

# CATEGORY 1

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ACCESSION NBR: 9609130087      DOC. DATE: 96/09/02      NOTARIZED: NO      DOCKET #  
 FACIL: STN-50-529 Palo Verde Nuclear Station, Unit 2, Arizona Public      05000529  
 AUTH. NAME      AUTHOR AFFILIATION  
 GRABO, B.A.      Arizona Public Service Co. (formerly Arizona Nuclear Power  
 LEVINE, J.M.      Arizona Public Service Co. (formerly Arizona Nuclear Power  
 RECIP. NAME      RECIPIENT AFFILIATION

SUBJECT: LER 96-006-00: on 960805, CR personnel momentarily entered & then exited TS 3.0.3. Caused by inattention to detail. ltrs issued in all three units explaining condition. W/960902 ltr.

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05000529

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Palo Verde Nuclear  
Generating Station

James M. Levine  
Vice President  
Nuclear Production

TEL (602)393-5000  
FAX (602)393-6077  
<http://www.apsc.com>

Mail Station 7602  
P.O. Box 52034  
Phoenix, AZ 85072-2034

192-00978-JML/BAG/BE  
September 2, 1996

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

Subject: Palo Verde Nuclear Generating Station (PVNGS)  
Unit 2  
Docket No. STN 50-529 (License No. NPF-51)  
Licensee Event Report 96-006-00

Attached please find Licensee Event Report (LER) 96-006-00 prepared and submitted pursuant to 10CFR50.73. This LER reports a momentary entry into Technical Specification Limiting Condition for Operation (TS LCO) 3.0.3 following a determination that the ACTION statements for TS LCOs 3.5.2 and 3.6.2.1 had not been met with both trains of the Safety Injection and Containment Spray systems inoperable in Mode 1. In accordance with 10CFR50.73(d), a copy of this LER is being forwarded to the Regional Administrator, NRC Region IV. If you have any questions, please contact Burton A. Grabo, Section Leader, Nuclear Regulatory Affairs, at (602) 393-6492.

Sincerely,

JML/BAG/BE/pv

Attachment

100080

cc: L. J. Callan (all with attachment)  
K. E. Perkins  
K. E. Johnston  
INPO Records Center

JE22/

9609130087 960902  
PDR ADDCK 05000529  
S PDR



# LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) <b>Palo Verde Unit 2</b>						DOCKET NUMBER (2) <b>0 5 0 0 0 5 2 9</b>						PAGE (3) <b>1 OF 0 5</b>	
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TITLE (4)  
**Momentary Entry Into Technical Specification 3.0.3 Due To Inattention To Detail**

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					
<b>0 8</b>	<b>0 5</b>	<b>9 6</b>	<b>9 6</b>	<b>- 0 0 6</b>	<b>- 0 0</b>	<b>0 9</b>	<b>0 2</b>	<b>9 6</b>	N/A					

OPERATING MODE (9) <b>1</b>		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following) (11)									
POWER LEVEL (10) <b>1 0 0</b>		20.402(b)	20.405(c)	50.73(a)(2)(M)	73.71(b)						
		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(V)	73.71(c)						
		20.405(a)(1)(E)	50.36(c)(2)	50.73(a)(2)(V)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)						
		20.405(a)(1)(W)	<input checked="" type="checkbox"/> 50.73(a)(2)(I)	50.73(a)(2)(V)(A)							
		20.405(a)(1)(N)	50.73(a)(2)(F)	50.73(a)(2)(V)(B)							
		20.405(a)(1)(V)	50.73(a)(2)(W)	50.73(a)(2)(X)							

LICENSEE CONTACT FOR THIS LER (12)									
NAME <b>Burton A. Grabo, Section Leader, Nuclear Regulatory Affairs</b>								TELEPHONE NUMBER	
								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 August 5, 1996, at approximately 1032 MST, Palo Verde Unit 2 was in Mode 1 (POWER OPERATION), operating at approximately 100 percent power when Unit 2 Control Room personnel momentarily entered and then exited Technical Specification Limiting Condition for Operation (TS LCO) 3.0.3 following a determination that the ACTION statements for TS LCO 3.5.2 and 3.6.2.1 had not been met with both trains of the Safety Injection System (SI) and Containment Spray System (CS) inoperable while in Mode 1.

