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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  
 VANBRUNT,E.E. Arizona, State of  
 RECIP.NAME RECIPIENT AFFILIATION  
 NOVAK,T. Assistant Director for Licensing

SUBJECT: Forwards responses to SER Open Item 7.1.3.5 re  
 instrumentation & control verification, discussed in 821105  
 exit meeting.

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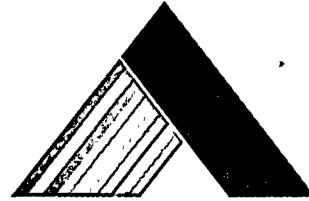
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November 17, 1982  
ANPP 22321-ACR/ECS

Mr. Thomas Novak  
Assistant Director for 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: 82-056-026; G.1.01.10

- Reference: (1) NUREG-0857 "Safety Evaluation Report" related  
to the operations of Palo Verde Nuclear  
Generating Station Units 1, 2 and 3,  
dated November, 1981
- (2) NRC memorandum from E. Licitra dated 10/21/82,  
Subject: Forthcoming Site Audit of I&C  
Systems at Palo Verde Plant

Dear Mr. Novak:

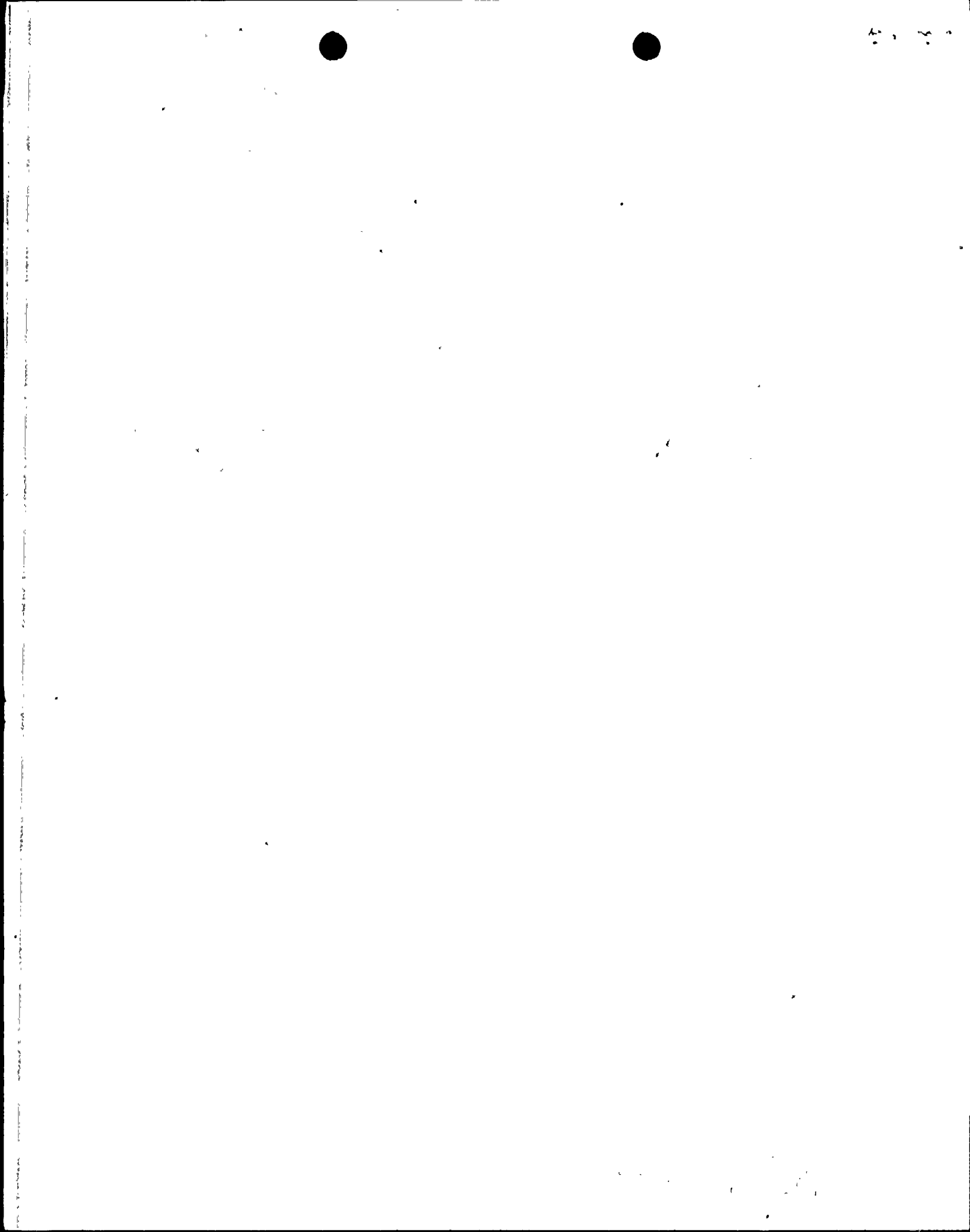
Section 7.1.3.5 of Reference 1, discussed an I&C confirmatory site visit  
as follows:

