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AUTH. NAME AUTHOR AFFILIATION
 STEWART, W.L. Arizona Public Service Co. (formerly Arizona Nuclear Power
 RECIP. NAME RECIPIENT AFFILIATION
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See Proposed Change to T/S

SUBJECT: Application for amends to licenses NPF-41, NPF-51 & NPF-74, revising TS Sections 3.5.1, 3.5.2, 3.7.11, 3/4.8.1.1 & bases to extend AOTs for SIT, LPSI subtrain & EDG & adding bases for extended AOTs, consistent w/NUREG-1366 & GL 93-05.

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WILLIAM L. STEWART
EXECUTIVE VICE PRESIDENT
NUCLEAR

102-03392-WLS/SAB/GAM
June 13, 1995

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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Dear Sirs:

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Units 1, 2, and 3
Docket Nos. STN 50-528/529/530
Proposed Amendment to Technical Specification
Sections 3.5.1, 3.5.2, 3.7.11, 3/4.8.1.1, and Bases

Pursuant to 10 CFR 50.90, Arizona Public Service Company (APS) submits herewith a proposed amendment to Technical Specification Sections 3.5.1, 3.5.2, 3.7.11, and 3/4.8.1.1, and their bases. The proposed amendment would extend allowed outage times (AOTs) for a safety injection tank (SIT), a low pressure safety injection (LPSI) subtrain, and an emergency diesel generator (EDG) and add the bases for the extended AOTs.

This amendment request is being submitted as part of a collaborative effort of participating Combustion Engineering Owners Group (CEOG) members. It is expected that the CEOG will shortly request a common review of all the license amendment requests submitted under this effort.

Three enclosures are provided with this letter to address the SIT changes, the LPSI changes, and the EDG changes. Each enclosure contains the following:

- A. Description of the Technical Specification Amendment Request
- B. Purpose of the Technical Specifications
- C. Need for the Technical Specification Amendment
- D. Safety Analysis for the Technical Specification Amendment Request
- E. No Significant Hazards Consideration Determination
- F. Environmental Consideration
- G. Marked-up Technical Specification Pages
- H. Supporting CEOG Report

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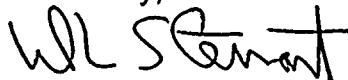
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Proposed Amendment to Technical Specification
Page 2

In accordance with Technical Specification Section 6.5, the Plant Review Board and Offsite Safety Review Committee have reviewed and concurred with this request. Pursuant to 10 CFR 50.91(b)(1), a copy of this request is being forwarded to the Arizona Radiation Regulatory Agency.

Should you have any questions, please contact Scott A. Bauer at (602) 393-5978.

Sincerely,

A handwritten signature in black ink, appearing to read "WLS", followed by a horizontal line and a small flourish.

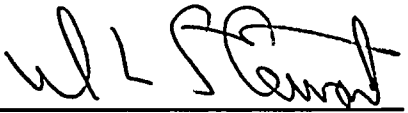
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- Enclosure 1: Proposed Amendment to Technical Specification Section 3.5.1 and Bases
- Enclosure 2: Proposed Amendment to Technical Specification Sections 3.5.2 and 3.7.11, and Bases
- Enclosure 3: Proposed Amendment to Technical Specification Section 3/4.8.1.1 and Bases

cc: L. J. Callan
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B. E. Holian
K. E. Johnston
A. V. Godwin (ARRA)

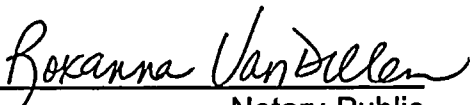
STATE OF ARIZONA)
) ss. .
COUNTY OF MARICOPA)

I, W. L. Stewart, represent that I am Executive Vice President - Nuclear, Arizona Public Service Company (APS), that the foregoing document has been signed by me on behalf of APS with full authority to do so, and that to the best of my knowledge and belief, the statements made therein are true and correct.



W. L. Stewart

Sworn To Before Me This 13 Day Of June, 1995.



