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 STN-50-530 Palo Verde Nuclear Station, Unit 3, Arizona Public 05000530
 AUTH. NAME: AUTH. AFFILIATION
 VANBRUNT, E.E. Arizona Public Service Co.
 RECIPIENT NAME: RECIPIENT AFFILIATION
 TEDESCO, R.D. Assistant Director for Licensing

SUBJECT: Responds to NRC Question 410.20 re assurances for providing proper operating environment under normal & emergency conditions for essential spray pond pumps. Info resolves 810811 concerns.

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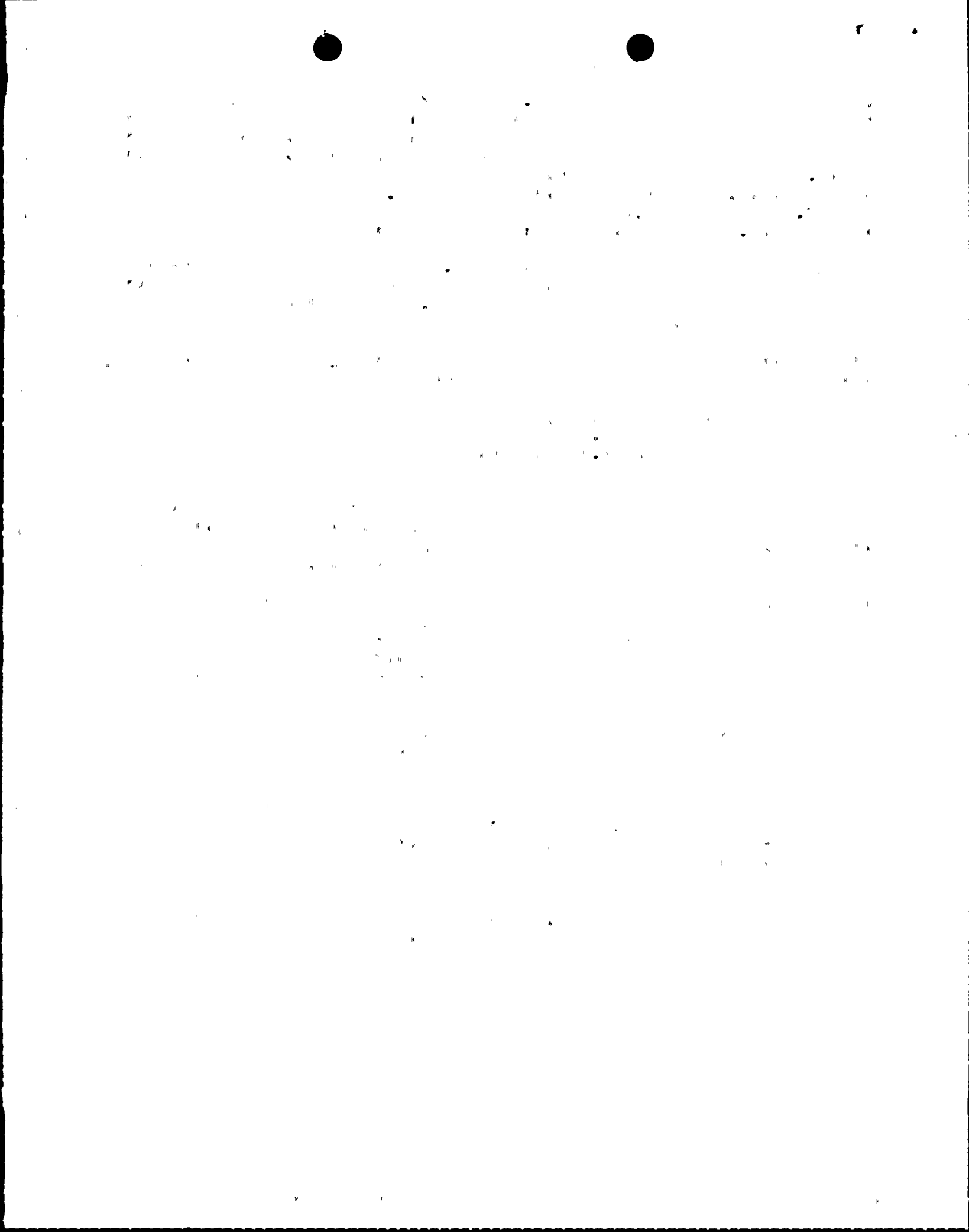
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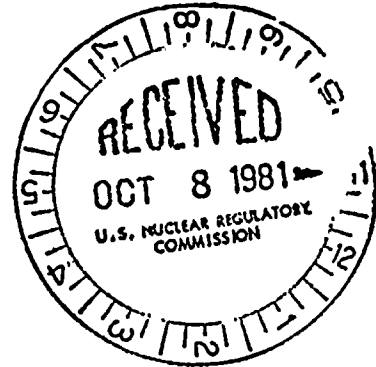
PUBLIC SERVICE COMPANY

STA. _____

P.O. BOX 21666 - PHOENIX, ARIZONA 85036

September 29, 1981
ANPP-19030-JMA/KWG

Mr. R. L. Tedesco
Assistant Director of Licensing
Division of Licensing
Office of Nuclear Reactor Regulation
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: 81-056-026; G.1.10

- Reference: (A) Meeting Notes from Janis D. Kerrigan, dated August 11, 1981. Subject: Auxiliary Systems Meeting Summary.
- (B) Letter from E. E. Van Brunt to R. L. Tedesco (ANPP-18742), dated August 25, 1981. Subject: Responses to ASB Working Meeting Questions.
- (C) Letter from E. E. Van Brunt to R. L. Tedesco (ANPP-18811), dated September 1, 1981. Subject: Response to Question No. 410.26.
- (D) Letter from E. E. Van Brunt to R. L. Tedesco (ANPP-18690), dated August 18, 1981. Subject: Responses to Auxiliary Systems IDR Open Items.

