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STN-50-529 Palo Verde Nuclear Station, Unit 2, Arizona Publi 05000529
STN-50-530 Palo Verde Nuclear Station, Unit 3, Arizona Publi 05000530
AUTH.NAME AUTHOR AFFILIATION
LEVINE,J.M. Arizona Public Service Co. (formerly Arizona Nuclear Power
RECIP.NAME RECIPIENT AFFILIATION
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SUBJECT: Re-issue of application for amend to licenses NPF-41,NPF-51 & NPF-74,re TS 3.5.3,ECCS - Operating,to extend completion time for one inoperable LPSI subsystem from 72 hours to 7 days.

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APS

Palo Verde Nuclear Generating Station

James M. Levine
Senior Vice President
Nuclear

TEL (602)393-5300
FAX (602)393-6077

Mail Station 7602
P.O. Box 52034
Phoenix, AZ 85072-2034

RE-ISSUE

102-04250-JML/SAB/GAM
February 26, 1999

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References: 1. APS Letter No. 102-03392-WLS/SAB/GAM, dated June 13, 1995, from W. L. Stewart, APS, to NRC, "Proposed Amendment to Technical Specification Sections 3.5.1, 3.5.2, 3.7.11, 3/4.8.1.1, and Bases."

2. APS Letter No. 102-03449-AKK/SAB/GAM, dated August 16, 1995, from A. K. Krainik, APS, to NRC, "Supplement to Proposed Amendment to Technical Specification Sections 3.5.1, 3.5.2, 3.7.11, 3/4.8.1.1, and Bases."

3. APS Letter No. 102-04175-JML/SAB/GAM, dated September 6, 1998, from J. M. Levine, APS, to NRC, "Withdrawal of Application for Amendments to Facility Operating Licenses Regarding the Low Pressure Safety Injection Subtrains and the Emergency Diesel Generators."

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 Specifications Section
3.5.3 Regarding the Low Pressure Safety Injection Subsystems**

1/1

A001

Arizona Public Service Company (APS) requests an amendment to Technical Specification (TS) 3.5.3, Emergency Core Cooling System - Operating, to extend the Completion Time for one inoperable Low Pressure Safety Injection (LPSI) subsystem from 72 hours to 7 days. In Reference 1, as supplemented by Reference 2, APS requested amendments to the PVNGS TS to extend the allowed outage times for the safety injection tanks (SITs), LPSI subtrains, and the emergency diesel generators (EDGs). (The phrase "allowed outage time" was used for the previous TS format and means the same as the phrase "Completion Time" which is used for the current improved TS format.) The request was submitted as part of a collaborative effort of participating Combustion Engineering Owners Group (CEOG) members as a risk-informed licensing application. In Reference 3, APS withdrew the proposed

LPSI and EDG changes with the expectation that the requests would be resubmitted when APS was prepared to commit to a Configuration Risk Management Program (CRMP). Separately, the NRC approved the requested SIT changes in Amendment no. 118 to the PVNGS TS on October 2, 1998, since the SIT changes could be implemented without a CRMP.

The NRC has previously communicated their position that a CRMP must be implemented for a risk-informed extension to the LPSI TS Completion Time. APS commits to implement a CRMP at PVNGS and proposes to establish the CRMP requirements in the PVNGS Technical Requirements Manual (TRM) concurrent with implementation of this proposed LPSI Completion Time extension. The TRM, which is included in the UFSAR by reference and controlled by 10 CFR 50.59, was established during conversion to the Improved TS to contain former TS requirements that did not meet the criteria of 10 CFR 50.36 to remain in the TS. Placing the CRMP requirements in the TRM and not the TS is consistent with the ITS relocations since the CRMP would not be an administrative control provision necessary to assure operation of the facility in a safe manner, as specified by 50.36(c)(5). The CRMP would be an enhancement to safe operation by requiring a proceduralized, risk-informed assessment to manage the risk associated with inoperable equipment for which a risk-informed Completion Time has been granted (e.g., a single LPSI Subsystem, as in this amendment request). The TRM is formatted to match the layout of the TS and, as such, contains a section for administrative controls for programs. This feature makes the TRM the optimum location to place the controls for the CRMP.

