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AUTH. NAME AUTHOR AFFILIATION
 LEVINE, J.M. Arizona Public Service Co. (formerly Arizona Nuclear Power R
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SUBJECT: Application for amends to Licenses NPF-41, NPF-51 & NPF-74, D
 changing TS 3/4.7.9, on one-time basis, to document
 acceptability of past practices for selecting snubber S
 functional test samples.

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JAMES M. LEVINE
VICE PRESIDENT
NUCLEAR PRODUCTION

102-02520-JML/RAB/SAB
May 20, 1993

U. S. Nuclear Regulatory Commission
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Reference: Letters 102-02512 and 102-02514, dated May 14, 1993, to NRC, from
J. M. Levine, Vice President, Nuclear Production, APS

Dear Sirs: Palo Verde Nuclear Generating Station (PVNGS)
Units 1, 2, and 3
Docket Nos. STN 50-528/529/530
Request for Amendment to Technical Specification 3/4.7.9,
Snubbers, Under Emergency Circumstances
File: 93-056-026; 93-005-419.06

Pursuant to 10 CFR 50.90 and 10 CFR 50.91(a)(5), Arizona Public Service Company (APS) submits herewith a request to amend Technical Specification (TS) 3/4.7.9 for PVNGS Units 1, 2, and 3 on an emergency basis. APS is requesting a one time only change to TS 4.7.9 to document the acceptability of past practices for selecting snubber functional test samples.

An evaluation of the snubber testing program at PVNGS was conducted as part of the Root Cause of Failure investigation of failed snubbers during Unit 2 snubber functional testing. The evaluation concluded that the test program, as implemented, demonstrates that the snubbers are operable, however, the test program does not fully meet the TS.

On May 12, 1993, at approximately 1330 MST, PVNGS Units 1, 2, and 3 entered the ACTION statement for TS 3.7.9. On May 14, 1993, the NRC verbally granted PVNGS a Notice of Enforcement Discretion, in response to the referenced letters, until an Emergency TS amendment could be processed and approved. The approval of this TS amendment request will alleviate the need for the enforcement discretion. The snubber functional test results from the Unit 1, third refueling outage; the Unit 2, fourth refueling outage; and the Unit 3, third refueling outage, form the basis for determining compliance with this amendment request.

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Page 2

Provided in Enclosure 1 to this letter are the following sections, which support the proposed TS amendment:

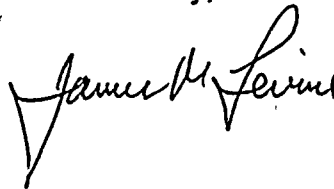
- A. Explanation of the Emergency Circumstances
- B. Description of the Proposed TS Amendment
- C. Purpose of the TS
- D. Need for the TS Amendment
- E. Safety Analysis for the Proposed TS Amendment Request
- F. No Significant Hazards Consideration Determination
- G. Environmental Impact Determination

Enclosure 2 provides the marked-up TS pages to support the proposed amendment.

By copy of this letter and enclosures, the Arizona Radiation Regulatory Agency is being notified of this request for a TS amendment, pursuant to 10 CFR 50.91(b)(1).

Should you have any questions, please contact Thomas R. Bradish at (602) 393-5421.

Sincerely,



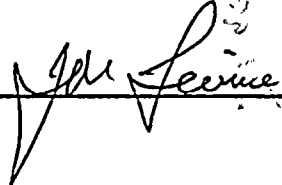
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Enclosures

cc: J. B. Martin
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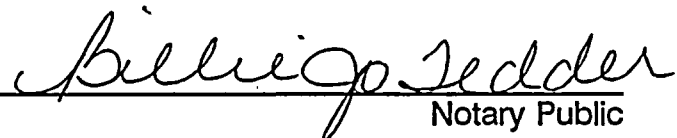
STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

I, J. M. Levine, represent that I am Vice President Nuclear Production, that the foregoing document has been signed by me on behalf of Arizona Public Service Company with full authority to do so, 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 and correct.



J. M. Levine

Sworn To Before Me This 20th Day Of May, 1993.



