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FACIL:STN-50-530 Palo Verde Nuclear Station, Unit 3, Arizona Publi 05000530
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LEVINE,J.M. Arizona Public Service Co. (formerly Arizona Nuclear Power
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 95-001-00:on 950412,leak identified through cracked weld in piping near charging pump suction drain valve.Caused by defective weld.Pump weld repaired & returned to svc.W/950505 ltr.

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TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:Standardized plant. 05000530

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PRIORITY 1 DOCUMENT

A0

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

192-00930-JML/BAG/BE
May 5, 1995

JAMES M. LEVINE
VICE PRESIDENT
NUCLEAR PRODUCTION

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

Subject: **Palo Verde Nuclear Generating Station (PVNGS)**
Unit 3
Docket Nos. STN 50-530
License Nos. NPF-74
Licensee Event Report 95-001-00

Attached please find Licensee Event Report (LER) 95-001-00 prepared and submitted pursuant to 10CFR50.73. This LER reports a Technical Specification Limiting Condition for Operation (TS LCO) 3.0.3 entry until TS LCO 3.4.9 ACTION b was met by isolating the A charging pump. 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/BE/pv

Attachment

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

170040

IE22
1/1

LICENSEE EVENT REPORT (LER)

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

TITLE (4)

TS LCO 3.0.3 Entry Until TS LCO 3.4.9 ACTION B Was Met By Isolating The A Charging Pump

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	1 2	9 5	9 5	- 0 0 1	- 0 0	0 5	0 5	9 5	N/A	0 5 0 0 0

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)					
POWER LEVEL(10)	1 0 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)(vi)	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
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	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	
B	C B	P S F		N							

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 12, 1995, at approximately 1102 MST, Palo Verde Unit 3 was in Mode 1 (POWER OPERATION) operating at approximately 100 percent power when a Unit 3 Auxiliary Operator identified a leak through a cracked weld in piping near the A charging pump suction drain valve. Control Room personnel entered Technical Specification Limiting Condition for Operation (TS LCO) 3.0.3 following a determination that the ACTION statement b for TS LCO 3.4.9 could not be met with Reactor Coolant System (RCS) temperature greater than 210 degrees Fahrenheit. At approximately 1111 MST, the A charging pump was isolated, TS LCO 3.4.9 Action b was complied with and TS LCO 3.0.3 was exited.

The weld failure was determined to be an isolated failure. The cause of the failure was a defective weld, most likely from original fabrication. The failure was accelerated because of material fatigue as a result of the vibration of the charging pump suction line. Walkdowns of the remaining charging pumps in Units 1, 2, and 3 were completed and did not identify any material nonconformance or leakage.

On April 18, 1995, the Unit 3 A charging pump was repaired and returned to service.

A previous similar event was reported pursuant to 10CFR50.73 in LER 530/94-004-00, dated June 27, 1994.

TEXT

1. REPORTING REQUIREMENT:

This LER 530/95-001 is being written to report an event that resulted in the power plant being in a condition prohibited by the plant's Technical Specifications (TS) in accordance with 10CFR50.73(a)(2)(i)(B).

Specifically, at approximately 1102 MST on April 12, 1995, Palo Verde Unit 3 was in Mode 1 (POWER OPERATION), operating at approximately 100 percent power, when a momentary entry into TS Limiting Condition for Operation (LCO) 3.0.3 was made by Control Room personnel (utility, licensed) following a determination that the ACTION statement for TS LCO 3.4.9 could not be met because of the identification of a leak through a cracked weld in piping near the A charging pump (CB) suction drain valve 3JCHAVX083.

TS LCO 3.4.9 requires that the structural integrity of ASME Code Class 1, 2, and 3 components shall be maintained in accordance with Specification 4.4.9 during all Modes. With the structural integrity of any ASME Code Class 2 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) prior to increasing the Reactor Coolant System (AB) temperature above 210 degrees Fahrenheit (F).

