

# CATEGORY 1

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ACCESSION NBR:9910140027      DOC.DATE: 99/10/07      NOTARIZED: NO      DOCKET #  
 FACIL:STN-50-529 Palo Verde Nuclear Station, Unit 2, Arizona Publi      05000529  
 AUTH.NAME      AUTHOR AFFILIATION  
 MARKS,D.G.      Arizona Public Service Co. (formerly Arizona Nuclear Power  
 IDE,W.E.      Arizona Public Service Co. (formerly Arizona Nuclear Power  
 RECIP.NAME      RECIPIENT AFFILIATION

SUBJECT: LER 99-004-00:on 990911,missed required actions for  
 inoperable instrument channel was noted.Caused by human  
 performance error.Channel B was placed into bypass & channel  
 was determined to be functioning properly.With 991007 ltr.

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NOTES:Standardized plant.

05000529

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Generating Station

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192-01055-WEI/DGM/REB  
October 7, 1999

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

**Subject: Palo Verde Nuclear Generating Station (PVNGS)**  
**Unit 1**  
**Docket No. STN 50-528**  
**License No. NPF-41**  
**Licensee Event Report 99-004-00**

Attached please find Licensee Event Report (LER) 50-528/99-004-00 that has been prepared and submitted pursuant to 10 CFR 50.73. This LER reports the findings and corrective actions taken as a result of a condition prohibited by the technical specifications related to a channel check on a Steam Generator level instrument. This letter makes no commitments.

In accordance with 10CFR50.73(d), a copy of this LER is being forwarded to the Regional Administrator, NRC Region IV. If you have questions regarding this submittal, please contact Daniel G. Marks, Section Leader, Regulatory Affairs, at (623) 393-6492.

Sincerely,

WEI/DGM/REB/kg

Attachment

cc: E. W. Merschoff (all with attachment)  
J. H. Moorman  
N. Kalyanam  
INPO Records Center

9910140027 991007  
PDR ADOCK 05000529  
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## LICENSEE EVENT REPORT (LER)

(See reverse for required number of  
digits/characters for each block)

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FACILITY NAME (1)

Palo Verde Nuclear Generating Station-Unit 1

DOCKET NUMBER (2)

05000528

PAGE (3)

1 OF 5

TITLE (4)

Missed Required Actions for Inoperable Instrument Channel Caused by Human Performance Error

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
09	11	1999	1999	004	00	10	07	1999	NA	
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)							
1			20.2201(b)		20.2203(a)(2)(v)		X		50.73(a)(2)(i)	50.73(a)(2)(viii)
POWER LEVEL (10)			20.2203(a)(1)		20.2203(a)(3)(i)				50.73(a)(2)(ii)	50.73(a)(2)(x)
100			20.2203(a)(2)(i)		20.2203(a)(3)(ii)				50.73(a)(2)(iii)	73.71
			20.2203(a)(2)(ii)		20.2203(a)(4)				50.73(a)(2)(iv)	OTHER
			20.2203(a)(2)(iii)		50.36(c)(1)				50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A
			20.2203(a)(2)(iv)		50.36(c)(2)				50.73(a)(2)(vii)	

## LICENSEE CONTACT FOR THIS LER (12)

NAME

Daniel G. Marks, Section Leader, Nuclear Regulatory Affairs

TELEPHONE NUMBER (Include Area Code)

623-393-6492

## COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

## SUPPLEMENTAL REPORT EXPECTED (14)

YES  
(If yes, complete EXPECTED SUBMISSION DATE).

X NO

EXPECTED  
SUBMISSION  
DATE (15)

MONTH DAY YEAR

## ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On September 12, 1999 at approximately 0700 MST, with Unit 1 operating in Mode 1(Power Operation) at approximately 100 percent power, Operations personnel determined that a Technical Specification (TS) non-compliance had occurred on September 11, 1999. The non-compliance was for not placing a Plant Protection System channel for Steam Generator 2 Wide Range Level into bypass or placing the unit in Mode 3 after a TS required channel check had indicated that the difference between two of the four steam generator wide range level channels exceeded the acceptance criteria. The channel check had been completed on September 11, 1999 at 0943 however, the performer and reviewers did not recognize the out-of-tolerance condition and no action was taken. A subsequent review of the performance of the four channels of level indication determined that the channel deviation was the result of the methodology used in taking the readings and was not an accurate indication of channel performance.

As a conservative action channel B was placed into bypass on September 12, 1999 at 0738 MST pending further investigation. The channel was determined to be functioning properly and was restored on September 13 at 1633 MST.

No similar occurrences have been reported to the NRC in the last 3 years.



U.S. NUCLEAR REGULATORY COMMISSION  
**LICENSEE EVENT REPORT (LER)**  
 TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
Palo Verde Nuclear Generating Station - Unit 1	05000528	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 5
		1999 - 004 - 00			

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

### I. REPORTING REQUIREMENT(S):

On September 11, 1999 at approximately 1923 MST, with Unit 1 operating in Mode 1(Power Operation) at approximately 100 percent power a condition prohibited by the Technical Specifications (TS) occurred when the required actions per TS 3.3.1 and 3.3.5 for an inoperable steam generator level channel (EIS Code: LI) were not completed as required. A channel check of the steam generator # 2 wide range level channels indicated an out-of-tolerance condition existed however, the condition was not recognized by control room personnel and no action was taken. This condition was contrary to TS 3.3.1 Required Action G.1 and TS 3.3.5 Required Action E.1 that require the unit be placed in Mode 3, Hot Shutdown, within 6 hours if the channel is not placed into bypass or trip within 1 hour.