Notary Public

My Commission Expires

Jan 4, 1995



ENCLOSURE 1

**REQUEST FOR AMENDMENT TO
TECHNICAL SPECIFICATION 3/4.7.9**

A. EXPLANATION OF THE EMERGENCY CIRCUMSTANCES

As part of the current refueling outage on PVNGS Unit 2, snubber functional testing was performed. During the root cause of failure investigation of failed snubbers, increased scrutiny was given to the overall testing program by both APS and the NRC. An evaluation of the program concluded that the testing satisfactorily demonstrated operability of the snubbers, however, it was determined that the program was not being conducted in full compliance with the Technical Specifications. As such, at 1330 on May 12, 1993, PVNGS Units 1, 2 and 3 entered the 72 hour action statement of Specification 3.7.9 and APS applied for a Notice of Discretionary Enforcement. In agreement with the NRC, a request for an emergency technical specification change was to be submitted to bring the plants into compliance with Specification 3.7.9. Since this issue was just discovered and adequate time has not existed to process the amendment by normal or exigent means, this request for an emergency amendment is hereby submitted. It is requested that this amendment request be processed as an emergency amendment in accordance with 10 CFR 50.91(a)(5).

B. DESCRIPTION OF THE PROPOSED TECHNICAL SPECIFICATION AMENDMENT

The proposed Technical Specification amendment involves the addition of a footnote to Specification 4.7.9. for each of the 3 Units at PVNGS to state that the methodology used for selecting the test sample for snubber functional testing during the current outage for Unit 2 and the third outage for both Units 1 and 3 was not in accordance with the requirements of Specification 4.7.9 but adequately demonstrated the operability of the snubber population.

C. PURPOSE OF THE TECHNICAL SPECIFICATION

Technical Specification 3.7.9 and the associated surveillance requirements ensure the structural integrity of the reactor coolant system and other safety-related systems is maintained during and following a seismic or other event initiating dynamic loads by ensuring the operability of the snubbers attached to these systems.

D. NEED FOR THE TECHNICAL SPECIFICATION AMENDMENT

On May 12, 1993, during discussions between APS and the NRC regarding Technical Specification 4.7.9.e, it was determined that APS had not properly implemented the Surveillance Requirements. Subsequently, PVNGS Units 1, 2 and 3 entered the ACTION statement for Limiting Condition for Operation 3.7.9 at approximately 1330 MST on May 12, 1993. This ACTION statement allows 72 hours to return snubbers to OPERABLE status. At the end of this period, Technical Specification 3.0.3 would have had to be entered and plant shutdowns for both Units 1 and 3 would have had to commence. Unit 2, which is currently in an outage, would have been prohibited from changing modes.

In separate correspondence, APS applied for enforcement discretion from the NRC in order to avoid unnecessary plant shutdowns for Units 1 and 3 and allow Unit 2 to enter Mode 5 while a technical specification change was processed and approved under emergency conditions. This amendment request, when approved, will enable APS to demonstrate compliance with Technical Specification 3.7.9 for all three PVNGS Units.

E. SAFETY ANALYSIS FOR THE PROPOSED TECHNICAL SPECIFICATION AMENDMENT REQUEST

The Technical Specifications ensure the integrity of the reactor coolant system and other safety-related systems against the effects of seismic and other dynamic events through imposing, among other requirements, operability requirements on snubbers attached to these systems.

Snubbers are devices which allow movement of piping systems to accommodate thermal effects but which restrain movement during dynamic events. In doing so, the snubbers protect the piping systems from structural damage. The snubbers at PVNGS fall into one of two basic types: hydraulic or mechanical.

In order to demonstrate the operability of the snubbers, the Technical Specifications contain surveillance requirements. These surveillance requirements include visual examinations and functional tests. The functional test requirements are established based on a statistical approach for demonstrating the operability of the entire snubber population by performing actual tests on a sample population. Achieving acceptable results on the sample population demonstrates with sufficient confidence that the entire snubber population is operable.