In SECY-97-095, dated April 30, 1997, the NRC Staff informed the Commissioners of their intent to issue an amendment to technical specifications for Arkansas Nuclear One, Unit 2 (ANO-2), to grant extensions of the allowed outage times for one inoperable safety injection tank and one inoperable LPSI system on the basis of risk-informed analysis. ANO-2 was the lead pilot plant for the collaborative effort of CEOG plants seeking these risk-informed licensing actions. A draft Safety Evaluation was included with the SECY letter. The Staff also stated that they intended to approve the issuance of similar amendments for the remaining CE plants when the staff's evaluations are comparable to those for ANO-2. The Commissioners issued a Staff Requirements memo to L. Joseph Callan dated May 28, 1997 stating that they do not object to the issuance of the ANO-2 amendment or to the plans to issue similar amendments for the remaining CE plants in cases where the results are similar to those for ANO. Palo Verde is one of those remaining CE plants. The NRC has since issued amendments to extend the allowed outage times for LPSI, including amendment nos. 139 and 131 to San Onofre Nuclear Generating Station Units 2 and 3, respectively, dated June 19, 1998.

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

A. Description of the Technical Specification Amendment Request
B. Purpose of the Technical Specification
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 Page
H. Retyped Technical Specification Page

Enclosure 2 contains changes to the TS Bases and TRM that support this requested TS amendment.

APS expects to be able to implement the CRMP by May 1, 1999, and therefore could implement this proposed amendment after that date. APS requests an implementation period for this proposed amendment of 45 days following NRC approval or after May 1, 1999, whichever is later.

In accordance with the PVNGS Quality Assurance Program, the Plant Review Board and Offsite Safety Review Committee have reviewed and concurred with this proposed amendment. By copy of this letter, this request is being forwarded to the Arizona Radiation Regulatory Agency (ARRA) pursuant to 10 CFR 50.91(b)(1).

The following commitments are being made to the NRC by this letter:

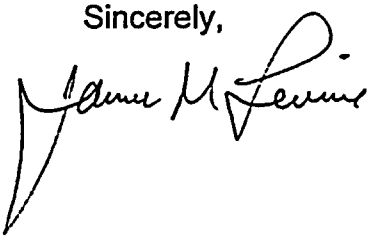
> APS commits to implement a Configuration Risk Management Program (CRMP) at PVNGS and establish the CRMP requirements in the PVNGS Technical Requirements Manual (TRM) concurrent with implementation of this proposed LPSI Completion Time extension.

APS also requests that Appendix D to the PVNGS Units 1, 2, and 3 operating licenses be deleted because the existing conditions have been completed and NRC guidance has identified that the appendix may be deleted. The conditions associated with amendment nos. 111 and 112 for Unit 1, 103 and 104 for Unit 2, and 83 and 84 for Unit 3, were completed as described in APS letter no. 102-03933, dated May 16, 1997. The conditions associated with amendment no. 117 for all three Units were completed as described in APS letter no. 102-04172 dated August 25, 1998. In SECY-98-224, dated September 28, 1998, L. Joseph Callan of the NRC staff stated that the practice of adding conditions in a newly

created appendix to the operating license introduced unwarranted administrative burdens, and licenses that have been amended to capture routine commitments may be revised in future amendment requests to delete the special appendix. Enclosure 3 contains operating license and Appendix D pages marked up to show these requested changes.

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

Sincerely,



JML/SAB/GAM/rlh

Enclosures

1. Proposed Amendment to Technical Specifications Section 3.5.3 Regarding the Low Pressure Safety Injection Subsystems

2. Changes to the Technical Specification Bases and Technical Requirements Manual to Support the LPSI Completion Time Extension

3. Proposed Changes to Facility Operating License Nos. NPF-41, NPF-51, and NPF-74 (PVNGS Units 1, 2, and 3) and Associated Appendix D, Additional Conditions

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

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

I, J. M. Levine, represent that I am Senior 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.