Notary Public

My Commission Expires

My Commission Expires June 12, 1997

NOTARY PUBLIC
STATE OF ARIZONA
COMMISSION EXPIRES
JUNE 12, 1997

9506210386

ENCLOSURE 1

**PROPOSED AMENDMENT TO TECHNICAL SPECIFICATION
SECTION 3.5.1 and BASES**

A. DESCRIPTION OF THE TECHNICAL SPECIFICATION AMENDMENT REQUEST

This change would revise Technical Specification Section 3.5.1 as follows:

- o Extend the allowed outage time (AOT) for a safety injection tank (SIT) with boron concentration not within limits from one hour to 72 hours. This relaxed AOT has already been adopted in NUREG-1432, "Standard Technical Specifications for Combustion Engineering Plants."
- o Extend the AOT for a SIT with water volume or nitrogen cover pressure that cannot be verified because of inoperable level or pressure instrumentation from one hour to 72 hours. This is consistent with the recommendation in Section 7.4 of NUREG-1366, "Improvements to Technical Specifications Surveillance Requirements," and Generic Letter 93-05, "Line-Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operations," to specify a 72-hour AOT for a SIT that is inoperable due to the inoperability of the water level and pressure channels.
- o Delete the current Technical Specification 3.5.1 Action b. This action specifies that, for a SIT that is inoperable due to its isolation valve being closed, the isolation valve must be opened immediately or the plant must be in at least hot standby within one hour and be in hot shutdown within the next 12 hours. This action has been deleted in NUREG-1432. The surveillance requirement to verify that each SIT isolation valve is open at least once per 12 hours (SR 4.5.1.a) will continue to be required by Technical Specification. A SIT that is inoperable due to its isolation valve not open would be included in the category of a SIT that is inoperable due to reasons other than boron concentration not within limits or the inability to verify level or pressure.
- o Extend the AOT for a SIT that is inoperable due to reasons other than boron concentration not within limits or the inability to verify level or pressure from one hour to 24 hours. This submittal justifies the extension of the AOT from one hour to 24 hours.

In addition, the Bases for Section 3/4.5.1 would be changed to incorporate a description of the bases for the revised AOTs.

B. PURPOSE OF THE TECHNICAL SPECIFICATIONS

The SITs are passive pressure vessels partially filled with borated water and pressurized with nitrogen to facilitate injection into the reactor vessel during the blowdown phase of a large break loss of coolant accident (LOCA). This action provides inventory to assist in accomplishing the refill stage following blowdown. The SITs also provide reactor coolant system (RCS) makeup for a small break LOCA.

Each SIT is piped into an associated RCS cold leg via an emergency core cooling system (ECCS) line also utilized by high pressure safety injection (HPSI) and low pressure safety injection (LPSI). Each SIT is isolated from the RCS, during full pressure operations, by two series check valves. Each SIT also has a normally deenergized open motor operated isolation valve utilized to isolate the SIT from the RCS during normal cooldown and depressurization evolutions. The SITs are described in the Combustion Engineering Standard Safety Analysis Report, Section 6.3.2.2.1, as referenced by the PVNGS Updated Final Safety Analysis Report, Section 6.3.2.2.1.

The SIT gas pressure and volume, water volume, and outlet pipe size are designed to allow three of the four SITs to inject the necessary volume to keep clad melt and zircaloy-water reaction within design assumptions following a design basis LOCA. The design assumes the loss of inventory from one SIT through the LOCA break.

The operability of each of the SITs ensures that a sufficient volume of borated water will be immediately forced into the reactor core through each of the cold legs in the event the RCS pressure falls below the pressure of the SITs. This initial surge of water into the RCS provides the initial cooling mechanism during large RCS pipe ruptures.

