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Committee Management Officer.

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NUCLEAR REGULATORY COMMISSION

[Docket No. STN 50-528]

Arizona Public Service Company, et al.; (Palo Verde Nuclear Generating Station, Unit No. 1), Exemption

I

The Arizona Public Service Company, et al. (APS or the licensee) is the holder of Facility Operating License No. NPF-41, which authorizes operation of the Palo Verde Nuclear Generating Station, Unit No. 1 (PVNGS-1). The license provides, among other things, that PVNGS-1 is subject to all rules, regulations, and orders of the U.S. Nuclear Regulatory Commission (the Commission or NRC) now or hereafter in effect. The PVNGS-1 facility is a pressurized water reactor located at the licensee's site in Maricopa County, Arizona.

II

Section III.D.1.(a) of Appendix J to 10 CFR Part 50 requires the performance of three Type A containment integrated leakage rate tests (ILRTs) at approximately equal intervals during each 10-year service period of the primary containment. The third test of each set shall be conducted when the plant is shut down for the 10-year inservice inspection.

III

By letter dated December 28, 1994, the licensee requested temporary relief from the requirement to perform a set of three Type A tests at approximately equal intervals during each 10-year service period of the primary containment. The requested exemption would permit a one-time interval extension of the third Type A test by approximately 20 months (from the 1995 refueling outage, which begins in May 1995, to the sixth refueling outage (1R6), currently scheduled for September 1996) and would permit the third Type A test of the 10-year inservice inspection period not to correspond with the end of the inservice inspection interval.

The licensee's request concluded that the proposed changes for PVNGS-1, a one-time extension of the interval between the second and third ILRTs and a decoupling of the third test from the

outage corresponding to the end of the 10-year inservice inspection period, is justified for the following reasons:

The previous testing history at PVNGS-1 provides substantial justification for the proposed test interval extension. Type A testing is performed to determine that the total leakage from primary containment does not exceed the maximum allowable leakage rate (L_a) as specified in the PVNGS-1 technical specifications (TS). The primary containment maximum allowable leakage rate provides an input assumption to the calculation required to ensure that the maximum potential offsite dose during a design basis accident does not result in a dose in excess of that specified in 10 CFR 100. The allowable L_a for PVNGS-1 is 0.10 percent by weight of the containment air per 24 hours at P_a , where P_a is defined as the calculated peak internal containment pressure related to the design basis accident, specified in the PVNGS-1 TS as 49.5 psig. The acceptance criteria for the Type A test is 75 percent of L_a or 0.075 percent by weight of the containment air per 24 hours at P_a .

In each of the two previous periodic ILRTs at PVNGS-1 (the results were 0.066 percent and 0.067 percent by weight of the containment air per 24 hours at P_a , respectively), the results obtained were below the test acceptance criteria of 75 percent of L_a or 0.075 percent by weight of the containment air per 24 hours at P_a , thereby, demonstrating that PVNGS-1 is a low-leakage containment.

The licensee performed a plant-specific study concluding that the extension of the Type A test has a negligible impact on overall risk. This study relied heavily on the existing Type B and C testing program which is not affected by this exemption, and will continue to effectively detect containment leakage.

Additionally, the licensee stated that its exemption request meets the requirements of 10 CFR 50.12, paragraphs (a)(2)(ii) (the underlying purpose of the regulation is achieved), and (a)(2)(iii) (compliance would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted), for the following reasons:

The licensee categorized mechanisms that could cause degradation of the containment into two types: (1) Degradation due to work which is performed as part of a modification or maintenance activity on a component or system (activity based); or (2) degradation resulting from a time based failure mechanism (i.e., deterioration of

the containment structure due to pressure, temperature, radiation, chemical or other such effects). To address the potential degradation due to an activity based mechanism, the licensee reviewed containment system related modifications performed since the last Type A test. The licensee concluded that the modifications performed did not impact containment integrity, or the modifications have, or will be, tested adequately to ensure that there is no degradation from an activity based mechanism. In addition, the licensee maintains administrative controls which ensure that an appropriate retest, including local leak rate testing, if applicable, is specified for maintenance activities which affect primary containment integrity.

Regarding time based failure mechanisms, the licensee concluded that risk of a non-detectable increase in the primary containment leakage is considered negligible due to the 10 CFR Part 50, Appendix J, Type B and C testing program. The licensee stated that without actual accident conditions, structural deterioration is a gradual phenomenon which requires periods of time well in excess of the proposed 81-month test interval which would result by performing the third periodic Type A test during the sixth refueling outage in Unit 1. Other than accident conditions, the only external mechanism inducing stress of the containment structure is the test itself. The licensee maintains that the longer test interval would, therefore, lessen the frequency of stressing the containment.

Additionally, the licensee has performed the general inspections of the accessible interior and exterior surfaces of the containment structures and components prior to the previous Type A tests, as required by 10 CFR Part 50, Appendix J, Section V.A. These inspections are intended to uncover any evidence of structural deterioration which may affect either the containment structural integrity or leak tightness. At PVNGS-1, there has been no evidence of structural deterioration that would impact structural integrity or leak tightness. In a phone conversation with the licensee on March 23, 1995, the staff noted that these inspections, though limited in scope, provide an important added level of confidence. The licensee committed to perform the general containment civil inspection during the upcoming refueling outage (1R5).

The 10 CFR Part 50, Appendix J, Type B tests are intended to detect local leaks and to measure leakage across pressure containing or leakage limiting-boundaries other than valves, such as containment penetrations incorporating