NRC FORM 366 (6-1998) U.S. NUCLEAR REGULATORY COMMISSION

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LICENSEE EVENT REPORT (LER)

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

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Palo Verde Nuclear Generating Station-Unit 2	05000529	1 OF 4

TITLE (4)

Pressurizer Safety Valve Lift Pressures Outside of Technical Specification Limits

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
04	08	1999	1999	004	00	05	07	1999	N/A	
									FACILITY NAME: N/A	DOCKET NUMBER

OPERATING MODE (9)	6
POWER LEVEL (10)	0

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

	20.2201(b)		20.2203(a)(2)(v)	X	50.73(a)(2)(i)		50.73(a)(2)(viii)
	20.2203(a)(1)		20.2203(a)(3)(i)		50.73(a)(2)(ii)		50.73(a)(2)(x)
	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)	X	50.73(a)(2)(vii)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Daniel G. Marks, Section Leader, Nuclear Regulatory Affairs	602-393-6492

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

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

On April 8, 1999, during Unit 2's eighth refueling outage, lift pressure verification testing was completed on the Unit 2 pressurizer safety valves (PSVs). The testing revealed that as-found lift pressures for two of the four Unit 2 PSVs were outside of the Technical Specification limits of +3/-1 percent of design lift pressure.

The out of tolerance as-found PSV condition appears to be the result of lift pressure setpoint drift. An analysis of the safety consequences of the Unit 2 as-found PSV testing results is being conducted in accordance with PVNGS procedures. The preliminary analysis results indicate this condition would have no effect on the consequences of UFSAR chapter 15 events and additional safety analysis.

Within the last three years, one previous similar event was reported in LER 50-528/98-004.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Palo Verde Nuclear Generating Station Unit 2	05000529	1999	- 004 -	00	2 OF 4

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

I. REPORTING REQUIREMENT(S):

During the 18 month frequency surveillance testing of the Unit 2 pressurizer safety valves (PSVs) (EIIS: RV, AB) which was completed on April 8, 1999, the as-found lift pressures for two of the four Unit 2 PSVs were found to be below the Technical Specification limits of +3/-1 percent of design lift pressure.

This LER is being submitted because it is reasonable to assume that the out of tolerance condition existed prior to discovery and may have exceeded Technical Specification (TS) completion times. Therefore, the condition is reportable under 10 CFR 50.73(a)(2)(i)(B).

In addition, this LER is being submitted pursuant to 10 CFR 50.73 (a)(2)(vii) because it is reasonable to assume that a single cause or mechanism served as a common input to the multiple PSV out of tolerance condition in a single system designed to mitigate the consequences of an accident.

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

The Unit 2 PSVs were manufactured by Dresser/Consolidated and are Consolidated 31700 series valves designed for nuclear service and certified under Section III, Class 1, of the ASME code for application in nuclear power systems. The PSVs are crossed bonnet maxiflow, spring loaded, direct acting, model no. 31709NA valves. The function of the PSVs is to limit the reactor coolant system (EIIS: AB) pressure to less than the safety limit pressure of 2750 pounds per square inch absolute (psia) for moderate and low frequency events, and to less than the safety limit pressure of 3000 psia for certain very low frequency events.

The PSVs are tested in accordance with TS Surveillance Requirements (SR) 3.4.10.1 and 3.4.11.1, the inservice testing program (IST), and the ASME Code which requires testing of these valves on a five year frequency. However, Arizona Public Service Company (APS) tests the PSVs on a refueling (18 month) basis in accordance with previously specified corrective actions. TS Limiting Conditions for Operation (LCO) require PSV lift settings to be within +3/-1 percent of the design lift pressure of 2475 psia or 2460 pounds per square inch gauge (psig).

There were no unusual characteristics of the work location (e.g., noise, heat, poor lighting) that contributed to this condition. Other than the PSV degradation described herein, there were no other component or system failures. There were no failures that rendered a train of a safety system inoperable and there were no personnel or procedural errors identified.

III. INITIAL PLANT CONDITIONS:

PSV testing occurred at Wyle laboratories on April 7 and April 8, 1999. During this period, Unit 2 was de-fueled in Mode 6 (Refueling) at 0 percent power.

IV. EVENT DESCRIPTION:

On April 8, 1999, Unit 2 PSV set pressure verification testing was completed on the Unit 2 PSVs. The set pressure verification testing revealed that the as-found lift pressures for two of the four Unit 2 PSVs was below the Technical Specification limits of +3/-1 percent of design lift pressure. The as-found lift setting for RCE-PSV-0201 was 2407 psig or 2.2 percent below the design lift pressure of 2460 psig. Similarly, the as-found lift pressure for Unit 2 RCE-PSV-203 was 2422 psig or 1.5 percent below the design lift pressure of 2460 psig. The as-found lift settings for the other two Unit 2 PSVs were with the TS limit of +3/-1 percent of design lift pressure.

V. SAFETY CONSEQUENCES:

An analysis of the safety consequences of the Unit 2 as-found PSV testing results is being conducted in accordance with PVNGS procedures. This analysis will encompass the effects of the two PSVs which were out of tolerance low, as well as, the effects of four Unit 2 main steam safety valves (MSSVs)(EIIS: RV, SB) which were found to be out of tolerance high prior to Unit 2's eighth refueling outage (reference: LER 50-529/99-002). The analysis of safety consequences will be used to determine if the primary or secondary design peak pressures would have been exceeded under accident conditions. Preliminary analysis results indicate this condition would have no effect on the consequences of UFSAR chapter 15 events and additional safety analysis. Other accident consequences will also be evaluated to determine the effect of the PSV/MSSV as-found condition. If the safety consequence analysis results demonstrate that primary or secondary peak pressures would have been exceeded during accident conditions, or other accident conditions would have been unacceptable as a result of this condition, APS will provide the results in a supplement to this LER.

VI. CAUSE OF THE EVENT:

An evaluation of the as-found PSV lift testing results is being conducted in accordance with the PVNGS corrective action program. Preliminary indications are that the out of tolerance low as-found PSV lifts were the result of setpoint drift. If APS determines that the cause was something other than setpoint drift, a supplement to this LER will be submitted.

The as-found PSV lift settings is indicative of less than optimum performance rather than equipment failure. The as-found low setpoints do not appear to have adversely affected the PSV's ability to relieve primary system pressure and ensure pressure remains below design limits. However, the analysis of the safety consequences described above (section V) will be used to determine if the primary or secondary design peak pressures would have been exceeded under accident conditions due to the out of tolerance PSV/MSSV conditions.

VII. CORRECTIVE ACTIONS TO PREVENT RECURRENCE:

The four Unit 2 PSVs had been as-found lift tested, disassembled, inspected, reassembled and certified at Wyle laboratories by April 8, 1999. No discrepancies were noted during the disassembly and inspection of the PSVs. To prevent recurrence, the PSV as-left settings were, to the extent possible, maintained at the higher end of the allowable setpoint band during the certification process at Wyle laboratories. This will allow for a greater setpoint drift between the as-left setting and the low end of the tolerance.

All four Unit 2 PSV installations were completed by April 25, 1999.

VIII. PREVIOUS SIMILAR EVENTS:

Within the last three years, one similar out of tolerance PSV condition was reported in LER 50-528/98-004. The effectiveness of previous corrective actions have reduced the test failure rates of the PSVs, however, as-found out of tolerance conditions continue to periodically occur. Previous corrective actions increased the testing frequency of the PSVs from five years to 18 months. Previous corrective actions could not have prevented these events because they would not affect the tendency toward setpoint drift exhibited by the PSVs as described in the previous LER.