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 FACIL: STN-50-528 Palo Verde Nuclear Station, Unit 1, Arizona Public 05000528
 STN-50-529 Palo Verde Nuclear Station, Unit 2, Arizona Public 05000529
 STN-50-530 Palo Verde Nuclear Station, Unit 3, Arizona Public 05000530
 AUTH. NAME AUTHOR AFFILIATION
 VAN BRUNT, E.E. Arizona Public Service Co.
 RECIPIENT NAME RECIPIENT AFFILIATION
 MIRAGLIA, F.A. Licensing Branch 3

SUBJECT: Comments on DES in response to 820203 & 05 telecopies.

DISTRIBUTION CODE: C002B COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 9
 TITLE: Environ. Comments.

NOTES: Standardized Plant. 1 cy: C Grimes 05000528
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1. The first part of the document discusses the general principles of the system. It outlines the objectives and the scope of the project. The second part describes the methodology used in the study, including the data collection and analysis techniques.

2. The results of the study are presented in the following section. It shows that the system is effective in achieving its goals. The data indicates a significant improvement in performance compared to the baseline.

3. The conclusion of the study is that the system is a viable solution for the problem at hand. It is recommended that the system be implemented on a larger scale. Further research is needed to optimize the system and address any remaining issues.

ARIZONA



PUBLIC SERVICE COMPANY

STA. _____

P.O. BOX 21666 - PHOENIX, ARIZONA 85036

February 23, 1982
ANPP-20233 - JMA/JRM

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D PDR

Mr. Frank A. Miraglia, Chief
Licensing Branch No. 3
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555



Subject: Review of Comments of Draft Environmental
Statement, Palo Verde Nuclear Generating
Station, (PVNGS) Units 1, 2 and 3
File: 82-056-026; G.1.10

Reference: Telecopies from E. A. Licitra to John Mann,
received on February 3 and February 5, 1982.

Dear Mr. Miraglia:

Our responses to the comments forwarded to us in the referenced
telecopies are attached. Thank you for the opportunity to respond.

Very truly yours,

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

EEVBJr/JRM/sp
Attachment

cc: M. Licitra
P. L. Hourihan
R. L. Greenfield
A. C. Gehr

Good
Bill



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 23RD day of FEBRUARY, 1982.

Connie Lou Armstrong
Notary Public

My Commission expires:

June 24, 1982

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RESPONSES TO COMMENTS RECEIVED

VIA TELECOPY ON FEBRUARY 3 AND 5, 1982

A. Maricopa County Department of Planning and Development

1) The Rio Salado as a Potential Water Source

The proposed Rio Salado project is long-term recreational development which offers many benefits and advantages to the Phoenix metropolitan area and is supported by APS. Its successful accomplishment appears at this time to hinge on the development of appropriate and adequate flood control measures, including one or more new or rebuilt dams. Because there is currently no schedule for development of the project or the prerequisite flood control measures, Rio Salado cannot at the present time be relied upon as a source of condenser cooling water for the Palo Verde units.

However, in the development of the environmental assessment which will be required in connection with the Rio Salado project, we believe that the benefits from the reuses of waters released from Rio Salado should be evaluated.

2) Ultimate Disposition of Radioactive Wastes

No response.



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3) Control Over Neighboring Properties

The Palo Verde site is comprised of approximately 4,050 acres of land, not 1,500 acres. It ranks among the largest sites for nuclear plants in operation and under construction. Its size and the location of the reactor units meets all statutory and regulatory requirements. The site is more than adequate in protecting the health and safety of the public from any and all risks of normal operation. There is no sound, technical basis to support further enlargement of the site for public protection during normal operation or any hypothetical serious emergency. By the same token there is no use of the land adjacent to or near the Palo Verde plant which could be considered incompatible with the operation of Palo Verde operation, except perhaps a use that itself may pose some threat to the plant (e.g., the manufacture of munitions). If and when some hypothetical dangerous use of nearby lands is actually proposed, it will be time enough to consider what, if any, protective measures might be appropriate under the circumstances.

4) Comprehensive Ongoing Inspections

The development and implementation of pre-service and in-service inspection programs by the licensee of a nuclear power plant are an NRC safety requirement. A general discussion of these programs is found in Section 5.2.4 of the PVNGS SER. Such programs are in addition to the NRC's own inspection activities.



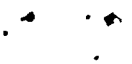
B. U.S. EPA

- 1) APS issued Revision 1 of its Emergency Plan on April 15, 1981. The State of Arizona submitted its Emergency Plan (Fixed Nuclear Facility Off-Site Emergency Response Plan) to FEMA in December, 1981. The APS plan is currently being revised in response to NRC staff comments.

- 2) No response.

