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 STN-50-529 Palo Verde Nuclear Station, Unit 2, Arizona Publi 05000529
 STN-50-530 Palo Verde Nuclear Station, Unit 3, Arizona Publi 05000530
 AUTH. NAME AUTHOR AFFILIATION
 VAN BRUNT, E.E. Arizona Public Service Co.
 RECIP. NAME RECIPIENT AFFILIATION
 KNIGHTON, G. Licensing Branch 3

SUBJECT: Forwards detailed description of cause of 820924 failure of
 Joy fan blades on vane axial fan, in response to NRC 830204
 request. No addl physical protection features necessary.
 Proposed change to FSAT Table 3.5-3 encl. *566 P. 12 Shelf*

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NOTES: Standardized plant. 05000528
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Arizona Public Service Company

P.O. BOX 21666 • PHOENIX, ARIZONA 85036

September 1, 1983
ANPP-27700 - WFQ/MAJ

Director of Nuclear Reactor Regulation
Attention: Mr. George Knighton, Chief
Licensing Branch No. 3
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Units 1, 2 and 3
Docket Nos. STN-50-528/529/530
File: 83-056-026; G.1.01.10

- Reference:
1. NRC letter from G. W. Knighton, NRC to E. E. Van Brunt, Jr., APS, dated February 4, 1983. Evaluation of Potential Missile Hazards From Fan Blade Assembly Failure.
 2. Palo Verde Nuclear Generating Station Project Evaluation-Deficiency Evaluation Report, No. 82-53 Revision 1, dated July 7, 1983. (Final Report)
 3. Joy Manufacturing Company Report No. X-992, "Failure Analysis of 54-26-1770 Steel Rotor Returned on NPR-97152 from Palo Verde Nuclear Generating Station", dated October 22, 1982.
 4. Bechtel's Material and Quality Services Trip Report, M&QS Log No. 280157, dated October 1, 1982.
 5. The Waldinger Corporation "Verification Report" for Joy Fans, attachment to Bechtel Power Corporation Letter B/CVI-E-42846 to CVI Corporation, dated December 6, 1982.

Dear Mr. Knighton:

The NRC was informed on September 24, 1982 of the failure of the Joy Fan Blades on the vane axial fan (Tag No. 1-M-HCN-A01B) installed in the Unit 1 Containment Building. An interim report (DER 82-53) was submitted to the NRC regarding this failure on October 25, 1982. Reference (1) requests Arizona Public Service Company (APS) to provide the following additional information concerning the above fan blade failure.

1. "A detailed description of the cause of the fan blade failure and the resulting missile."
2. "An evaluation of whether additional physical protection features, or other measures, are required for protection of safety-related equipment against internal missiles resulting from fan failures."

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Mr. G. W. Knighton
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3. "The extent to which the FSAR (Section 3.5.1.1 and 3.5.1.2) may need to be revised as a result of the above evaluation."

Reference (1) also states that if any of the requested information is to be provided in the final report (DER-82-53) then the response to this request may refer to the final report. The following is the APS response to the 3 items listed above.

1. "A detailed description of the cause of the fan blade failure and the resulting missile."

RESPONSE: The detailed description of the cause of the fan blade failure and the resulting missile can be found in the attached referenced final report (DER-82-53), Reference (2) and on pages 2-6 of the attached Reference (3), Joy Manufacturing Company Report No. X-992.

2. "An evaluation of whether additional physical protection features, or other measures, are required for protection of safety-related equipment against internal missiles resulting from fan failures."

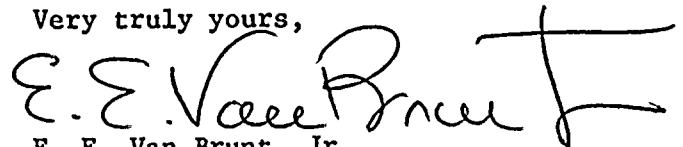
RESPONSE: Per Reference (2), section II, in a review of all fans located within the containment, no structure, system or component necessary for safe plant shutdown was, nor could be, adversely affected by any internally generated rotating missile. Additionally, the evaluation of similar fans located outside the containment shows that the missiles from those fans will not adversely affect structures, systems or components required for safe plant shutdown. Therefore, any additional physical protection features or other measures are not required for protection of safety related equipment.

3. "The extent to which the FSAR (sections 3.5.1.1 and 3.5.1.2) may need to be revised as a result of the above evaluation."

RESPONSE: Attached is a proposed change to FSAR Table 3.5-3. This change is described in Reference (2), section III, item (3) and is the only change that will be made to FSAR sections 3.5.1.1 or 3.5.1.2.

If you have any questions regarding this information, please call me.

Very truly yours,



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

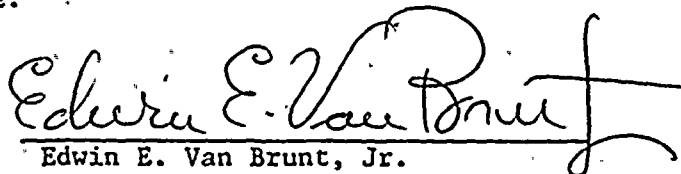
EEVB/MAJ/sp
Attachment

cc: E. A. Licitra (w/a)
A. C. Gehr "
J. Wermiel "

September 1, 1983
ANPP-27700 - WFQ/MAJ

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

I, Edwin E. Van Brunt, Jr., represent that I am Vice President Nuclear Projects of Arizona Public Service Company, that the foregoing document has been signed by me on behalf of Arizona Public Service Company with full authority so to do, that I have read such document and know its contents, and that to the best of my knowledge and belief, the statements made therein are true.


Edwin E. Van Brunt, Jr.

Sworn to before me this 1st day of September, 1983.


Notary Public

My Commission expires:

My Commission Expires April 8 1987