J. M. Levine

Sworn To Before Me This 26th Day Of February, 1999. N.M. 2-26-99

Notary Public

My Commission Expires

April 6, 1999

OFFICIAL SEAL
NORA E. MEADOR
Notary Public - State of Arizona
MARICOPA COUNTY
My Comm. Expires April 6, 1999

Enclosure 1

Proposed Amendment to Technical Specifications Section 3.5.3 Regarding the Low Pressure Safety Injection Subsystems

Proposed Amendment to Technical Specifications Section 3.5.3 Regarding the Low Pressure Safety Injection Subsystems

A. Description of the Technical Specification Amendment Request

This proposed change to Technical Specification (TS) 3.5.3, Emergency Core Cooling System (ECCS) – Operating, would extend the Completion Time for one inoperable low pressure safety injection (LPSI) subsystem from 72 hours to 7 days. This TS is applicable in Modes 1 and 2, and in Mode 3 when pressurizer pressure is 1837 psia or greater or reactor coolant system (RCS) cold leg temperature is 485°F or greater.

B. Purpose of the Technical Specification

The LPSI subsystems in combination with the high pressure safety injection (HPSI) subsystems form two redundant ECCS trains. The two LPSI pumps are high volume, low head centrifugal pumps designed to supplement the safety injection tank (SIT) inventory in reflooding the reactor vessel to ensure core cooling during the early stages of a large loss of coolant accident (LOCA).

The operability of two separate and independent ECCS trains ensures that sufficient emergency core cooling capability will be available in the event of a LOCA assuming the loss of one train through any single failure consideration. Either train operating in conjunction with the safety injection tanks is capable of supplying sufficient core cooling to limit the peak cladding temperatures within acceptable limits for all postulated break sizes ranging from the double-ended break of the largest RCS cold leg pipe downward. In addition, each ECCS train provides long-term core cooling capability in the recirculation mode during the accident recovery period.

Separately from the purpose of TS 3.5.3, the LPSI subsystem is also used in conjunction with a portion of the containment spray system for decay heat removal in the shutdown cooling alignment during Modes 4, 5, and 6 (TSs 3.4.6, 3.4.7, 3.4.8, 3.9.4, and 3.9.5).

C. Need for the Technical Specification Amendment

The proposed change to TS 3.5.3 to extend the Completion Time for a single LPSI subsystem from 72 hours to 7 days would provide needed flexibility in the performance of both corrective and preventive maintenance during power operation. Implementing the proposed change may avoid unscheduled plant shutdowns for non-risk-significant conditions and/or requests for temporary exemptions to allow continued operation.

D. Safety Analysis for the Technical Specification Amendment Request

The current PVNGS TSs address the LPSI subsystems as portions of the ECCS trains. TS 3.5.3 requires that two independent ECCS trains be operable in Modes 1 and 2, and in Mode 3 when pressurizer pressure is 1837 psia or greater or when RCS cold leg temperature is 485°F or greater. With one ECCS train inoperable the train must be returned operable within 72 hours or transition to less than 1837 psia and less than 485°F within the following 12 hours. The proposed change would allow up to 7 days to restore operability to a LPSI subsystem.

The Combustion Engineering Owners Group (CEOG) report CE NPSD-995, "Joint Applications Report for Low Pressure Safety Injection System AOT Extension," May 1995, explores the proposed change utilizing probabilistic safety analysis (PSA) methodologies to address the changes in risk when compared with current Technical Specification time limitations. This report was submitted to the NRC with APS letter no. 102-03392, dated June 13, 1995, and supplemented with APS letter no. 102-03449, dated August 16, 1995. The PVNGS-specific PSA values have been updated utilizing the current (January 1999) plant Probabilistic Risk Assessment and are provided in an attachment to this enclosure.

