

# CATEGORY 1

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9811090282      DOC.DATE: 98/10/30      NOTARIZED: NO      DOCKET #

FACIL:STN-50-528 Palo Verde Nuclear Station, Unit 1, Arizona Publi 05000528

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

Records Management Branch (Document Control Desk)

SUBJECT: Submits typographical errors in NRC SE re improved Tech  
Specs,amend 117 to facility operating licenses NPF-41,NPF-51  
& NPF-74.

DISTRIBUTION CODE: A001D      COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 5

TITLE: OR Submittal: General Distribution

NOTES:STANDARDIZED PLANT      05000528

Standardized plant.      05000529

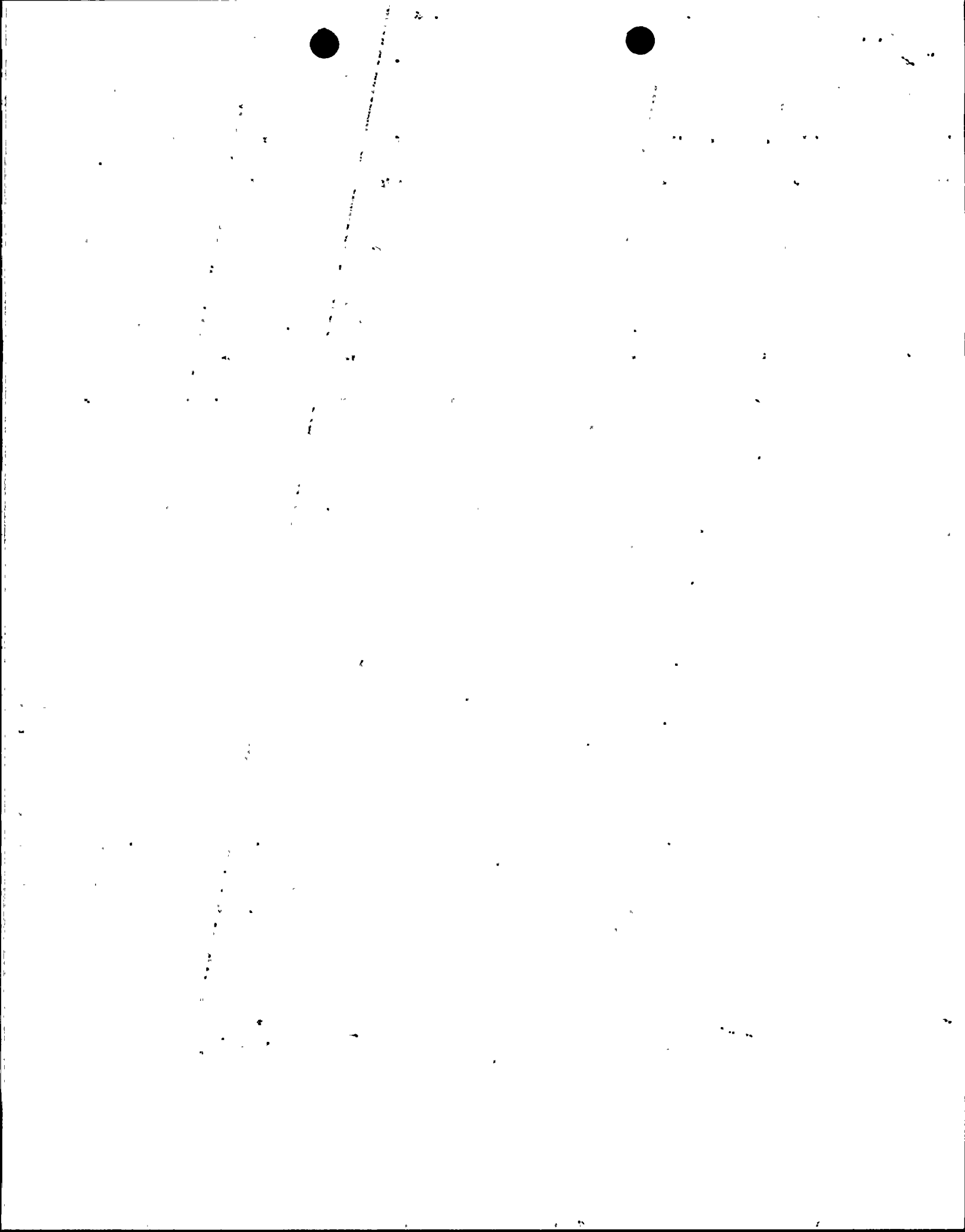
Standardized plant.      05000530

	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
	PD4-2 LA	1 1	PD4-2 PD	1 1
	FIELDS,M	1 1		
INTERNAL:	ACRS	1 1	<u>FILE CENTER . 01</u>	1 1
	NRR/DE/ECGB/A	1 1	NRR/DE/EMCB	1 1
	NRR/DRCH/HICB	1 1	NRR/DSSA/SPLB	1 1
	NRR/DSSA/SRXB	1 1	NUDOCS-ABSTRACT	1 1
	OGC/HDS2	1 0		
EXTERNAL:	NOAC	1 1	NRC PDR	1 1