Dear Mr. Tedesco:

Reference Letter (A) discusses unresolved concerns from meetings between Arizona Public Service Company and the NRC Auxiliary Systems Branch. Responses to the nine (9) remaining concerns from ASB Questions 410.1 through 410.27, along with four (4) supplemental questions were provided by Reference Letter (B). Open items from that letter include 410.4 and 5, 410.20 and 410.26. NRC Question 410.26 was resolved per Reference (C). The response to NRC Question No. 410.20 is as follows:

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A PDR



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NRC Question 410.20 (9.4.2)

Describe the means provided for assuring the proper operating environment under normal and emergency conditions for the essential spray pond pumps in order to assure the availability of the ultimate heat sink.

Response:

The Spray Pond Pumphouse (both Train A and Train B) are cooled by ventilation air. Outside air (2000 CFM for each train) is drawn through existing missile proof entrance openings by exhaust fans HSA-J01 and HSB-J01 and exhausted through missile proof louvers. Ventilation air will maintain the room temperature at or below the pump qualification temperature, which is 122°F, based on an outdoor temperature of 116°F. The exhaust fan is interlocked with the pump motor so that the fan and pump run simultaneously. The fan motors will be IE, powered from independent IE power supplies.

The second set of concerns came from the responses to the 61 open items from the Auxiliary Systems Branch IDR Meeting, held in April 1981. There was a total of eight (8) concerns. Six (6) of the 8 concerns (Concerns 1, 2, 3, 5, 6 and 7) were addressed in Reference Letter (D). The two remaining concerns (Concerns 4 and 8) and how they are resolved are as follows:

Concern #4:

The applicant shall revise the FSAR to indicate that no spent fuel shipping cask is allowed in the plant until NRC approves an acceptable cask drop and handling analysis.

Response:

In an NRC letter dated August 31, 1981, from Janis D. Kerrigan to APS, Subject: Structural Engineering Branch Audit Question No. 26, asked to provide calculations for the west wall of the spent fuel pool to withstand the impact from a fuel cask drop. These calculations were submitted to the NRC in a letter dated August 26, 1981 (ANPP-18763), from E. E. Van Brunt to Ms. Janis Kerrigan. We suggest that APS not make an FSAR revision indicating "that no spent fuel shipping cask is allowed in the plant until NRC approves a cask drop and handling analysis", until NRC has had an opportunity to review our analysis and resolve any comments which may come up. An additional concern in this area was the possibility of the spent fuel shipping cask falling into the spent fuel pool. In a letter to the Director of Nuclear Reactor Regulation from E. E. Van Brunt, dated June 25, 1981 (ANPP-18281), APS submitted its evaluation and report addressing the NRC's December 22, 1980 letter concerning NUREG-0612. Section 2.1.3 of the report discussed the safe load paths for the spent fuel shipping cask, and gives its compliance with

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NUREG-0612. Exhibit F-1, and Drawing No. 13-P-ZFL-503 of that report show these safe load paths, and also show that the center of gravity of the cask is never lifted higher than the top of the wall separating the spent fuel pool and the decontamination pit, so the spent fuel shipping cask can't tip over into the spent fuel pool.

Concern #8:

The applicant will reevaluate the response to Action #52 concerning the capability of the ultimate heat sink considering tornado missile damage to the spray nozzles.

Response:

AUXILIARY SYSTEMS I, IDR
OPEN ITEM 52

An analysis was performed of the forced shutdown capability of the ultimate heat sink (UHS) following a large tornado. The following conservative assumptions were made for the analysis:

- Meteorology was in accordance with FSAR Table 9.4-1; i.e., dry bulb temperature of 113°F, wet bulb temperature of 76°F and wind speed of 7 mph.
- Loss of offsite power.
- Single failure was one of the two diesel generators.
- No credit was taken for the water inventory in the pond associated with the failed diesel generator.
- Only 25% of the spray nozzles were assumed to be available; i.e., it was assumed that 75% of the nozzles were crimped closed by the tornado.
- No credit was taken for makeup to the spray pond in use.

The results of the analysis are as follows:

1. The RCS temperature dropped, rose to a peak and then dropped again. The peak temperature was 190°F at 62 hours.
2. The UHS water temperature reached a peak of 152°F at 81 hours.
3. The essential cooling water system (ECWS) water temperature leaving the ECWS heat exchanger reached a peak of 168°F at 76 hours.

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The plant can be maintained in a safe condition under the above conditions.

This resolves the concerns transmitted per Reference Letter (A). If you have any further questions in these matters, please contact me.

Very truly yours,



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

EEBVJr/KWG/ma

cc: J. Kerrigan
P. Hourihan
A. C. Gehr
J. Wermiel

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.
Edwin E. Van Brunt, Jr.

Sworn to before me this 2ND day of October, 1981.

Connie Lou Armstrong
Notary Public

My Commission expires:

June 24, 1983

