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U. S. Nuclear Regulatory Com Attention: Document Control

WILLIAM F. CONWAY EXECUTIVE VICE PRESIDENT NUCLEAR

Mail Station: P1-37 Washington, DC 20555

Reference: A) Letter from G. P. Yuhas, Chief Reactor Radiological Protection Branch, NRC to W. F. Conway, Executive Vice President Nuclear, Arizona Public Service, dated January 16, 1991

> B) Letter from G. P. Yuhas, Chief Reactor Radiological Protection Branch, NRC to W. F. Conway, Executive Vice President Nuclear, Arizona Public Service, dated February 5, 1991

Dear Sirs:

Subject: Palo Verde Nuclear Generating Station (PVNGS) Unit 1, 2, and 3 Docket No. STN 50-528 (License No. NPF-41) Docket No. STN 50-529 (License No. NPF-51) Docket No. STN 50-530 (License No. NPF-74) Reply to Notice of Violation 50-528/90-55-02 File:__91-070-026

This letter is provided in response to a routine inspection conducted by Mr. L. C. Carson II and observed by Mr. G. P. Yuhas from December 17 through 21, 1990. Based upon the results of the inspection, one apparent violation of NRC requirements was identified. A restatement of the violation and APS's response are provided in Appendix A and Attachment 1, respectively, to this letter.

APS has reviewed the inspection report (Reference A) and noted that a clarification to the information discussed in the report is necessary. This clarification is provided in Attachment 2.

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102-01979-WFC/TRB/JJN February 15, 1991

Should you have any questions regarding this response, please contact me.

Very truly yours,

Wilmwa

WFC/TRB/JJN

Attachments

J. B. Martin D. H. Coe cc:

A. H. Gutterman

A. C. Gehr



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APPENDIX A

NOTICE OF VIOLATION

Arizona Public Service CompanyDocket Nos. 50-528Palo Verde Nuclear Generating StationLicense Nos. NPF-41

During an inspection conducted December 17 through 21, 1990, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions, " 10 CFR Part 2, Appendix C (1990), the violation is listed below:

10CFR20.103(a)(3) "Exposure of individuals to concentrations of radioactive materials in air in restricted areas", states in part:

"For the purposes of determining compliance with the requirements of this section the licensee shall use suitable measurements of concentrations of radioactive materials in air for detecting and evaluating airborne radioactivity in restricted areas..."

Contrary to the above, on December 17, 1990, the licensee permitted three individuals to enter the Unit-1 Reactor Containment Building during power operations without performing measurements to determine the tritium concentration in the containment atmosphere.

This is a Severity Level IV Violation (Supplement IV)

NRC Document Control Desk Attachment 1, Page 1 of 5 102-01979-WFC/TRB/JJN February 15, 1991.

ATTACHMENT 1

REPLY TO NOTICE OF VIOLATION 50-528/90-55-02

I. REASON FOR THE VIOLATION

The reason for the violation was that unit Radiation Protection (RP) personnel believed that tritium was not a significant contributor to the Maximum Permissible Concentration (MPC) of radioactive material in the containment atmosphere. Further, there was no procedural requirement stating when tritium sampling was necessary.

The assumption that tritium was not a significant contributor was based on a misinterpretation of a memorandum issued on August 29, 1988 from the Site Radiation Protection Manager about bioassays for tritium. The memorandum stated, in part, "A review of current Reactor Coolant System and Spent Fuel Pool Tritium levels determined it would not be appropriate to commit PVNGS to Regulatory Guide 8.32 at this time. The Regulatory Guide 8.32 program action of 0.01 Ci/kg in large open rooms or vessels (i.e., Spent Fuel Pool), and .1 Ci/kg in hooded processing areas, (i.e., Reactor Coolant Sampling), are nearly 1,000 times greater than the maximum activity levels observed at PVNGS in these locations." During the review of this memorandum, the Unit Radiation Protection Managers inappropriately concluded that since bioassays for tritum were not required, tritium air sampling was also not required. NRC Document Control Desk Attachment 1, Page 2 of 5

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Additionally, RP personnel were not routinely reviewing tritium concentration data and were not aware of the recent increases in tritium concentration. This occurred because in October 1987, the responsibility for analyzing effluent releases for tritium had been transferred to the Unit Chemistry Radiological Effluent Personnel. Although recent increases in tritium levels were recorded, the concentrations were still well below any release limits and as a result the Chemistry personnel did not conduct followup with RP.