NOTE TO ALL "RIDS" RECIPIENTS:  
PLEASE HELP US TO REDUCE WASTE. TO HAVE YOUR NAME OR ORGANIZATION REMOVED FROM DISTRIBUTION LISTS  
OR REDUCE THE NUMBER OF COPIES RECEIVED BY YOU OR YOUR ORGANIZATION, CONTACT THE DOCUMENT CONTROL  
DESK (DCD) ON EXTENSION 415-2083

TOTAL NUMBER OF COPIES REQUIRED: LTTR 14 ENCL 13

AAZ





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

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Mail Station P1-37  
Washington, DC 20555-0001

102-04201-JML/SAB/GAM  
October 30, 1998

Reference: Letter dated May 20, 1998, from Jack R. Donohew, NRC, to James M. Levine, APS, "Conversion to Improved Technical Specifications for the Palo Verde Nuclear Generating Station, Unit No. 1 (TAC No. M96672), Unit No. 2 (TAC No. M96673), and Unit No. 3 (TAC No. M96674)".

Dear Sirs:

**Subject: Palo Verde Nuclear Generating Station (PVNGS)  
Units 1, 2 and 3  
Docket Nos. STN 50-528/529/530  
Typographical Errors in NRC Safety Evaluation Related to the  
Improved Technical Specifications, Amendment No. 117 to Facility  
Operating License Nos. NPF-41, NPF-51, and NPF-74**

In the referenced letter, the NRC approved Amendment No. 117 to the operating licenses for PVNGS Units 1, 2, and 3, and provided their Safety Evaluation (SE) for the amendment. This amendment, which was a complete conversion to the Improved Technical Specifications (ITS), was implemented at PVNGS on August 13, 1998.

Arizona Public Service Company (APS) has identified the following two typographical errors in the SE related to Amendment No. 117:

1. On page 13 of the SE, in paragraph L2, the discussion should be corrected to state that the ITS definition (of core alterations) will exclude the movement of control element assemblies when withdrawn into the upper guide structure, to correctly reflect the approved ITS definition of Core Alteration.
2. On page 50, the third paragraph under ITS 3.5.2, in the fifth line, 1415 cubic feet should correlate to 60 percent wide range indication (not 83 percent), and 1914 cubic feet should correlate to 83 percent wide range indication (not 60 percent), to correctly reflect the CTS 3.5.1 requirements as discussed in this paragraph.

Marked-up SE pages are enclosed showing these corrections. It is requested that corrected pages be issued.

9811090282 981030  
PDR ADOCK 05000528  
P PDR

ADD 1/1



U. S. Nuclear Regulatory Commission

ATTN: Document Control Desk

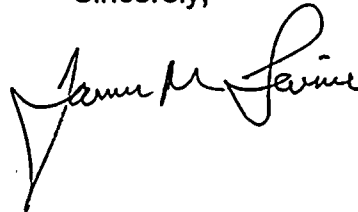
Typographical Errors in NRC Safety Evaluation Related to the Improved Technical Specifications, Amendment No. 117

Page 2

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "James M. Levine". The signature is written in a cursive style with a large, stylized "J" and "L".

JML/SAB/GAM/rh

Enclosure

cc: E. W. Merschoff (NRC Region IV)  
M. B. Fields (NRR Project Manager)  
J. H. Moorman (NRC Resident Inspector)  
A. V. Godwin (ARRA)