Prior to the TS LCO 3.0.3 entry, at approximately 0952 MST on August 5, 1996, Train A SI, CS and Shutdown Cooling (SDC) systems were declared inoperable to facilitate mixing the Refueling Water Tank (RWT) and to perform a Post Accident Sampling surveillance test. At approximately 1032 MST, Train B Essential Chilled Water System (ECWS) was rendered inoperable for approximately 20 seconds to support weekly chemistry sampling. While making a unit log entry, Control Room personnel recognized that for a brief moment at 1032 MST, both trains of SI and CS were inoperable, a condition requiring entry into TS LCO 3.0.3. At approximately 1630 MST, Train A SI, CS and SDC systems were returned to service and TS LCOs 3.5.2, 3.6.2.1 and 3.7.11 were exited.

The cause of the inadvertent entry into TS LCO 3.0.3 was attributed to inattention to detail. The Control Room Supervisor did not recognize the fact that cycling the ECWS disconnect switch would render both trains of Low Pressure Safety Injection and CS inoperable.

Previous similar events have been reported pursuant to 10CFR50.73 in LER 529/94-007-00, dated December 21, 1994.



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**TEXT**

**1. REPORTING REQUIREMENT:**

This LER 529/96-006-00 is being submitted to report an event which resulted in a condition prohibited by the plant's Technical Specifications (TS) as specified in 10 CFR 50.73(a)(2)(i)(B).

Specifically, at approximately 1032 MST on August 5, 1996, Palo Verde Unit 2 was in Mode 1 (POWER OPERATION) at approximately 100 percent power when a momentary entry into Technical Specification Limiting Condition of Operation (TS LCO) 3.0.3 was made by Control Room personnel (utility-licensed operators) following a determination that the ACTION statements for TS 3.5.2 and 3.6.2.1 had not been met with both trains of the Safety Injection System (SI) (BP, BQ) and Containment Spray System (CS) (BP) inoperable in Mode 1.

**2. EVENT DESCRIPTION:**

Prior to the TS LCO 3.0.3 entry, at approximately 0952 MST on August 5, 1996, Control Room personnel entered TS LCO ACTIONS 3.5.2.a, 3.6.2.1 and 3.7.11.a when Train A CS was placed on full flow recirculation to the Refueling Water Tank (RWT) (BP) for mixing and while performing a Post Accident Sampling (PASS) surveillance test. TS LCO 3.5.2 ACTION A, Modes 1 through 3, states that with one ECCS subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. TS LCO 3.6.2.1 ACTION statement, Modes 1 through 4, states that with one CS system inoperable, restore the inoperable system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours; restore the inoperable system to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours.

At approximately 1032 MST, Control Room personnel entered and exited various applicable TS LCO ACTIONS when the local disconnect for the Train B Essential Chilled Water System (ECWS) (KM) was momentarily opened, then reclosed to allow the starting of the circulating water pump for weekly chemistry sampling of the ECWS. Approved plant procedures directed Control Room personnel to declare the associated Train of ECWS inoperable when the disconnect switch at the essential chiller auxiliary power panel is opened. Additionally, the site's use of TS requires that systems supported by the ECWS also be declared inoperable.

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TEXT      Following a review of plant conditions and in the process of making a log entry the Control Room Supervisor (CRS) realized that both trains of SI and CS had been inoperable for approximately 20 seconds while the disconnect was opened. Since TS LCO 3.5.2 and 3.6.2.1 do not include an ACTION statement for both trains of SI and CS being inoperable in Modes 1 through 3 and 4 (respectively), a condition warranting a TS LCO 3.0.3 entry had occurred. At approximately 1630 MST, Control Room personnel exited TS LCOs 3.5.2, 3.6.2.1 and 3.7.11 following the completion of mixing the RWT and PASS procedure.

