LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Palo Verde Unit 1	0 5 0 0 0 5 2 8	1 OF 0 4

TITLE (4)
Missed response time test for reactor protective instrumentation due to personnel 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 NAMES	DOCKET NUMBERS
									N/A	0 5 0 0 0
0 4	2 8	9 8	9 8	- 0 0 5	- 0 0	0 5	2 6	9 8	N/A	0 5 0 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

OPERATING MODE (9)					
POWER LEVEL(10)	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)	
	20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)	
	20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract	
	20.405(a)(1)(iii)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	below and in Text, NRC Form	
	20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	366A)	
	20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Daniel G. Marks, Section Leader, Regulatory Affairs	AREA CODE 6 0 2 3 9 3 - 6 4 9 2

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

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

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

On April 28, 1998, at approximately 1619 MST, Palo Verde Unit 1 was in Mode 1 (POWER OPERATION), operating at approximately 100 percent power when Control Room personnel entered TS Limiting Condition for Operation (LCO) 3.3.1 ACTION 2 and placed Channel C Reactor Protection System (RPS) High Logarithmic (Hi Log) Power in bypass following notification that required response time testing had not been performed. Following the completion of the test, Control Room personnel removed Channel C RPS Hi Log Power from bypass and exited TS LCO 3.3.1 ACTION 2. TS Surveillance Requirement (SR) 4.3.1.3 requires reactor trip system response time testing of each reactor trip function. Four channels of High Log Power Level must to be operable in Modes 1, 2 (STARTUP), 3*(HOT STANDBY), 4*(HOT SHUTDOWN), and 5*(COLD SHUTDOWN) (*: with the protective system trip breakers in the closed position, the control element assembly (CEA) drive system capable of CEA withdrawal, and fuel in the reactor vessel). The required ACTIONs for 3 channels operable were not met from April 16, 1998 at approximately 1603 MST (Mode 4 entry) until April 29, 1998 at approximately 1504 MST when the channel was satisfactorily tested.

The cause of the event was attributed to personnel error when I&C personnel performed an inadequate review of the work authorization documentation that failed to detect that the response time testing had not been performed. As corrective action the individual was coached. No previous similar events have been reported pursuant to 10CFR50.73.

TEXT

1. REPORTING REQUIREMENT:

This LER 528/98-005-00 is being written to report an event that resulted in an operation or condition prohibited by the plant's Technical Specifications (TS) as specified in 10 CFR 50.73(a)(2)(i)(B).

Specifically, at approximately 1619 MST on April 28, 1998, Palo Verde Unit 1 was in Mode 1 (POWER OPERATION) operating at approximately 100 percent power when Control Room personnel entered TS Limiting Condition for Operation (LCO) 3.3.1 ACTION 2 and placed Channel C Reactor Protection System (RPS) High Logarithmic (Hi Log) Power in bypass following notification that required response time testing had not been performed. Following the satisfactory completion of the response time testing, Control Room personnel removed Channel C RPS Hi Log Power from bypass and exited TS LCO 3.3.1 ACTION 2.

TS Surveillance Requirement (SR) 4.3.1.3 requires the reactor trip system response time of each reactor trip function to be determined. Channel C RPS Hi Log Power was returned to service on April 15, 1998 prior to Mode 4 (HOT SHUTDOWN) entry which occurred on April 16, 1998 at approximately 1603 MST without the required response time testing performed. Four channels of High Logarithmic Power Level are required to be operable in Modes 1 (POWER OPERATION), 2 (STARTUP), 3*(HOT STANDBY), 4*(HOT SHUTDOWN), and 5*(COLD SHUTDOWN) (*: with the protective system trip breakers in the closed position, the control element assembly (CEA) drive system capable of CEA withdrawal, and fuel in the reactor vessel). The required ACTIONs for 3 channels operable were not met from April 16, 1998 at approximately 1603 MST (Mode 4 entry) until April 28, 1998 at approximately 1619 MST when the channel was placed in bypass.

2. EVENT DESCRIPTION:

Prior to the event, from August to December 1997, Instrumentation and Control (I&C) personnel performed troubleshooting activities on the Channel C RPS Hi Log Power due to intermittent spiking. The troubleshooting activities included the replacement of a preamplifier on October 12, 1997. Following a charge capacitance test and functional test, I&C personnel determined that the preamplifier was not the cause of the spiking. On December 6, 1997, the online troubleshooting activities were postponed until the next refueling outage (U1R7) scheduled for March 14, 1998. The response time test for the preamplifier was postponed until troubleshooting resumed during U1R7.

During the refueling outage, the Channel C Hi Log Power detector and various connectors were replaced, and the signal path through the

TEXT

Containment penetration was changed. The spiking problem was resolved and the work authorization documentation was statused as completed (i.e., work done, clearances pulled, verification and retesting performed). On April 15, 1998 at approximately 1801 MST, Channel C Hi Log Power was declared operable prior to Mode 4 (HOT SHUTDOWN) entry which occurred on April 16, 1998 at approximately 1603 MST.

On April 28, 1998 at approximately 1530 MST, during the review and closure process of the work authorization documentation, I&C personnel determined that the response time testing for the preamplifier had not been performed as required and notified Control Room personnel. At approximately 1619 MST on April 28, 1998, Control Room personnel entered TS LCO 3.3.1 ACTION 2 and placed Channel C RPS Hi Log Power in bypass. Following the satisfactory completion of the response time testing, Control Room personnel removed Channel C RPS Hi Log Power from bypass and exited TS LCO 3.3.1 ACTION 2.

The required TS LCO 3.3.1 ACTIONs for 3 channels operable were not met from April 16, 1998 at approximately 1603 MST (Mode 4 entry) until April 29, 1998 at approximately 1504 MST when the channel was satisfactorily tested. There were no safety system actuations and none were required.

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

The response time test for Channel C RPS Hi Log Power was satisfactorily completed with no anomalies. Therefore, the channel would have performed its intended function. The event did not result in any challenges to the fission product barriers or result in any release of radioactive materials. 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. A preliminary evaluation has determined that the apparent root cause is attributed to personnel error when I&C personnel (other utility personnel) performed an inadequate review of the work authorization documentation. The step to perform a response time test for the preamplifier was not signed off and remained undetected during the review process (SALP Cause Code A: Personnel Error). This was a cognitive personnel error in that the individual failed to recognize that the documentation was not completely signed off. The personnel error was not a result of a deficient work

authorization completion process or procedures. The error was detected during the closure process as expected.

If the final evaluation results differ from this determination, a supplement to this report will be submitted to describe the final root cause determination. No unusual characteristics of the work location (e.g., noise, heat, poor lighting) directly contributed to this event. No procedural errors contributed to this event.

5. STRUCTURES, SYSTEMS, OR COMPONENTS INFORMATION:

Although troubleshooting activities for Channel C RPS Hi Log Power were in progress, 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 included coaching the I&C person responsible for reviewing the work authorization documentation. No further actions were determined to be necessary.

7. PREVIOUS SIMILAR EVENTS:

Although previous events have been reported pursuant to 10 CFR 50.73 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.

As discussed in Section 4, the cause of the event reported in this LER was attributed to cognitive personnel error. Cognitive personnel errors that are the result of mental lapses are not normally correctable with revised procedures or additional training. Therefore, the corrective actions taken for the previous event would not have prevented this event.