This condition is being reported pursuant to 10CFR50.73(a)(2)(i)(B), Operation or condition prohibited by the plant's Technical Specifications.

### II. DESCRIPTION OF STRUCTURE(S), SYSTEM(S) OR COMPONENT(S):

There were no systems, structures, or components that were inoperable at the start of the event that contributed to the event.

### III. INITIAL PLANT CONDITIONS AND EVENT DESCRIPTION:

On September 11, 1999, with Unit 1 operating in Mode 1(Power Operation) at approximately 100 percent power, a day shift Reactor Operator (RO) recorded readings for the steam generator # 2 wide range level instrument channel check, which is required by surveillance requirement (SR) 3.3.1.1 to be performed every 12 hours. The readings were recorded in the "Mode 1 SHIFTLY SURVEILLANCE LOGS" surveillance test (ST) procedure, which requires all 4 channels of steam generator wide range level indication for each steam generator be recorded and the difference determined between the high and low reading for each steam generator. This difference is then compared to the acceptance criteria to determine acceptable channel operation.



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It should be noted that the readings are taken from indicators that continuously fluctuate approximately 1 to 3 percent. The RO recorded steam generator 2 wide range level values of 76, 77, 75, and 73 percent for channels A, B, C, and D respectively. The maximum difference was recorded as 4 percent however, the ST acceptance criteria for this parameter was 3.73 percent.

The RO did not recognize the out-of-tolerance condition, initialed the step as being satisfied and continued with the rest of the ST steps. After the RO had completed the procedure the ST was acceptance reviewed by a second RO at 0943 MST, was reviewed by the control room supervisor (CRS) at 1000 MST, and was reviewed by the Shift Technical Advisor (STA) during the shift. These reviews did not identify the out-of-tolerance condition.

When the channel check was performed on the following night shift, September 11, 1999 at 2120 MST, the readings for steam generator 2 wide range level channels were recorded as 76, 77, 75, and 74 percent for channels A, B, C, and D respectively, which was within the maximum deviation acceptance criteria of 3.73 percent.

The problem with the day shift ST was discovered later in the night shift when an RO was reviewing the day shift ST procedure. Since the level channels appeared to functioning properly at the time of discovery, the issue was turned over to the following day shift on September 12, 1999. As a conservative measure, channel B of steam generator 2 wide range level was placed in bypass on September 12, 1999 at 0738 MST pending further investigation. In reviewing the condition, data stored in the computer was used to perform a linear regression for the time period on September 11, 1999 from 0900 to 1000 which is the approximate time that the out-of-tolerance readings were recorded. This analysis indicated that the channel deviation for steam generator 2 wide range level was approximately 2.3 percent, well within the acceptance criteria of 3.73 percent. Maintenance personnel assessed the performance of the B channel and concluded the channel was functioning properly. The B channel was restored on September 13, 1999 at 1633 MST.





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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

### III. SAFETY CONSEQUENCES:

The steam generator wide range level instruments are used by the plant protective system (PPS) (EIS Code: JC) to generate a reactor trip on high or low level conditions and to generate an engineered safety features actuation (EIS Code: JE) on low level to supply auxiliary feedwater to the steam generator.

There are no safety consequences for this event. In reviewing the condition, data stored in the computer was used to perform a linear regression for the time period on September 11, 1999 from 0900 to 1000, which is the approximate time that the out-of-tolerance readings were recorded. This analysis indicated that the channel deviation for steam generator 2 wide range level was approximately 2.3 percent, well within the acceptance criteria of 3.73 percent. In addition, the system design for the PPS uses 2 out of 4 logic to initiate a trip signal thus, even with a channel inoperable, no single additional failure in the PPS can either cause an inadvertent trip or prevent a required trip from occurring.

### IV. CAUSE OF THE EVENT:

An investigation of this event is being conducted in accordance with the PVNGS Condition Reporting program. Preliminary investigation results indicate that the missed TS required actions on September 11, 1999 were the result of cognitive personnel error by the RO (utility-licensed operator) who recorded the steam generator data and by a second RO who performed the acceptance review for the ST procedure in that they did not recognize the acceptance criteria had not been met. In addition, an opportunity to identify the condition was missed by the CRS (utility-licensed operator) and STA (other utility personnel) during their reviews of the completed ST procedure.

No unusual characteristics of the work location (e. g., noise, heat, poor lighting) directly contributed to the event.



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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

**V. CORRECTIVE ACTIONS:**

As a conservative action the highest reading channel for steam generator # 2 wide range level indication, channel B, was placed into bypass on September 12, 1999 at 0738 MST pending further investigation. The channel was determined to be functioning properly and was restored on September 13 at 1633 MST.

Any additional corrective actions identified by the investigation will be input and tracked in the Corrective Action System under CRDR 102002.

If information is subsequently developed that would significantly affect the readers' understanding or perception of this event, a supplement to this LER will be submitted.

**VI. PREVIOUS SIMILAR EVENTS:**

No previous similar events, in which recorded data was not recognized as being outside the acceptance criteria for a TS surveillance test, has been reported by PVNGS to the NRC in the last three years.

