



Palo Verde Nuclear
Generating Station

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U. S. Nuclear Regulatory Commission
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Washington, DC 20555-0001

Reference: 1) Letter dated November 19, 1999, "Proposed Amendment to Technical Specification 5.5.11 for Laboratory Testing of Nuclear-Grade Activated Charcoal and Response to NRC Generic Letter 99-02," from G. R. Overbeck to USNRC

Dear Sirs:

**Subject: Palo Verde Nuclear Generating Station (PVNGS)
Units 1, 2, and 3
Docket Nos. STN 50-528/529/530
Response to Request for Additional Information
on Proposed Amendment to Technical
Specification 5.5.11 Submittal for Generic
Letter 99-02**

On November 19, 1999, Arizona Public Service Company (APS) submitted to the NRC a proposed amendment to Technical Specification (TS) 5.5.11 (Reference 1). The proposed change will alter the testing standard for the engineered safety features (ESF) ventilation systems' charcoal filter media to that proposed in Generic Letter 99-02. On June 15, 2000, a phone call between the NRC staff and APS' personnel was conducted requesting additional information concerning this proposed amendment. Enclosure 1 to this letter contains APS' response to the requested information.

A081

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No commitments are being made to the NRC by this letter.

Should you have any questions, please contact Scott A. Bauer at (623) 393-5978.

Sincerely,

CDM/SAB/JAP/kg



Enclosure

cc: E. W. Merschoff
M. B. Fields
J. H. Moorman
A. V. Godwin

(all w/Enclosure)

ENCLOSURE

Item 1:

Confirm that the current test velocity is 40 ft/min and refer to or provide docketed information that the proposed test face velocity is also 40 ft/min.

APS Response:

For the PVNGS Engineered Safety Feature (ESF) Heating, Ventilation and Air Conditioning (HVAC) systems, the Control Room Essential Ventilation System (CREVS) and the ESF Pump Room Exhaust Air Cleanup System (PREACS), APS has confirmed that the current radioiodine test parameter for face velocity used during radioiodine testing activities of the carbon (charcoal) to satisfy PVNGS Technical Specification (TS) 5.5.11.c is 40 feet per minute (ft/min). The TS states that the test is to be performed in accordance with ASTM D3803-1979 and designates the test temperature to be 80°C ($\pm 0.5^\circ\text{C}$) and $\geq 70\%$ relative humidity. This would correspond to testing in accordance with test method B, per Table-1 of ASTM D3803-1979, which lists 12.2 meters per minute (40 ft/min) as the standard velocity parameter. Exception is taken to the ASTM D3803-1979 standard's humidity parameter to perform the test at 70% relative humidity, rather than 95%, due to valid humidity control/calculations.

The proposed testing standard is ASTM D3803-1989, which indicates a face velocity parameter of 12.2 meters per minute (± 0.6 meters per minute). This corresponds to the existing face velocity criteria established for the above systems. It is the intent of the proposed change to use the ASTM D3803-1989 face velocity parameter of 12.2 meters per minute.

Item 2:

For both the current and proposed testing conditions, please refer to or provide docketed information which indicates the actual system face velocities and indicate how the actual system face velocities are calculated.

APS Response:

The adsorber for the CREVS was designed and constructed for an actual face velocity of 12.2 meters per minute, which coincides with a residence time of 0.25 second.

Calculation 13-MC-HJ-0804, "HJ AFU Pressure Drop and Residence Time," is in process to verify these design parameters. Past air balance and airflow surveillance documentation was reviewed and it was determined that the maximum average measured airflow for all three Units at PVNGS (28,330 cfm) was bounded by the nominal design air flow rate. At the nominal design air flow rate of 28,600 cfm the residence time was calculated to be 0.2502 second, with a corresponding face velocity

of 39.97 feet per minute. Therefore, the 0.25 second residence time at nominal design flow conditions meets the guidance in Regulatory Guide 1.52 position C.3.i and ANSI/ASME N509, Section 4.3.2, Table 9-1. At a maximum face velocity of 44 ft/min the corresponding volumetric airflow rate would be 31,500 cfm. This is greater than the PVNGS maximum design airflow of 31,460 cfm (28,600 cfm + 10%).

The PVNGS Updated Final Safety Analysis Report (UFSAR), section 6.4.2.2.2.D states, "Minimum air residence time in the carbon is 0.25 second at a nominal face velocity of 40 feet per minute" (12.2 meters per minute).

The adsorber for the Engineered Safety Feature (ESF) Pump Room Exhaust Air Cleanup System (PREACS) was designed and constructed for an actual face velocity of 12.2 meters per minute, which coincides with a residence time of 0.25 seconds.

Calculation 13-MC-HF-0902, "HF AFU Pressure Drop and Residence Time," is in process to verify these design parameters. The results of the calculation indicate that the 0.25 second residence time requirement at nominal design flow conditions is met as described in Regulatory Guide 1.52 position C.3.i and ANSI/ASME N509, Section 4.3.2, Table 9-1. The corresponding face velocity at maximum design airflow of 6600 cfm (6000cfm + 10%) is shown to not exceed the allowable face velocity of 44 ft/min (40 ft/min + 10%) as specified by Generic Letter (GL) 99-02.

GL 99-02 states that the proposed technical specification must state the face velocity at which the ASTM D3803-1989 testing will be performed if it is greater than 110% of 40 ft/min. In each of the above calculations the 44 ft/min criteria set fourth in GL 99-02, for stating face velocity in the proposed technical specification, was not exceeded.