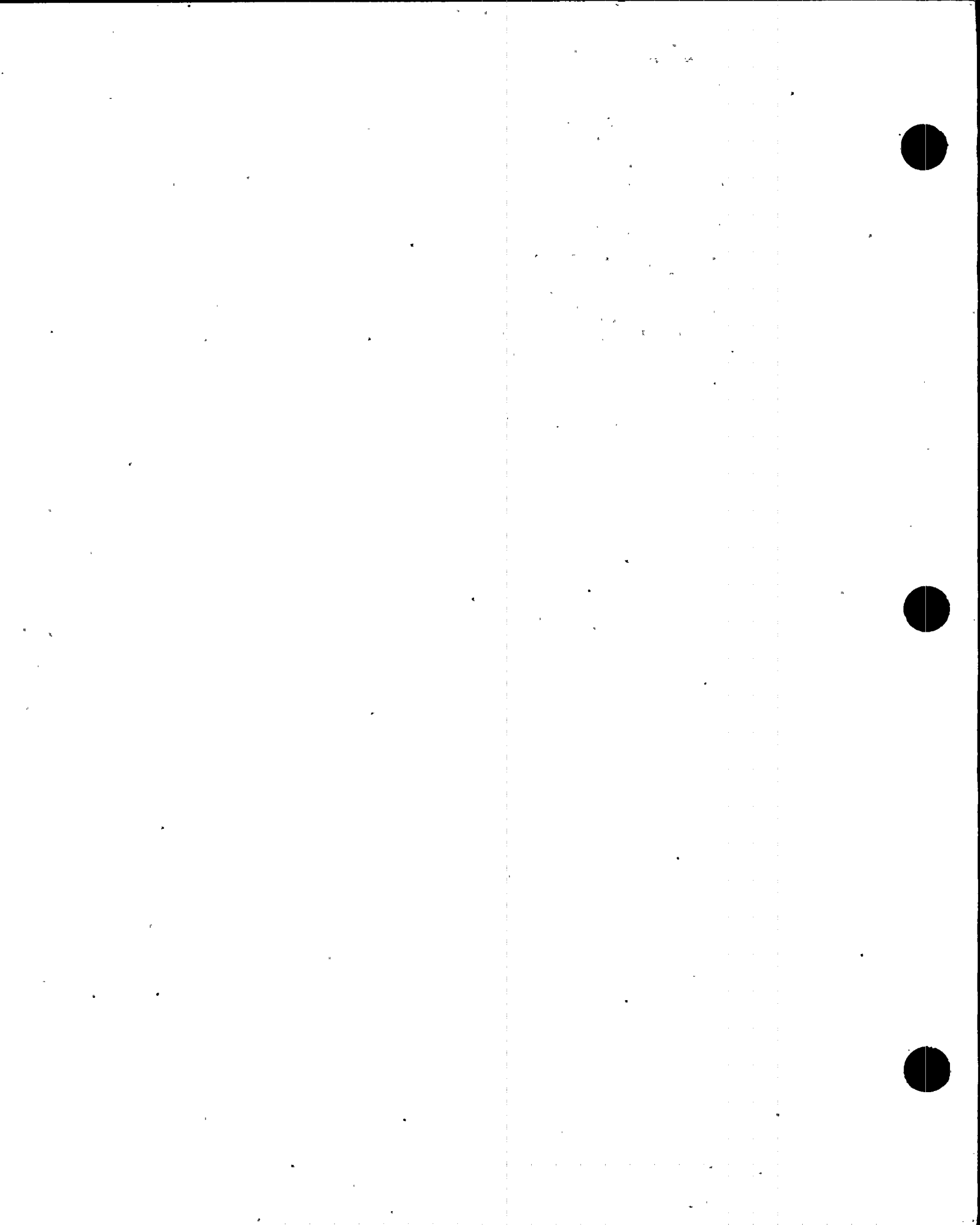
C. NEED FOR THE TECHNICAL SPECIFICATION AMENDMENT

The proposed changes to extend AOTs for the SITs would provide needed flexibility in the performance of both corrective and preventive maintenance during power operation. Implementing the proposed change may prevent unscheduled plant shutdowns and/or requests for temporary exemptions to allow continued operation.

D. SAFETY ANALYSIS FOR THE TECHNICAL SPECIFICATION AMENDMENT REQUEST

Industry operating experience has demonstrated that many of the causes of SIT inoperability have been diagnosed and corrected within a relatively short period of time, but often longer than the existing one-hour AOT. In several cases, the diagnosis of an inoperable SIT has resulted in plant shutdowns. A review of this operating experience, when tempered with current probabilistic safety analysis (PSA) applications, led to questioning the risk differential between application of the current technical specification action statements, with their attendant transient risks, and an extended AOT with one SIT inoperable.

If a single SIT were to be diagnosed as inoperable due to tank level or pressure or both being outside the limits established in PVNGS Technical Specification 3.5.1, the current action statement would allow one hour to restore the tank to within limits or transition the plant to hot standby within the next six hours and to hot shutdown within the following six hours. If a single SIT were to be diagnosed as inoperable due to the associated isolation valve being closed, the current action statement requires the isolation valve to



be immediately opened or transition the plant to hot standby within one hour and to hot shutdown within the next 12 hours. NUREG-1432 deleted the action to immediately open a closed SIT isolation valve, and instead specifies a 1 hour completion time to restore a SIT that is inoperable due to an isolation valve not fully open, or place the plant in Mode 3 in 6 hours and reduce pressurizer pressure to less than a plant-specific pressure within 12 hours. The proposed change would allow 24 hours to restore operability prior to requiring a plant shutdown in these situations.