The Technical Specification contains three sample plans for performing the functional testing. Sample Plan 1 involves selecting an initial random 10 percent sample of snubbers of each type for testing. For each test failure, an additional random 10 percent sample of that type of snubber is selected and tested. Sample Plan 2, which was the plan selected for use at PVNGS, involves randomly selecting a representative sample of snubbers of each type and testing them in accordance with the statistically-generated Figure 4.7-1, Sampling Plan for Snubber Functional Test. Sample Plan 3 is not used at the PVNGS.

The PVNGS Snubber Testing Program is described in Administrative Control Procedure 73AC-9ZZ01 "Testing and Control of PVNGS Snubbers." This procedure describes five snubber groups as follows:

- Pacific Scientific Arrester (PSA) 1/4 and 1/2 size Mechanical Snubbers (small)
- PSA 1, 3, and 10 size Mechanical Snubbers (medium)
- PSA 35 and 100 size Mechanical Snubbers (large)
- Steam Generator Hydraulic Snubbers
- Reactor Coolant Pump Hydraulic Snubbers

Mechanical Snubbers

The mechanical snubber testing program was implemented at PVNGS by treating all mechanical snubbers as one type with three groups; small, medium, and large. Since all mechanical snubbers at PVNGS are PSAs and utilize the same design principles of operation, it was determined that they could be considered as one type. Based on this interpretation, a representative sample of snubbers (37) was chosen from the three groups of mechanical snubbers.

This application of the Technical Specification is contrary to the interpretation of Specification 4.7.9.e, received on May 12, 1993, which indicated that each of the three groups should have been treated as individual types since they each have a different design. This latter interpretation is based on Technical Specification 4.7.9.a which states that "... type of snubber shall mean snubbers of the same design and manufacturer, irrespective of capacity."

Hydraulic Snubbers

Specification 4.7.9.e requires that the NRC Regional Administrator be notified in writing of the snubber functional test sample plan that has been selected prior to the test period. APS submitted letters for each of the PVNGS Units indicating that Sample Plan 2 from Specification 4.7.9.e had been selected. These letters did not, however, differentiate between hydraulic and mechanical snubbers. For past surveillances, including the surveillance just completed on Unit 2, APS has been effectively using Sample Plan 1 for hydraulic snubbers rather than Sample Plan 2.

Each unit has 12 hydraulic snubbers, four Steam Generator (SG) and eight Reactor Coolant Pump (RCP). If Sample Plan 2 had been implemented, all 12 hydraulic snubbers would be required to be tested each outage. PVNGS tested only one SG and one RCP snubber (2 total) during each outage. This testing method would meet Sample Plan 1, with the exception that the snubbers were not selected randomly.

Sample Selection

Specification 4.7.9.e, requires that a representative random sample of snubbers of each type be chosen each testing period. The selection of mechanical snubbers for testing at PVNGS was representative but not completely random. Each time a snubber was tested satisfactorily, it was removed from the population of snubbers eligible for selection during the next testing period. The selection process was random for the snubbers remaining to be tested but did not include the entire snubber population. This method was used because it ensured all snubbers would eventually be tested. However, this selection method did not meet the Technical Specification requirement.

For hydraulic snubbers, a SG snubber was selected for testing each outage so that in 4 outages, the entire population of SG snubbers would be tested. A RCP snubber adjacent to the SG snubber selected would also be selected for testing. This was done to ensure all snubbers would be tested and to reduce radiation exposure. This selection method, however, did not meet the Technical Specification requirement.

