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ACCESSION NBR:8801040584 DOC.DATE: 87/12/29 NOTARIZED: NO DOCKET #
FACIL:STN-50-529 Palo Verde Nuclear Station, Unit 2, Arizona Publi 05000529
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SUBJECT: LER 87-021-00:on 871202,PASS incorrectly declared operable.
W/8 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 5
TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:Standardized plant. 05000529

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	LICITRA,E	1	1	DAVIS,M	1	1
INTERNAL:	ACRS MICHELSON	1	1	ACRS MOELLER	2	2
	AEOD/DOA	1	1	AEOD/DSP/NAS	1	1
	AEOD/DSP/ROAB	2	2	AEOD/DSP/TPAB	1	1
	ARM/DCTS/DAB	1	1	DEDRO	1	1
	NRR/DEST/ADS	1	0	NRR/DEST/CEB	1	1
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	NRR/DREP/RAB	1	1	NRR/DREP/RPB	2	2
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	REG FILE 02	1	1	RES DEPY GI	1	1
	RES TELFORD,J	1	1	RES/DE/EIB	1	1
	RGN5 FILE 01	1	1			
EXTERNAL:	EG&G GROH,M	5	5	FORD BLDG HOY,A	1	1
	H ST LOBBY WARD	1	1	LPDR	1	1
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NRC Form 366
(9 83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

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)
PASS Incorrectly Declared Operable

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 NUMBER(S)
									N/A	0 5 0 0 0
1 2	0 2	8 7	8 7	0 2 1	0 0				N/A	0 5 0 0 0

OPERATING MODE (9)	1
POWER LEVEL (10)	1 0 0

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

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)	X 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)	Special Report 2-SR-87-030
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
John E. Malik, (Acting) Compliance Lead	AREA CODE 6 0 2 — 3 9 3 - 3 5 2 7

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
X YES (If yes, complete EXPECTED SUBMISSION DATE)	NO		0 2	2 9	8 8

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

At approximately 1440 MST on December 2, 1987 the Post-Accident Sampling System (PASS)(IP) was declared inoperable following discovery of an improper valve lineup. The lineup was performed on November 7, 1987 to permit installation of two PASS check valves (IP)(V). Work was suspended and the PASS declared operable at approximately 1220 MST on November 9, 1987. Based on subsequent investigation, the PASS was determined to have been inoperable since approximately 0405 MST, November 7, 1987, and to have exceeded the 7 day limit for inoperability per Technical Specification (T.S.) 3.3.3.1 at 0405 MST on November 14, 1987. The Preplanned Alternate Sampling Program (PASP) was initiated at 1420 MST on December 4, 1987, therefore Palo Verde Unit 2 operated for approximately 20 days in a condition contrary to T.S. 3.3.3.1. As immediate corrective action the PASS was restored, tested for operability, and declared operable at 1900 MST on December 6, 1987.

The root cause of this event was determined to be personnel error contrary to approved procedures. This event remains under investigation. Necessary corrective actions required to prevent recurrence will be provided in a supplement upon completion of the investigation and evaluation of the results.

This LER also provides a special report in accordance with T.S. 3.3.3.1 ACTION 28(2) and 6.9.2. No similar events have been identified.

IE22
1/1

NRC Form 366

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Palo Verde Unit 2	0 5 0 0 0 5 2 9	8 7	— 0 2 1	— 0 0	0 2 OF 0 4

TEXT (If more space is required, use additional NRC Form 366A's) (17)

This LER also provides a special report, submitted in accordance with Technical Specification (T.S.) 3.3.3.1 ACTION 28(2) and 6.9.2.

At approximately 1440 MST on December 2, 1987, Palo Verde Unit 2 was in Mode 1 (POWER OPERATION) at 100 percent power when the Post-Accident Sampling System (PASS)(IP) was declared inoperable due to the discovery of an improper valve (IP)(V) lineup which could have prevented the collection of required samples. This condition was identified by chemistry personnel (utility, non-licensed) on December 1, 1987, during the conduct of the PASS monthly functional surveillance test. The valve lineup had originally been performed under an approved clearance on November 7, 1987 to permit the installation of two PASS check valves (IP)(V). The work was suspended prior to completion pending the receipt of required parts. The PASS was declared operable at approximately 1220 MST on November 9, 1987. It was later determined that the affected valves had not been restored and were left in the closed position. Some of the affected valves are located in the PASS pit of the 70 ft. elevation of the Auxiliary Building (NF) and would have been inaccessible under postulated accident conditions. Based on this information the PASS was determined to have been inoperable since approximately 0405 MST on November 7, 1987.

Technical Specification (T.S.) 3.3.3.1 ACTION 28(1) requires that the PASS be restored to operable status within 7 days or that the Preplanned Alternate Sampling Program (PASP) be initiated. The 7 day limit for inoperability was exceeded at approximately 0405 MST on November 14, 1987. The PASP was initiated at 1420 MST on December 4, 1987, therefore Palo Verde Unit 2 operated for approximately 20 days in a condition contrary to T.S. 3.3.3.1.

At approximately 1030 MST on December 1, 1987, chemistry personnel (utility, non-licensed) notified Control Room personnel (utility licensed) that procedure 74ST-2SS04, "PASS Functional Test," would be performed. During the performance of the test the required sample flow could not be established and the chemistry technician (utility, non-licensed) commenced a system valve lineup verification. The technician found that the discharge valve for the backup nitrogen supply tanks in the gas cylinder storage area of the chemistry hot lab was "red-tagged" shut. The Control Room personnel (utility, licensed) were informed, and they determined that the tag was associated with a clearance that had been cancelled on November 9, 1987.