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

The SI system is the emergency core cooling system for Palo Verde Nuclear Generating Station (PVNGS). The SI system consists of three distinct subsystems:

1. High Pressure Safety Injection (HPSI), Low Pressure Safety Injection (LPSI) and the Safety Injection Tanks (SITs)
2. Shutdown Cooling (SDC), and
3. Containment Spray (CS) (which includes iodine removal)

The relationship between the systems is that all are used for some phase of plant cooldown on a loss of coolant accident (LOCA). The SI system is the first system to respond to this condition by injecting borated water into the Reactor Coolant System (RCS) by means of SI pumps and/or SITs. The SDC supplements other heat rejection equipment to reduce temperature in post shutdown periods to the refueling temperature. The CS system introduces borated water into the containment atmosphere to reduce containment pressure and temperature in the event of a pipe rupture and removes iodine for the containment atmosphere.

During this event the Auxiliary Operator (AO) (utility non-licensed operator) was in constant communications with the control room and had physical contact with and control of the disconnect switch for the twenty seconds that the switch was opened. Therefore, the AO would have immediately been available to close the disconnect switch had a condition occurred requiring an automatic actuation of the system.

Following an Engineered Safety Features Actuation Signal (ESFAS) (JE) the required Class 1E loads will be started through a solid-state sequencer. The load sequencer functions to start the required Class 1E loads in programmed time increments. The ECWS is the last component in this sequence that will be automatically loaded, in approximately 30 seconds.

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TEXT

LER 528/88-017-01 identified a condition where both Essential Chillers (EC) (KM) were inoperable for approximately 9 days due to valve misalignment. Calculations performed for this event showed that the heat load in the affected rooms would not be a concern for approximately 10 minutes for a Loss of Coolant Accident and 33 minutes for a High Energy Line Break. Therefore, had a condition occurred requiring an automatic actuation of the system, the equipment cooled by the ECWS would have perform their intended functions.

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

## CAUSE OF THE EVENT:

An independent evaluation of this event is being conducted in accordance with the APS Corrective Action Program. As part of the investigation, a human performance evaluation (HPES) is being performed. While the evaluation for the event has not determined a root cause to date, an apparent cause of the event was inattention to detail. (SALP Cause Code A: Personnel Error)

- The CRS did not recognize that opening the disconnect switch for the Train B ECWS would make both the LPSI and CS systems inoperable when permission to cycle the switch was given.
- The ECWS was not designed recognizing the need to start the circulating water pump without running the entire system or disabling the chiller.
- An opportunity was missed to resolve this issue during the investigation of a similar situation reported in LER 529/94-007-00.

If information is developed which could affect the reader's understanding or perception of this event, a supplement to this report will be submitted.

No unusual characteristics of the work location (e.g., noise, heat, or poor lighting) directly contributed to this event. There were no procedural errors which contributed to this event.





# LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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TEXT

5. STRUCTURE, SYSTEM, OR COMPONENT INFORMATION:

At approximately 0952 MST, the Train A SI and CS systems were removed from service for pre-planned mixing of the RWT and surveillance testing. At approximately 1032 MST, Train B ECWS was momentarily declared inoperable rendering Train B SI and CS inoperable. However, there were no component or system failures involved in this event. No failures of components with multiple functions were involved. No failures that rendered a train of safety system inoperable were involved. There were no safety system responses and none were required.

6. CORRECTIVE ACTIONS TO PREVENT RECURRENCE:

On August 12, 1996, a letter was issued in all three Units explaining this condition. The responsible CRS received appropriate counseling.

Actions to prevent recurrence that are developed based on the results of the investigation will be tracked by APS' Commitment Action Tracking System (CATS). If the evaluation results differ from this determination or if information is developed which would affect the readers understanding or perception of this event, a supplement to this report will be submitted.

7. PREVIOUS SIMILAR EVENTS:

A similar event to this condition has been reported pursuant to 10 CFR 50.73 by LER 529/94-007-00, dated December 21, 1994. This LER reported a condition where TS LCO 3.0.3 was entered because both trains of the Control Room Essential Filtration System were momentarily made inoperable while weekly chemistry sampling was being performed on the Train B ECWS.

