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FACIL:STN-50-529 Palo Verde Nuclear Station, Unit 2, Arizona Publi 05000529
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RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 94-003-00:on 940927,startup channel high neutron flux alarm inoperable.Caused by personnel error.CRS & reactor operator will received counseling.W/941021 ltr.

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NOTES:Standardized plant. 05000529

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Arizona Public Service Company
PALO VERDE NUCLEAR GENERATING STATION
P.O. BOX 52034 • PHOENIX, ARIZONA 85072-2034

192-00909-JML/BAG/KR
October 21, 1994

JAMES M. LEVINE
VICE PRESIDENT
NUCLEAR PRODUCTION

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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Washington, D.C. 20555

Dear Sirs:

Subject: **Palo Verde Nuclear Generating Station (PVNGS)**
Unit 2
Docket No. STN 50-529 (License No. NPF-51)
Licensee Event Report 94-003-00
File: 94-020-404

Attached please find Licensee Event Report (LER) 94-003-00 prepared and submitted pursuant to 10CFR50.73. This LER reports a missed Technical Specification Limiting Condition for Operation ACTION requirement for monitoring reactor coolant system boron concentration with one startup channel high neutron flux alarm inoperable.

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,

James M. Levine

JML/BAG/KR/pv

Attachment

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

IE22
1/1

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Palo Verde Unit 2	0 5 0 0 0 5 2 9	1 OF 0 4

TITLE (4)

Missed TS LCO ACTION for Monitoring Reactor Coolant System Boron Concentration

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 9	2 7	9 4	9 4	- 0 0 3	- 0 0	1 0	2 1	9 4	N/A	0 5 0 0 0

OPERATING MODE (9)	5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL(10)	0	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 below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Burton A. Grabo, Section Leader, Nuclear 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 September 27, 1994, at approximately 1952 MST, Palo Verde Unit 2 was in Mode 5 (COLD SHUTDOWN), when the oncoming night shift Control Room personnel determined that the performance of the TS LCO 3.1.2.7 ACTION statement was required with one startup channel high neutron flux alarm inoperable and that it had been missed by the day shift Control Room personnel. TS LCO 3.1.2.7 ACTION a.1 states that at the time the alarm is determined to be inoperable and at subsequent applicable monitoring frequencies (i.e., every two hours), the reactor coolant system (RCS) boron concentration shall be determined by either boronometer or RCS sampling. The appropriate surveillance procedure was subsequently performed to comply with the TS LCO 3.1.2.7 ACTION statement.

An investigation of the event determined that the cause of the missed TS LCO ACTION requirement was attributed to personnel error by Control Room personnel. The Control Room personnel received appropriate counseling.

There have been no previous similar events reported pursuant to 10CFR50.73 in the last three years.

1. REPORTING REQUIREMENT:

This LER 529/94-003-00 is being written to report an event that resulted in a condition prohibited by the plant's Technical Specifications (TS) as specified in 10 CFR 50.73(a)(2)(i)(B).

Specifically, between the hours of 0854 MST and 1630 MST on September 27, 1994, Palo Verde Unit 2 was in Mode 5 (COLD SHUTDOWN) with one startup channel high neutron flux alarm (IG) inoperable when the ACTION requirements of TS Limiting Condition for Operation (LCO) 3.1.2.7 BORON DILUTION ALARMS (IG) were not performed. TS LCO 3.1.2.7 ACTION a.1 states that at the time the alarm is determined to be inoperable and at subsequent applicable monitoring frequencies (i.e., every two hours), the reactor coolant system (RCS) (AB) boron concentration shall be determined by either boronometer or RCS sampling.

Unit 2 was in a scheduled Mid-Cycle outage with the RCS at approximately 98 degrees Fahrenheit and at atmospheric pressure.

2. EVENT DESCRIPTION:

On the morning of September 27, 1994, Instrumentation and Control personnel (utility, non-licensed) requested permission from Control Room personnel (utility, licensed) to calibrate the excore startup channel drawers. Prior to declaring startup channel 1 high neutron flux alarm inoperable, the Control Room Supervisor (CRS) reviewed the applicable TS LCO 3.1.2.7, verified the current RCS boron concentration with the boronometer and the most recent RCS sample, and verified that the startup channel 2 alarm was operable. In addition, a reactor operator performed the shiftly surveillance requirement for startup channel and boron dilution alarm channel checks. The startup channel 1 high neutron flux alarm was declared inoperable and TS LCO 3.1.2.7 ACTION a was entered at approximately 0854 MST. Following completion of the calibration, a channel check was performed and startup channel 1 high neutron flux alarm was declared operable and TS LCO 3.1.2.7 ACTION a was exited at approximately 1630 MST.

At approximately 1952 MST, following shift turnover and a review of day shift activities, the oncoming night shift Control Room personnel determined that the performance of the TS LCO 3.1.2.7 ACTION statement was required with one startup channel high neutron flux alarm inoperable and that it had been missed by the day shift Control Room personnel. The appropriate surveillance procedure was subsequently performed to comply with the TS LCO 3.1.2.7 ACTION statement.

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

Following the discovery of the event, Control Room personnel verified, per the boronometer trend recorder, that the boron concentration had not changed during the period that the startup channel 1 high neutron flux alarm had been inoperable (i.e., no dilution event was identified). 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 health and safety of the public.

4. CAUSE OF THE EVENT:

An independent investigation of this event was conducted in accordance with the APS Incident Investigation Program. As part of the investigation, a human performance evaluation was performed. The evaluation determined that the primary causal factor was inappropriate work practices in that the CRS reviewed the TS LCO 3.1.2.7 but did not identify nor perform the appropriate TS LCO ACTION requirements (SALP Cause Code A: Personnel Error). In addition, the reactor operator who performed the shiftly surveillance requirement for startup channel and boron dilution alarm channel checks did not refer to the complete surveillance procedure but only used the data sheets available in the shiftly surveillance package. The complete surveillance procedure included guidance to perform the appropriate boron concentration monitoring if a startup channel or boron dilution alarm is inoperable. No unusual characteristics of the work location (e.g., noise, heat, poor lighting) directly contributed to this event. There were no procedural errors which contributed to this event.

5. STRUCTURES, SYSTEMS, OR COMPONENTS INFORMATION:

The startup channel high neutron flux alarm was declared inoperable to perform channel calibrations. No other 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. There were no safety system responses and none were necessary.

6. CORRECTIVE ACTIONS TO PREVENT RECURRENCE:

A night order was issued in Units 1, 2, and 3 reinforcing the expectation that the entire procedure be used when performing the shiftly surveillance requirements with data sheets. The human performance evaluation determined that the incomplete review of required TS LCO ACTIONs by the CRS was an isolated case of personnel error. The CRS and reactor operator received appropriate counseling.

TEXT

7. PREVIOUS SIMILAR EVENTS:

Although previous similar events involving inappropriate work practices by Control Room personnel have been reported, no events have been reported pursuant to 10CFR50.73 which involved the same cause and sequence of events. The human performance evaluation determined that the incomplete review of required TS LCO ACTIONs by the CRS was an isolated case of personnel error. Therefore, the corrective actions for any previous event would not have prevented this event.