"A site review will be performed for the purpose of confirming  
that the physical arrangements and installation of the instru-  
mentation and control equipment are in accordance with the  
design criteria and descriptive information reviewed by the  
staff. The site review will be completed prior to issuance  
of the license and any problems found will be addressed in a  
supplement to this report."

The site visit scheduled for November 3 and 4, 1982 (reference 2) was  
completed on schedule. Attachment 1 provides APS' response to the three  
site visit open items as discussed in the November 5, 1982 exit meeting.

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Please contact me if you have any further questions.

Very truly yours,

*E. E. Van Brunt*

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

EEVBJr/ECS/dh  
Attachment

cc: A. C. Gehr (w/a)  
L. Bernabei "  
P. Hourihan "  
E. Licitra "  
A. C. Rogers "



STATE OF ARIZONA )  
 ) ss.  
COUNTY OF MARICOPA)

I, A. Carter Rogers, represent that I am Nuclear Engineering Manager of Arizona Public Service Company, that the foregoing document has been signed by me for Edwin E. Van Brunt, Jr., Vice President Nuclear Projects, 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 behalf, the statements made therein are true.

  
A. Carter Rogers

Sworn to before me this 17<sup>th</sup> day of November, 1982

  
Notary Public

My Commission expires:

My Commission Expires May 19, 1986  
\_\_\_\_\_

My Commission Expires May 10, 1980



ATTACHMENT 1

NRC ITEM #1

Remote shutdown panel meters cannot be read by a short operator.

Response:

The plant operators will be trained in the use of the remote shutdown panel, in addition, they will be demonstrating its use. Any problems found in the use of this panel during training will be appropriately resolved.

NRC ITEM #2

Eyewash stations in the vital battery rooms could splash the cells when it is used; how will APS prevent that?

Response:

The PVNGS 125 vdc vital system is an ungrounded dc system. There are 60 cells, each with a capacity of approximately 1.5 volts. The structure of the battery cells is such that the posts, and the attached bus bar are raised off the top of the cell. Each cell's top has no lips, therefore water pooling on top of the batteries when the eyewash station is operated is not possible. In addition, the eyewash station uses an atomized spray which is nonconductive.

We therefore conclude that there is little or no chance of a battery short caused by water splash because of the low cell capacity, raised posts and no cell case lips. Also grounding of the battery though the spray is precluded by the type of spray and by the system being ungrounded.

The easy access of the shower for personnel safety is of primary importance. This is done without compromising plant safety with our present system.

NRC ITEM #3

Confirm there are no power cables routed in instrumentation raceway, and that limit switch contacts can be routed with power cables by design.

Response:

The PVNGS Electrical General Design Criteria states:

1. "Separate power trays and control trays shall be provided in the vicinity of MCC's and 480-volt switchgear. In outlying areas, control cables and 600-volt power cables shall be run in the same tray."



2. "Instrumentation cables shall not share the same raceway with power cables, control cables, or telephone cables."

This criteria is implemented by the Bechtel's computer routing program in the form of raceway/cable compatibility checks. When the cable number is assigned by the engineers, the level of that cable (power, control, instrumentation, etc.) is assigned.

The computer will then only allow that cable to be routed in the raceway compatible with it according to the criteria. Examples of the separation of instrumentation cable from power and control were shown in the visit confirming this.

Instrumentation cables are used for low-level circuits, computer analog and digital circuits, instrumentation circuits, RTD circuits, and thermo-couple circuits.

Instrumentation cables are No. 16 AWG (2/C, 3/C, 4/C, 7/C, 9/C or 12/C) with 600 volts insulation. Thermocouple cables which are multipaired are No. 18 AWG wherever practicle.