Basis for Acceptability of Actual Testing

APS Engineering personnel have completed an in depth review of the previous snubber testing conducted at PVNGS Units 1, 2, and 3 and have determined that:

- During the most recent test periods in Units 1, 2 and 3 the number of hydraulic and mechanical snubbers tested would have met the sampling requirements of Sample Plan 1 for all types of snubbers except the "small" mechanical type in Unit 3.
- Based on industry standards and license amendments which have been approved at other utilities, an acceptable confidence level can be achieved utilizing a sample plan which chooses an initial size of 10 percent of each type of snubber and for each failure of a given type the sample is expanded 5 percent for that type. During the most recent test period in Unit 3, the small mechanical snubbers would have met the sampling requirements of such a plan based on the number of snubbers in the initial snubber population.
- The number of hydraulic snubbers tested in Units 1, 2 and 3 has always met the requirements of Sample Plan 1, with the exception of random sampling.
- The percentage of mechanical snubbers of each type that have been tested in Units 1, 2 and 3 at least once are listed below:

Unit 1		Unit 2		Unit 3	
Small	100%	Small	100%	Small	64.9%
Medium	53.7%	Medium	42.6%	Medium	56.3%
Large	100%	Large	100%	Large	67.6%

- The current surveillance testing on Unit 2 for mechanical snubbers meets the requirements of Sampling Plan 2 with the exception of random selection of the medium snubber sample.

- Considering all test periods, a total of 73 of approximately 1,600 snubber tests conducted in all 3 PVNGS units have failed to meet the snubber functional test acceptance criteria. Piping stress analyses for each failure showed that for 69 of the 73 failures, piping met ASME code allowable stresses. In each of the 4 other cases, component evaluations concluded that no damage resulted from the imposed stress.
- APS Engineering compared the failure rate experienced at PVNGS against a survey of 72 reactor sites conducted by the Snubber User Group. This review showed that for the 72 sites involved, the failure rate is 7.6 percent. The failure rate for plants in Region V is 9.0 percent. PVNGS results show that the failure rate in Unit 1 is approximately 3.3 percent, Unit 2 is approximately 7.0 percent (including the current outage), and Unit 3 is approximately 4.2 percent. The combined failure percentage for all snubber testing at PVNGS is approximately 4.6 percent. This is lower than the average failure rate of the 72 sites in the survey.

Safety Significance

In conclusion, for the reasons delineated above, there is no significant safety implication to the operation of PVNGS Units 1, 2, and 3 as a result of the noncompliance with Specification 4.7.9. Based on analysis of previous testing results, sufficient testing was performed to ensure that snubbers are capable of performing their intended function.

For snubbers not meeting the acceptance criteria during testing, stress calculations have been performed to determine if imposed stresses were in excess of code allowable with the snubbers in the as-found condition. These calculations and inspection of the exceptions demonstrated that the piping was not overstressed. The fact that the piping was not overstressed shows that the snubbers, while degraded, did not challenge the operability of piping or components.

F. NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

In accordance with the requirements of Title 10 of the Code of Federal Regulations, Part 50.92, this license amendment request involves no significant hazards considerations based on the following:

Standard 1 - Does the proposed license amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

The proposed change documents that the test samples used for snubber functional testing during the last surveillance for each unit were adequate to demonstrate operability of the entire snubber population. Since the actual testing performed demonstrated the operability of the snubbers in the past, and the Technical Specification methodology for

selecting test samples in the future is not changing, the proposed license amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

Standard 2- Does the proposed license amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

The proposed change does not involve any physical modifications to the plant or changes to methods for operating the plant or equipment. The proposed change involves documenting that past practices for selecting snubber functional test samples were adequate for demonstrating operability of the entire snubber population. Since the actual testing performed demonstrated the operability of the snubbers in the past, and the Technical Specification methodology for selecting test samples in the future is not changing, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

Standard 3- Does the proposed license amendment involve a significant reduction in a margin of safety?

The proposed change involves documenting that past practices for selecting snubber functional test samples were adequate for demonstrating operability of the entire snubber population. Since the actual testing performed demonstrated the operability of the snubbers in the past, and the Technical Specification methodology for selecting test samples in the future is not changing, the proposed change does not involve a significant reduction in a margin of safety.

G. ENVIRONMENTAL IMPACT DETERMINATION

APS has determined that the proposed amendment involves no change in the amount or type of effluent that may be released offsite, and that there is no increase in individual or cumulative occupational radiation exposure. As such, operation of PVNGS Units 1, 2, and 3, in accordance with the proposed amendment, does not involve an unreviewed environmental safety question.