The Combustion Engineering Owners Group (CEOG) "Joint Applications Report for Safety Injection Tank AOT/STI Extension," CE NPSD-994, May 1995, has demonstrated risk calculations associated with an AOT extension from one hour to 24 hours. The results of the analyses indicate that the single and yearly AOT risk contributions are negligible, and the average core damage frequency (CDF) is virtually unchanged.

A similar risk assessment was performed to evaluate "transition risk." Transition risk represents the risk associated with reducing power and going to hot or cold shutdown following equipment failure. The results of this analysis indicate that the core damage probability (CDP) attributable to transition risk is larger than the CDP associated with continued operation of the plant at power with one SIT inoperable for the proposed AOT.

The current PVNGS Technical Specifications make no differentiation between a SIT that is inoperable due to actual inventory or gas pressure discrepancies and a SIT whose inventory or gas pressure cannot be verified due to instrumentation malfunction. The proposed change will allow continued operation for up to 72 hours if a single SIT is deemed inoperable due solely to malfunctioning level instrumentation or pressure instrumentation. Because this instrumentation provides no safety actuation, it is reasonable to extend the allowable outage time since the SIT is available to perform its safety function during this time even though technically inoperable. This change would result in a negligible increase in risk. This proposed change is consistent with Section 7.4 of NUREG-1366, "Improvements to Technical Specifications Surveillance Requirements," and Generic Letter 93-05, "Line-Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operations."

The change to extend the AOT for a SIT with boron concentration not within limits from one hour to 72 hours has already been adopted in NUREG-1432, "Standard Technical Specifications for Combustion Engineering Plants."

It is the conclusion of the CE NPSD-996 study that the overall plant impact for PVNGS will be risk neutral or risk beneficial.

E. NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The Commission has provided standards for determining whether a significant hazards consideration exists as stated in 10 CFR 50.92. A proposed amendment to an operating license for a facility involves a no significant hazards consideration if operation of the facility in accordance with a proposed amendment would not:

- (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or
- (2) create the possibility of a new or a different kind of accident from any accident previously evaluated; or
- (3) involve a significant reduction in a margin of safety.

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

This proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The Safety Injection Tanks (SITs) are passive components in the Emergency Core Cooling System. The SITs are not an accident initiator in any accident previously evaluated. Therefore, this change does not involve a significant increase in the probability of an accident previously evaluated.

SITs were designed to mitigate the consequences of Loss of Coolant Accidents (LOCA). These proposed changes do not affect any of the assumptions used in deterministic LOCA analysis. Hence the consequences of accidents previously evaluated do not significantly increase.

The allowed outage time (AOT) extension for boron concentration outside the prescribed limits does not involve a significant increase in the consequences of an accident as evaluated and approved by the NRC in NUREG-1432, "Standard Technical Specifications for Combustion Engineering Plants." These changes are applicable to PVNGS.

The changes pertaining to SIT inoperability based solely on instrumentation malfunction do not involve a significant increase in the consequences of an accident as evaluated and endorsed by the NRC in NUREG-1366, "Improvements to Technical Specifications Surveillance Requirements," and Generic Letter 93-05, "Line-Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operations." These changes are applicable to PVNGS.

The AOT extension from one hour to 24 hours for a SIT that is inoperable due to reasons other than boron concentration not within limits or the inability to verify level or pressure does not involve a significant increase in the consequences of an accident. In order to

fully evaluate the affect of the SIT AOT extension, probabilistic safety analysis (PSA) methods were utilized. The results of these analyses show no significant increase in the core damage frequencies (CDF). As a result, there would be no significant increase in the consequences of an accident previously evaluated. These analyses are detailed in CE NPSD-994, Combustion Engineering Owners Group "Joint Applications Report for Safety Injection Tank AOT/STI Extension," May 1995.

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

This proposed change does not change the design, configuration, or method of operation of the plant. Therefore, this change does not create the possibility of a new or different kind of accident from any previously evaluated.

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

The proposed changes do not involve a significant reduction in a margin of safety.

The proposed changes do not affect the limiting conditions for operation or their bases that are used in the deterministic analyses to establish the margin of safety. PSA evaluations were used to evaluate these changes. These evaluations demonstrated that the changes are either risk neutral or risk beneficial. These evaluations are detailed in CE NPSD-994.

F. ENVIRONMENTAL CONSIDERATION

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 amendments, does not involve an unreviewed environmental safety question.

G. MARKED-UP TECHNICAL SPECIFICATION PAGES

PVNGS Units 1, 2, and 3 pages:

3/4 5-1

B 3/4 5-1

