

# LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) <b>Palo Verde Unit 1</b>	DOCKET NUMBER (2) <b>0 5 0 0 0 5 2 8</b>	PAGE (3) <b>1 OF 0 4</b>
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TITLE (4)  
**Surveillance Requirement for Core Protection Calculators not Performed due to Inadequate Procedures**

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 NAMES		DOCKET NUMBERS
0 5	2 8	9 7	9 7	- 0 0 2	- 0 0	0 7	0 7	9 7	N/A		0 5 0 0 0 0
									N/A		0 5 0 0 0 0

OPERATING MODE (9) <b>3</b>		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)									
POWER LEVEL (10) <b>0 0 0</b>		20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)			
		20.405(a)(1)(i)		50.38(c)(1)		50.73(a)(2)(v)		73.71(c)			
		20.405(a)(1)(ii)		50.38(c)(2)		50.73(a)(2)(vi)		OTHER (Specify in Abstract below and in Text, NRC Form 368A)			
		20.405(a)(1)(iii)	<b>X</b>	50.73(a)(2)(i)		50.73(a)(2)(vii)(A)					
		20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(vii)(B)					
		20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)					

LICENSEE CONTACT FOR THIS LER (12)		TELEPHONE NUMBER	
<b>Daniel G. Marks, Section Leader, Nuclear Regulatory Affairs</b>		AREA CODE	
		<b>6 0 2 3 9 3 - 6 4 9 2</b>	

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)											
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		

SUPPLEMENTAL REPORT EXPECTED (14)						EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO									

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On June 11 at approximately 1500 MST, Palo Verde Unit 1 was in Mode 1 (POWER OPERATION) operating at approximately 100 percent power when APS personnel identified that a Technical Specification (TS) Surveillance Requirement (SR) for Core Protection Calculators (CPC) (TS SR 4.3.1.5) was not performed during the unit restart on May 28, 1997. The TS violation was identified during a Nuclear Assurance Audit of Unit Operations, Technical Specifications, and License Conditions. A backend review of the SRs indicated that the CPCs were OPERATIONAL prior to and immediately following the event.

A preliminary evaluation has determined that the apparent cause of the missed surveillance test was attributed to inadequate procedures. As corrective action, procedures have been revised to properly reflect the TS SR. No previous similar events have been reported pursuant to 10CFR50.73 in the last three years.

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**TEXT**

**1. REPORTING REQUIREMENT:**

This LER 528/97-002-00 is being written to report an event that resulted in the plant being operated in a condition prohibited by the Technical Specifications as specified by 10CFR50.73.(a)(2)(i)(B).

Specifically, on June 11, 1997 at approximately 1500 MST, Palo Verde Unit 1 was in Mode 1 (POWER OPERATION) operating at approximately 100 percent power when APS personnel (other utility personnel) identified that a Technical Specification (TS) Surveillance Requirement (SR) for Core Protection Calculators (CPC) (JC) (TS SR 4.3.1.5) was not performed during the unit restart on May 28, 1997. On May 28, 1997, Palo Verde Unit 1 was in Mode 3 (HOT STANDBY). The TS violation was identified during a Nuclear Assurance Audit of Unit Operations, TS, and License Conditions.

**2. EVENT DESCRIPTION:**

On May 28, 1997, Control Room personnel (utility-licensed operator) were preparing to perform a reactor (AC) startup following a reactor trip event which occurred on May 27, 1997 (LER 528/97-001-00). At approximately 1347 MST on May 28, 1997, a Mode change procedure was being implemented to ensure all applicable TS and administrative requirements were met prior to closing the reactor trip breakers (AA) in Mode 3. However, the procedure did not identify the performance of TS SR for checking CPC auto restarts as being required prior to closing the reactor trip breakers. The reactor trip breakers were closed at approximately 1351 on May 28, 1997.

TS Limiting Condition for Operation (LCO) 3.3.1, Reactor Protection Instrumentation, identifies the CPC APPLICABLE MODE in Table 3.3-1 as 1, 2 (STARTUP), 3\*, 4\* (HOT SHUTDOWN), 5\* (COLD SHUTDOWN) with a note that indicates that the "\*" denotes with the "protective system trip breakers in the closed position, the CEA [control element assembly] [AA] drive system capable of CEA withdrawal, and fuel in the reactor vessel." TS SR 4.3.1.5 states that the CPCs shall be determined OPERABLE at least once per 12 hours by verifying that less than three auto restarts have occurred on each calculator during the past 12 hours.