2. EVENT DESCRIPTION:

On April 12, 1995, during area rounds, a Unit 3 Auxiliary Operator (utility, nonlicensed) discovered a leak through a cracked weld in piping near the A charging pump suction drain valve. Upon reviewing TS, Control Room personnel (utility, licensed) identified that TS LCO 3.4.9 Action b was not met. The Control Room personnel entered TS LCO 3.0.3 at 1102 MST until the A charging pump could be isolated. The A charging pump was isolated at 1111 MST, TS LCO 3.0.3 was exited and compliance with TS LCO 3.4.9 ACTION b was achieved (i.e., isolate the affected component prior to increasing the Reactor Coolant System temperature above 210 degrees F).

TEXT

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

Three charging pumps (CHA-P01, CHB-P01 and CHE-P01) supply Reactor Coolant System (RCS) makeup and RCP seal injection flow. The pumps are positive displacement pumps and each pump has a design capacity of 44 gallons per minute (gpm) at a discharge head of 2470 pounds per square inch (psi). The Design Basis requires that two charging pumps be supplied from a separate emergency power bus, and, that the third charging pump be capable of receiving power from either emergency power bus. Charging pump CHE-P01 is designed to be powered from either emergency power bus.

TS LCO 3.1.2.4 requires that at least two charging pumps be OPERABLE in MODES 1 through 4 (POWER OPERATION to HOT SHUTDOWN). At the time of discovery all three charging pumps were operable. Therefore, the removal of the A charging pump had no impact on plant operations and no additional TS LCOs needed to be entered as a result of this condition.

The 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 health and safety of the public.

4. CAUSE OF THE EVENT:

An independent investigation of this event was conducted in accordance with the APS Corrective Action Program. On April 12, 1995, a visual examination of the welds on piping near the A charging pump suction drain valve was performed. No obvious faults were identified, although each weld was observed to have small irregularities.

TEXT

A preliminary evaluation, based on testing, visual examination, and restoration, has determined that the apparent cause was a defective weld, most likely from original fabrication (SALP Cause Code B: Design, Manufacturing, Installation Error). The evaluation determined that the defective weld failure was accelerated by the vibrational forces of the charging pump suction line from pump operation. Pulsations from each charging pump occur at approximately 600 and 1200 pulses per minute.

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

5. STRUCTURES, SYSTEMS, OR COMPONENTS INFORMATION:

Although there were no structures, systems, or components that were inoperable at the start of the event which contributed to this event, the apparent cause of the leakage was concluded to be due to a defective weld, most likely from original fabrication. The welds attached a valve to the suction line of the charging pump for the purpose of providing a drain for the line.

No additional structures, systems, or components were inoperable at the start of the event which contributed to this event. There were no additional component or system failures involved; therefore, no safety systems were rendered inoperable. No components with multiple functions were involved. There were no safety system actuations and none were required.

6. CORRECTIVE ACTIONS TO PREVENT RECURRENCE:

On April 12, 1995, the A charging pump was isolated to comply with TS LCO 3.4.9 and TS LCO 3.0.3 was exited. Visual inspections of the B (CHB-P01) and E (CHE-P01) charging pumps did not identify any material nonconformance or leakage.

TEXT

On April 13, 1995, visual inspections were completed on all three charging pumps in Units 1 and 2 and no weld material nonconformance was detected.

On April 18, 1995, the Unit 3 A charging pump was repaired and returned to service. Both the piping and the weld were designed and installed per the applicable requirements of the ASME Boiler and Pressure Vessel Code. Sufficient nondestructive examinations were performed before, during and after the repair process to provide assurance that the pressure boundary was restored to within its original structural limits. Since all ASME Code requirements were met for stresses and fatigue allowables over a forty year design life, the repair is considered to be permanent.

7. PREVIOUS SIMILAR EVENTS:

A similar event to this condition was reported pursuant to 10CFR50.73 by LER 530/94-004-00, dated June 27, 1994. That LER reported conditions where two TS LCO 3.0.3 entries were made until TS LCO 3.4.9 ACTION b was met. This LER identified weld failures for a sample nozzle and instrument nozzle on steam generator 2 (SG-2) (AB).

Corrective actions taken for the previous event would not have prevented this event.