In the procedure evaluation, it was determined that, although the procedure "Airborne Radioactivity Sampling Methodology, Evaluation, and Exposure Tracking", (75RP-9RP21) provided for the tritium sampling methodology, RP procedures provided insufficient guidance relative to when sampling for tritium is required. The procedure "Radiation Exposure Permits", (75RP-9ZZ44) did not specifically require tritium sampling but stated in part, "Perform a survey of the actual work area to determine the radiological conditions." The procedure "Radiological Surveys", (75RP-9RP07) states, in a note, that "Airborne Radioactivity Sampling shall be done in accordance with 75RP-9ZZ48." Procedure 75RP-9ZZ48, "Airborne Radioactivity Sampling", (which was replaced by the 75RP-9RP21, "Airborne Radioactivity Sampling, Methodology, Evaluation, and Exposure Tracking") did not provide instructions on what isotopic samples were required under different circumstances. .

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II. CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

On December 20, 1990, a Night Order was issued to all three units which

On December 21, 1990, the procedure "Airborne Radioactivity Sampling Methodology, Evaluation, and Exposure Tracking" (75RP-9RP21) was revised to provide guidance delineating when sampling for airborne tritium is required, to include tritium in the MPC calculation, and to add a field in the personnel "Exposure Tracking Record" (Appendix C) for tritium.

III. CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

The Radiological Survey procedure is being changed to require tritium air sampling and evaluation prior to containment entry in modes 1, 2, 3, and 4. Other areas with potential tritium airborne concentrations are being addressed in the procedure.

Expected Completion Date: 'February 28, 1991.

APS is reviewing the technical basis and administration of the air sampling program at PVNGS which will include reviewing interpretations of regulations. As noted in Reference B, additional guidance may be required to determine when sampling for iodine is required. This



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NRC Document Control Desk Attachment 1, Page 4 of 5 102-01979-WFC/TRB/JJN February 15, 1991

review will include sampling methodology and techniques, not only for tritium but also for iodines, particulates, and noble gases.

Expected Completion Date: April 30, 1991.

The first quarter RP technician re-training is currently in progress. The training includes a discussion of this event, requirements for sampling tritium, and the procedural changes.

Expected Completion Date: March 31, 1991.

Enhancements pertaining to the review of sample analyses results will be incorporated into "Gaseous Radioactive Release Permits and Offsite Dose Assessment" (74RM-9EF20). This review will be directed towards the expected isotopes and their concentrations for the area sampled.

The release permit procedure is also being revised to require that the Unit Chemistry Radiation Effluent Monitoring Groups provide to the Unit RP department the results of the containment effluent air sample analysis.

Expected Completion Date: February 28, 1991.

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IV. DATE WHEN FULL COMPLIANCE WAS ACHIEVED

Full Compliance was achieved on December 20, 1990 when the Night Order was issued to all three units which required samples of airborne tritium prior to containment entries.

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ATTACHMENT 2

CLARIFICATIONS TO THE INSPECTION REPORT

Inspection Report Statement:

On page 2, section 2 a, the Inspection Report states: "QA plans to conduct 26 radiation protection audit activities during the first quarter of 1991."

Clarification:

APS intends to perform one annual Radiation Protection Audit. APS also intends to conduct routine monitors. Last year over 300 monitors were conducted in the RP area. However, APS has not committed to any specific number for 1991.



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Arizona Public Service Company

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WILLIAM F. CONWAY EXECUTIVE VICE PRESIDENT NUCLEAR 102-01979-WFC/TRB/JJN February 15, 1991

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102-01979-WFC/TRB/JJN February 15, 1991

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Very truly yours,

Wilmwg

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Attachments

- cc: J. B. Martin
 - D. H. Coe
 - A. H. Gutterman
 - A. C. Gehr

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