At approximately 2230 MST on May 28, 1997, Control Room personnel completed shiftly surveillance procedures for Mode 3 which also did not include the CPC auto restart check following closure of the reactor trip breakers. On May 29, 1997 at approximately 0856 MST, Control Room personnel completed shiftly surveillance procedures in preparation for entering Mode 2. The Mode 2 surveillance log procedure did include the TS SR to check the CPC auto restart indication.



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## TEXT

At approximately 1500 MST on June 11, 1997, during an Operations and TS audit, Nuclear Assurance personnel identified that for a nineteen (approximate) hour period, the performance of TS SR 4.3.1.5 had not been performed during the unit restart, prior to and following the closure of the reactor trip breakers. This event resulted in a TS violation. There were no safety system actuations and none were required.

### 3. ASSESSMENT OF THE SAFETY CONSEQUENCES AND IMPLICATIONS OF THIS EVENT:

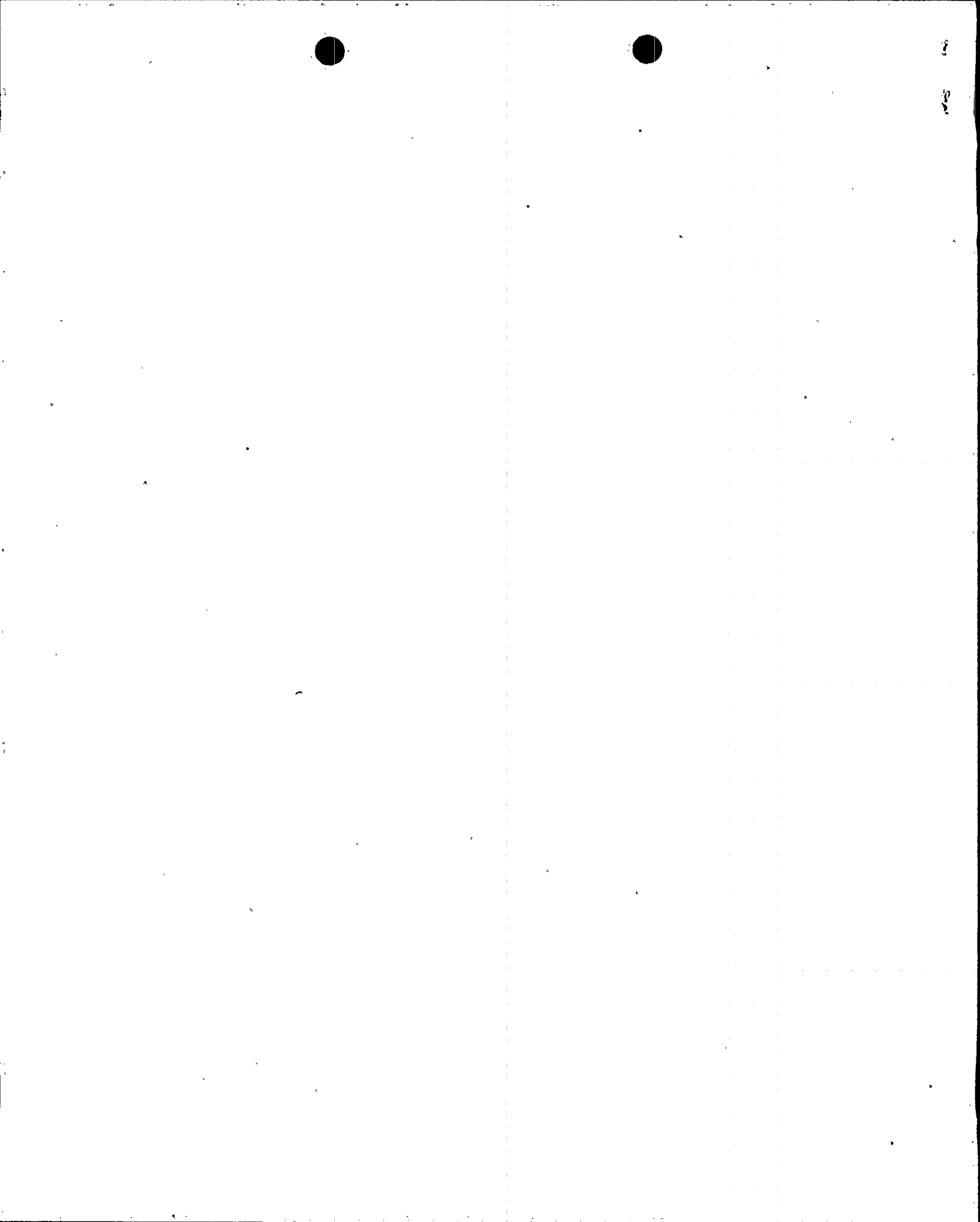
The function of the CPCs in Mode 3 with the reactor trip breakers closed is to generate a trip signal in the event of a CEA withdrawal transient if less than four reactor coolant pumps (RCP) (AB) are operating and the Logarithmic Power High trip setpoint is greater than 10E-4 percent power. TS allows the CPCs to be inoperable in this specified condition if the Logarithmic Power Level - High Trip is OPERABLE with the trip setpoint lowered to less than or equal to 10E-4 percent power. The safety analysis for a CEA withdrawal event with four RCPs operating assumes a Logarithmic Power High trip setpoint of 10E-2 percent power. For the time period the reactor trip breakers were closed, all four RCPs remained in operation and the Logarithmic Power High trip setpoint was at approximately 10E-3 percent power.