- 3) A discussion in the DES of the different applications of 10 CFR 20 and 10 CFR 50, Appendix I would be helpful. This could be done by explaining the Radiological Effluent Technical Specification requirements, e.g., for instantaneous releases, the dose rate to an individual in the unrestricted area at the site boundary from all units is to be less than 500 mrem per year total body and 3 rem per year to the skin (10 CFR 20). The noble gas air dose to the same individual, per unit, cannot exceed 5 mrad per quarter (gamma), 10 mrad per quarter (beta), 10 mrad per year (gamma) and 20 mrad per year (beta). (10 CFR 50, Appendix I). Implicit in these requirements is compliance with 40 CFR 190. The third paragraph on pg. 5-18 could be clarified to show that expected doses are in the order of a few percent of the natural background radiation value, instead of "similar to the doses from..."

- 4) No response.



- 5) The intent of the comment is not clear. Whether or not the average occupational dose of 400 person-rems (pg. 5-21) is satisfactory is immaterial. Estimates of cancer fatalities are subject to a wide variation because of the statistical process and the risk estimators used, regardless of the dose values used.

- 6) We use the site boundary as our point of calculation of direct radiation from the unit. An individual at the closest site boundary would receive approximately 3.2 microrem per year from direct radiation. This cannot be compared to the 3 microrem per hour mentioned in the comment. (See PVNGS ER-OL, Appendix 5B.)

- 7) No response.

- 8) No response.

- 9) No response.

- 10) The discussion referred to in the last paragraph on pg. 5-37 is a safety issue and is discussed in the SER.

- 11) The source of the EPA's 57 mCi/year iodine release figure from the use of sewage effluent is the ER-CP, Supplement 1, October, 1974. The assumptions used to arrive at this figure were lowered as a result of



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changing cooling tower design and the use of actual 91st Avenue sewage effluent I-131 data. These changes became a part of the record of the ASLB proceedings which took place in 1976. This yields a much lower calculated release from the towers. For example, for 1981, the I-131 concentration in the sewage effluent was approximately 360 mCi. The model used to project the amount released from the cooling towers gives a very conservative value of 1.2% of the amount in the effluent that is released to the atmosphere annually. This would be an annual release of 4.3 mCi for 1981. The annual dose via the air-vegetation-child pathway would be 0.125 mrem.

12) No response.

Water Quality Comments

We feel that the potential impacts are adequately addressed. The permeability of the liners is stated to be 10^{-10} (cm/sec.). (DES, pg. 4-3, Section 4.2.4.1.) In addition, the discussion in Section 4.2.6.1 on pg. 4-5 is applicable. Also, we are implementing a groundwater monitoring program for the evaporation pond to meet certain requirements of the Arizona Department of Water Resources.

C. U.S. Department of the Interior

Groundwater

The analysis of possible groundwater contamination from accidents is found in the PVNGS FSAR, Section 2.4.13.3.



Ecology

No response.

Reservation Lands

The nearest boundary of an Indian reservation is 33.5 miles from the PVNGS site boundary.

D. Arizona Department of Health Services

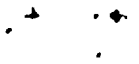
1) Permits have been and will continue to be obtained as required by the
3) ADHS for all landfills and the evaporation pond.

2) Groundwater quality measurements are made in accordance with the recommended procedures established in "Methods for Analysis of Water and Waste", EPA-600/4-79-020. Analysis of non-radioactive solid and liquid wastes to be disposed of onsite are done in accordance with Arizona Department of Health Services Hazardous Waste Regulations.

E. Arizona Radiation Regulatory Agency

1) The data presented in Section 4.2.5 are volumes obtained after solidification and compaction. Incineration is not planned for PVNGS-

2) Section 5.9.1.1.2 refers to routine releases, not emergency planning. Iodine and C-14 are discussed because they are the only isotopes which are concentrated by the exposure pathways to produce significant doses.



3) No responses.

4)

- 5) Decommissioning is an NRC safety requirement which a nuclear power plant licensee is obligated to meet. A general discussion of the financing of decommissioning costs for PVNGS is found in Section 20.5.3 of the PVNGS SER. In brief, the manner in which such costs are recovered or distributed among the different classifications of customers, both existing and future, is a matter which will be decided ultimately by those federal, state and local agencies having jurisdiction over the rates charged by the participants in PVNGS. The legal requirements imposed on such agencies in establishing such rates constitute the reasonable assurance required by the NRC's regulations that the licensee will be able to recover the costs associated with decontamination.
- 6) Population exposure via the cotton-cottonseed-oil pathway was determined to be insignificant because of the extremely small amounts ultimately ingested by the consumer and the long radioactive decay time available due to the long processing time from cotton picking to oil manufacture.



[The text in this section is extremely faint and illegible due to low contrast and noise. It appears to be several lines of a document.]