechtel Supplier Quality Representative noted during surveillance inspection activities that supplier, ITT Grinnell, Warren, Ohio was installing mild carbon steel washers under the bolt heads on Sizes 1, 3 and 10 mechanical shock suppressors, (Figure 306, Pivot Mount, and Figure 307, Extension Assemblies). On Sizes $\frac{1}{4}$ and $\frac{1}{2}$, Figures 306 and 307, Shocks, the supplier had installed hardened brass washers.

II. Analysis of Safety Implications

This condition is evaluated as Not Reportable and no rework is required in regard to the identified supports.

- a. Code Interpretation NI 81-163, indicates that the use of hardened brass washers is in compliance with NF-4724.
- b. Based on a successful testing program by ITT Grinnell concerning the use of mild steel washers, Code Case N-338 has been approved by the May, 1982 ASME Committee. This Code Case is scheduled to be issued in Supplement 12 to the 1980 Code Case List.

III. Corrective Action

The Code Case number shall be indicated on the documentation for each applicable support and this Code Case shall be included in the FSAR.



The American Society of Mechanical Engineers

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Attachment to DER 81-10

January 18, 1982

Bechtel Group, Inc.
P.O. Box 3965
San Francisco, CA 94119

Att: W. H. Borter

Subject: Section III, Division 1
NF-4724 Bolt Tension

Reference: Your letter of October 21, 1981
ASME File # NI 81-163

Gentlemen:

Our understanding of the question in your inquiry, and our reply are as follows:

Question: Does paragraph NF-4724 of ASME Section III permit the use of a hardened brass washer under the nut or bolt head which is turned in tightening, when high strength carbon or alloy steel bolts are tightened by means of a calibrated wrench?

Reply: Yes.

Your truly,

John Millman
Assistant Secretary
(212) 644-8049

Inquiry

Subsection

For construction to ASME Section III, Division 1, NF what alternatives may be used in lieu of the hardened washers required in NF-4724?

Reply

Subsection

It is the opinion of the Committee that for Section III, Division 1, NF construction, low carbon steel washers may be used as an alternative to the hardened washers required by NF-4724 provided that:

- 1.0 The bolts or studs are used to connect material having a specified minimum yield strength equal to or greater than 40 ksi.
- 2.0 A test for each combination of materials, size and length of bolts or stud shall be performed to verify that the washer does not prevent the required preload from being developed. ~~A certification that the test has been performed and the results acceptable to the designer shall be attached to the documentation for these supports.~~
- 3.0 All other applicable requirements of Section III are met.
- 4.0 This Case number shall be indicated on the documentation for the support.

*A copy of
the test
results
and*