This study of the risk factors that are impacted by extending the Completion Time for a single LPSI train from 72 hours to 7 days demonstrates only a small quantitative impact on plant risk. The incremental conditional core damage probability (ICCDP) is 1.55E-7, which is less than the 5.0E-7 value defined in Regulatory Guide 1.177 as a small quantitative impact. In order to perform a more complete assessment of the overall change in risk, an accounting for avoided risks associated with reducing power and going to hot or cold shutdown must be considered. This "transition risk" is important in understanding the trade-off between shutting down the plant compared with restoring the LPSI train to operability while at power. Also of interest in assessing overall plant risk is the risk avoided based on LPSI system maintenance while in cold shutdown. Every time the plant is placed in cold shutdown the LPSI system is required for decay heat removal when in the shutdown cooling mode of operation. Any maintenance performed on the LPSI system during shutdown cooling operations adds to the risk of a loss of shutdown cooling event. Therefore, performing LPSI system maintenance with the unit on-line, when the LPSI system is not normally in demand, represents a decrease in shutdown risk.

The results of this study conclude that the increase in core damage frequency due to changing the LPSI Completion Time from 72 hours to 7 days is small. Additionally, when the reduction in transition and shutdown risks are considered, it can be shown that there is an overall reduction in plant risk. Thus, it is the conclusion of the 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. A discussion of these standards as they relate to this amendment request follows:

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

No. The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed amendment will extend the Completion Time for one inoperable low pressure safety injection (LPSI) subsystem in Technical Specification (TS) 3.5.3, Emergency Core Cooling Systems (ECCE) – Operating, from 72 hours to 7 days. The LPSI subsystem is part of the ECCS train and part of the shutdown cooling subsystem. The LPSI components are not accident initiators in any accident previously evaluated. Therefore, this change does not involve a significant increase in the probability of an accident previously evaluated.

The LPSI system is primarily designed to mitigate the consequences of a large break loss of coolant accident (LOCA). These proposed changes do not affect any of the assumptions used in the deterministic LOCA analysis.

In order to evaluate the LPSI Completion Time extension with respect to the ECCS, probabilistic safety analysis (PSA) methods were utilized. The results of these analyses show no significant increase in the core damage frequency. As a result, there would be no significant increase in the consequences of an accident previously evaluated. These analyses are detailed in CE NPSD-995, Combustion Engineering Owners Group "Joint Applications Report for Low Pressure Safety Injection System AOT Extension," May 1995, as supplemented by updated PVNGS data provided in the attachment to this enclosure.

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

No. The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated. The proposed amendment will extend the Completion Time for one inoperable low pressure safety injection (LPSI) subsystem in Technical Specification (TS) 3.5.3, Emergency Core Cooling Systems (ECCE) – Operating, from 72 hours to 7 days. The 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?

No. The proposed change does not involve a significant reduction in a margin of safety. The proposed amendment will extend the Completion Time for one inoperable low pressure safety injection (LPSI) subsystem in Technical Specification (TS) 3.5.3, Emergency Core Cooling Systems (ECCE) – Operating, from 72 hours to 7 days. The proposed change does not affect the limiting conditions for operation or their bases used in the deterministic analyses to establish the margin of safety. PSA evaluations were used to evaluate these changes. These evaluations demonstrate that the changes will be risk neutral or risk beneficial for PVNGS. These evaluations are detailed in CE NPSD-995, as supplemented by updated data provided in the attachment to this enclosure.

F. ENVIRONMENTAL CONSIDERATION

APS has determined that the proposed amendment involves no changes in the amount or type of effluent that may be released offsite, and results in no increase in individual or cumulative occupational radiation exposure. As described above, the proposed TS amendment involves no significant hazards consideration and, as such, meets the eligibility criteria for categorical exclusion set forth in 10CFR 51.22(c)(9).

G. Marked-up Technical Specification Page