After notifying Control Room personnel, the chemistry technician removed the tag and opened the valve. The surveillance test was again commenced, however, the required sample flow still could not be established. The technician then determined that the other valves affected by the clearance, although the "red tags" had been removed, had not been properly restored following the work completed on November 9, 1987.

The chemistry technician performed a valve lineup in accordance with procedure 74OP-2SS01, "Operation of the Post-Accident Sampling System," informed chemistry management (utility, non-licensed) and resumed the surveillance testing. The chemistry manager (utility, non-licensed) determined that the

event described above had rendered the PASS inoperable as of 0405 MST on November 7, 1987, when the system was tagged out for the check valve installation, and notified the Control Room. Upon notification, Control Room personnel (utility, licensed) documented the PASS inoperability at approximately 1440 MST, December 2, 1987.

Subsequent investigation revealed that the clearance had been issued to permit the installation of two check valves in accordance with an approved work document. This work was performed utilizing "Work to Commence" Field Change Requests (FCRs) as work order attachments. One of the check valves (2J-SSN-CV-073) was installed, but the installation of the second check valve was delayed for parts. It was determined that PASS could be operated without the second check valve installed, therefore, the decision was made to suspend the work and return the PASS to an operable status until the parts were available and the work could be completed.

Prior to declaring the PASS operable, the assistant shift supervisor (utility, licensed) consulted with the system engineer (utility, non-licensed) regarding necessary retest requirements for the check valve that was installed. The work document had specified that an operational check be performed upon installation of both check valves, however, the systems engineer determined that no retest was required for the check valve that was installed since it was located on an open ended drain line. There is no specific procedural guidance provided that requires particular retest requirements for each maintenance/modification activity. The guidance provided is considered adequate, however, when utilized by a trained and knowledgeable engineer. Although the engineer made an error in judgement when he did not specify the appropriate retest requirements for the installed check valve, no procedural controls were violated and it is not certain that a post-modification retest of the installed valve would have identified the improper valve lineup. Based on the system engineer's determination, the assistant shift supervisor did not require a retest.

The assistant shift supervisor directed the chemistry personnel to remove the issued tags for the clearance, but did not direct a restoration of the affected equipment.

The chemistry technician (utility, non-licensed) completed removing the tags at approximately 0945 MST on November 9, 1987, and returned the tag assignment sheet and the pulled tags to the assistant shift supervisor. As previously discussed, it was later found that one of the tags had not been removed. This is considered a cognitive personnel error by the responsible chemistry technician (utility, non-licensed) which was contrary to an approved procedure. The assistant shift supervisor then cancelled the clearance and declared the PASS operable at approximately 1220 MST on November 9, 1987.

Approved administrative controls require that the shift/assistant shift supervisor direct and verify the proper restoration of a system prior to removing a clearance and declaring the system operable. In this event these procedural controls were not followed, therefore, this cognitive personnel error by the assistant shift supervisor (utility, licensed) was contrary to an approved procedure and contributed to the event. This determination is based on the fact that, if the procedural controls had been implemented, the error committed by the chemistry technician and the lack of proper system restoration would have been identified prior to returning the system to an operable status.

As corrective action, Control Room personnel directed that the PASP be initiated and a work order amendment implemented to functionally test the installed check valve. The appropriate functional and surveillance tests were completed, and at 1900 MST on December 6, 1987, the PASS was declared operable. The total elapsed time from the discovery of the event to the restoration of the PASS to an operable status was approximately 4 days, 4 hours and 20 minutes. The overall duration of this event was approximately 22 days.

As interim corrective action to prevent recurrence the Unit 2 Plant Manager directed that, in addition to Operations, all Unit 2 departments having jurisdiction over plant equipment shall comply with the additional guidelines imposed by Operation's Department Guideline (ODG) 17. As a prudent action it has been decided to implement this corrective action in Units 1 and 3.

As discussed above, the root cause of this event is considered to be cognitive personnel errors contrary to approved procedures by both control room personnel and the chemistry technician, potentially contributed to by the judgemental error of the system engineer. Initial evaluation has identified that the existing procedural controls, although adequate, may be cumbersome when used and may be considered a contributory factor to the overall sequence of this event. As a result, an investigation of the entire event has been initiated. Any necessary corrective actions to prevent recurrence will be based upon the results of this investigation, and will apply, as appropriate, to Palo Verde Units 1 and 3, in addition to Unit 2. Any change in the determination of the root cause and the necessary corrective actions initiated as a result of the evaluation will be provided in a supplement to this report.

There were no structures, systems or components inoperable at the start of the event, other than those described above, that contributed to the event. There were no automatically or manually initiated safety system responses. There were no unusual characteristics of the work location that contributed to the event. There were no safety implications associated with this event because of the ability to implement the Preplanned Alternate Sampling Program.

No similar events involving failure to restore the PASS to operability following the completion of work activities have been reported.

Arizona Nuclear Power Project
P.O. BOX 52034 • PHOENIX, ARIZONA 85072-2034

192-00329-JGH/JEM/KCP
December 29, 1987

NRC Document Control Desk
Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Sirs:

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Unit 2
Docket No. STN 50-529
Licensee Event Report 87-021-00
File: 87-020-404

Attached please find Licensee Event Report (LER) No. 87-021-00 prepared and submitted pursuant to 10CFR 50.73. In accordance with 10CFR 50.73(d), we are herewith forwarding a copy of the LER to the Regional Administrator of the Region V office.

If you have any questions, please contact J. E. Malik, (Acting) Compliance Lead at (602) 393-3527.

Very truly yours,

J. G. Haynes

J. G. Haynes
Vice President
Nuclear Production

JGH/JEM/KCP/kj

Attachment

cc: O. M. DeMichele (all w/a)
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J. R. Ball
R. C. Sorenson
E. A. Licitra
A. C. Gehr
INPO Records Center

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