A backend review of the SRs to check for CPC auto restarts that were completed prior to the reactor trip on May 27, 1997 and prior to Mode 2 entry on May 29, 1997, indicated that there were no CPC auto restarts and that the CPCs were OPERATIONAL.

The event did not result in any challenges to the fission product barriers or result in any release of radioactive materials. Therefore, there were no adverse safety consequences or implications as a result of this event. This event did not adversely affect the safe operation of the plant or health and safety of the public.

### 4. CAUSE OF THE EVENT:

An independent investigation of this event is being conducted in accordance with the APS Corrective Action Program. As part of the investigation, a determination of the cause of the event will be performed. A preliminary evaluation has determined that the apparent root cause is attributed to inadequate procedures (SALP Cause Code D: Defective Procedures). The requirement to have CPCs OPERABLE in Mode 3\*, 4\*, 5\* was implemented as a result of a TS amendment (numbered 98, 86, and 69 respectively for Units 1, 2, and 3) issued on September 1, 1995 and effective on December 14, 1995. This change was in response to a concern



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TEXT

related to a CEA withdrawal event from subcritical conditions with less than four RCPs operating and the Logarithmic Power High trip setpoint greater than 10E-4 percent power. In this scenario the CPCs are required to protect the core by automatically generating a reactor trip at 10E-4 percent power. For conditions with four RCPs in operation the Logarithmic Power High trip setpoint of 10E-2 percent power is adequate to protect the core. The investigation will evaluate the apparent procedural deficiencies in properly implementing the TS amendment as well as the transportability issues related to Units 2 and 3. If the evaluation results differ from this determination or the results would significantly alter the readers' understanding of the significance of the event, a supplement will be submitted.

No unusual characteristics of the work location (e.g., noise, heat, poor lighting) directly contributed to this event. Personnel error did not contribute to this event.

5. STRUCTURES, SYSTEMS, OR COMPONENTS INFORMATION:

There are no indications that any structures, systems, or components were inoperable at the start of the event which contributed to this event. No component or system failures were involved. No failures of components with multiple functions were involved. No failures that rendered a train of a safety system inoperable were involved.

6. CORRECTIVE ACTIONS TO PREVENT RECURRENCE:

An independent investigation of this event is being conducted in accordance with the APS Corrective Action Program. Actions to prevent recurrence are being developed based upon the results of the investigation and will be tracked under the APS Corrective Action Tracking System. Immediate corrective action was taken to revise the Mode change and the surveillance test procedures to require a check of the CPC auto restart indication when in Modes 3, 4, or 5 with reactor trip breakers closed and Logarithmic Power High trip setpoint greater than 10E-4 percent power.

7. PREVIOUS SIMILAR EVENTS:

Although previous events have been reported pursuant to 10CFR50.73 in the past three years for missing TS surveillance requirements, the causes discussed in the previous events have not been similar to this event. Therefore, the corrective actions of the previous events would not have prevented this event.