MARKED-UP PAGES 13 AND 50 OF THE NRC SAFETY EVALUATION

RELATED TO PALO VERDE AMENDMENT NO. 117



## Section 1.0 - Less Restrictive

- L1** The CTS does not include a provision equivalent to the ISTS that combines the definition of channel functional test for both analog and bistable channel, providing requirements for such tests. Combining the definitions for both analog and bistable channels in the ITS allows the bistable channel test signal to be injected "as close to the sensor as practicable" in lieu of "into the sensor" as required by the CTS definition. Injecting a signal at the sensor increases the probability of actuating related circuits that are not being tested in those cases where several logic channels are associated with one sensor. Therefore, performing the test by injecting a signal at the sensor may require (1) jumpering associated logic channels to prevent their initiation during the test or (2) increasing the scope of the test to include the other logic channels. Allowing initiation of the signal close to the sensor provides a complete test of the desired logic channel while reducing the probability of an undesired initiation. This change is a less restrictive requirement for unit operations and is consistent with the ISTS, and is acceptable.
- L2** The definition of core alterations in the CTS does not specify the specific components (i.e., the movement of fuel, source, or reactivity control components) that comprise a core alteration. Including the ISTS definition in the ITS relaxes the requirement for core alteration by limiting the definition of core alterations to the movement of the following specific components: fuel, source, or reactivity control components. The ITS definition will ~~not~~ exclude movement of control element assemblies (CEAs) when withdrawn into the upper guide structure, as a core alteration because they are reactivity control components. The ITS definition will exclude the movement of components other than fuel, sources, or reactivity control components as core alterations. The movement or manipulation of other components have a negligible (if any) effect on core reactivity; therefore, there is no need for a restriction on the movement of components other than fuel, sources, or reactivity control components. This change is consistent with the ISTS and is acceptable.
- L4** The ITS definition of channel functional test does not include the following statement in the CTS definition that: "The CHANNEL FUNCTIONAL TEST shall include adjustment, as necessary, of the alarm, interlock and/or trip setpoints such that the setpoints are within the required range and accuracy." The intent of the channel functional test is to verify channel operability not to verify setpoints. The ITS deletes the CTS requirement to check setpoints during the test and this change is a less restrictive requirement for unit operations. This change is acceptable because, by definition, setpoints are verified and, if required, adjusted during the performance of a channel calibration. A channel calibration is inclusive of a channel functional test. This change will afford PVNGS the opportunity to remove setpoint verification from the channel functional test and to rely on the channel calibration for this function. The licensee stated that (1) this will be made on an individual basis as analysis shows that setpoint verification performance is not adversely affected when extended out to channel calibration frequencies, and (2) the setpoint verification frequency changes are controlled under the 10 CFR 50.59



that the licensee actions to ensure that all pre-1990 P&B MDR dc relays and all pre-1992 P&B MDR ac relays have been removed from PVNGS ESFAS applications are acceptable. This condition has been met.

On this basis, the staff finds that the proposed TS changes for extending the ESFAS subgroup relay functional test interval from 62 days to 9 months on a staggered test interval are in conformance with the NRC-approved Topical Report CEN-403, Revision 1-A, and are, therefore, acceptable.

ITS 3.5.2      CTS LCO 3.5.1, safety injection tank minimum nitrogen cover pressure, was increased to include instrument uncertainties.

The proposed TS change would increase the minimum required nitrogen cover pressure for the safety injection tanks (SITs) from 254 psig to 260 psig, and would change the related Bases. The change resulted from new instrument uncertainty values associated with the pressure transmitters in the SIT pressure indication loops. The 235-psig minimum SIT cover pressure used in the analysis (i.e., the analytical limit) was not changed. The licensee's reanalysis noted that the uncertainty associated with the instruments used to measure the minimum nitrogen cover pressure could be as high as 22.6 psig. Previously, only 19 psig was allocated for the instrument uncertainty. Therefore, the minimum nitrogen cover pressure needs to be revised to specify 260 psig to ensure that the analytical limit was not compromised. This change is only applicable to Modes 3 and 4 when the pressurizer pressure is less than 1837 psia.

Each unit has four SITs which supply water to the reactor vessel during the blowdown phase of a large-break LOCA, provide inventory to help accomplish the refill phase that follows thereafter, and provide RCS makeup for a small-break LOCA. The SITs are pressure vessels partially filled with borated water and pressurized with nitrogen gas and are passive components because no operator or control action is required for them to perform their function. The internal tank pressure is sufficient to discharge the tank contents to the RCS, if RCS pressure decreases below the SIT pressure.

In Modes 3 and 4, with pressurizer pressure less than 1837 psia, CTS 3/4.5.1 requires either (a) four SITs, each with minimum and maximum borated water volumes of 962 cubic feet (39 percent wide range indication) and 1914 cubic feet (83 percent wide range indication), respectively or (b) three SITs, each with minimum and maximum borated water volumes of 1415 cubic feet (60 percent wide range indication) and 1914 cubic feet (83 percent wide range indication), respectively. The SIT gas and water volumes, gas pressure, and outlet pipe size are selected to allow one less than the number of required-operable SITs to partially recover the core before significant cladding melt or zirconium-water reaction can occur following a LOCA. The need to ensure that one less than the required SITs is adequate for this function is consistent with the LOCA assumption that the entire contents of one SIT will be lost through the break during the blowdown phase of a LOCA. This is to meet single failure criteria.

A minimum nitrogen cover pressure requirement (the subject of this evaluation) ensures that the SIT gas volume will generate discharge flow rates during injection that are consistent with

