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FACIL:STN-50-528 Palo Verde Nuclear Station, Unit 1, Arizona Publi 05000528
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SUBJECT: LER 84-001-00:on 841231,fire-rated assemblies not inspected & seals missing.

W/8 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 6
TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:Standardized plant. 05000528

	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
	PD5 LA	1	1	PD5 PD	1	1
	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 7E	1	0	NRR/DEST/CEB 8H	1	1
	NRR/DEST/ESB 8D	1	1	NRR/DEST/ICSB 7	1	1
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	NRR/DEST/SGB 8D	1	1	NRR/DLPQ/HFB 10	1	1
	NRR/DLPQ/QAB 10	1	1	NRR/DOEA/EAB 11	1	1
	NRR/DREP/RAB 10	1	1	NRR/DREP/RPB 10	2	2
	NRR/DRIS/SIB 9A	1	1	NUDOCS-ABSTRACT	1	1
	REG FILE 02	1	1	RES TELFORD,J	1	1
	RES/DSIR DEPY	1	1	RES/DSIR/EIB	1	1
	RGN5 FILE 01	1	1			
EXTERNAL:	EG&G WILLIAMS,S	4	4	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 1	0 5 0 0 0 5 2 8	1 OF 0 5

TITLE (4)
Fire-Rated Assemblies Not Inspected and Seals Missing

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)
									Palo Verde Unit 2	0 5 0 0 0 5 2 9
1 2	3 1	8 4	8 4	0 0 1	0 0	0 7	1 4	8 8	Palo Verde Unit 3	0 5 0 0 0 5 3 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)(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)		License Condition 2.C.(7)
		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
	AREA CODE
Timothy D. Shriver, Compliance Manager	6 0 2 3 9 3 - 2 5 2 1

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
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

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

On June 15, 1988, Palo Verde Units 1 and 3 were in Mode 1 (POWER OPERATION) at approximately 100 percent power and Unit 2 was in Mode 3 (HOT STANDBY) in the process of heating up after completion of a refueling outage.

An Engineering Evaluation Request (EER) was dispositioned identifying fire-rated assemblies that had not been previously included in the fire impairment procedure. Because of this omission the seals were not surveillance tested as required by the Technical Specifications in effect at that time.

On June 24th and 25th, 1988, the identified fire-rated assemblies were walked down and inspected. Eight impaired penetration seals and fourteen unsealed penetrations were found. This is in violation of license condition 2.C(7)(Fire Protection Program).

As immediate corrective action, compensatory hourly fire watches were initiated. EER's will be dispositioned specifying the proper rework of the fire-rated assemblies.

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

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

I. DESCRIPTION OF WHAT OCCURRED

A. Initial Conditions:

On June 15, 1988, Palo Verde Units 1 and 3 were in Mode 1 (POWER OPERATION) at approximately 100 percent power and Unit 2 was in Mode 3 (HOT STANDBY) in the process of heating up after completion of a refueling outage.

B. Reportable Event Description (Including Dates and Approximate Times of Major Occurrences):

Event Classification:

Violation of license condition 2.C(7) Fire Protection Program. Any operation or condition prohibited by the Plant's Technical Specifications

On June 15, 1988, an Engineering Evaluation Request (EER) was dispositioned identifying fire-rated assemblies that were not included in the Station Manual Procedure 14AC-0ZZ01 (Fire System Impairment). The fire-rated assemblies identified in the EER were walked down and inspected on June 24th and 25th, 1988. Eight impaired penetration seals and fourteen unsealed penetrations were found. This is in violation of license condition 2.C(7)(Fire Protection Program).

The impaired penetration seals were located in the following areas. In Unit 1, two penetration seals were located on the 120 foot elevation of the Control Building, two penetration seals were located on the 74 foot elevation of the Control Building, and one seal was located in the Condensate Storage Tank Room. In Unit 2, one penetration seal was located on the 120 foot elevation of the Control Building. In Unit 3, one penetration seal was located on the 120 foot elevation of the Control Building and one penetration seal was located on the 40 foot elevation of the Auxiliary Building.

The unsealed penetrations were located in the following areas. In Unit 1, one penetration was located on the 120 foot elevation of the Main Steam Support Structure (MSSS), one penetration was located on the 140 foot elevation of the MSSS, and one penetration was located in the Spray Pond Pump House. In Unit 2, two penetrations were located on the 110 foot elevation of the MSSS, two penetrations were located on the 140 foot elevation of the MSSS, two penetrations were located on the 118 foot elevation of the MSSS, and one penetration was located in the Spray Pond Pump House. In Unit 3, two

penetrations were located on the 120 foot elevation of the MSSS and one penetration was located on the 120 foot elevation of the MSSS, and one penetration was located in the Spray Pond Pump House.

At approximately 1448 MST on June 25, 1988, the NRC Operations Center was notified of this event.

Prior to April 8, 1987, the fire-rated assemblies were included in the Unit 1 and 2 Technical Specification 3.7.12. At that time surveillance testing was required, however, the fire-rated assemblies were not inspected as required by Technical Specification 3.7.12.

On December 31, 1984, the Unit 1 Operating License was issued. On December 9, 1985, the Unit 2 Operating License was issued. On March 25, 1987, the Unit 3 Operating License was issued.

C. Status of structures, systems, or components that were inoperable at the start of the event that contributed to the event:

Other than the penetration seals discussed above, no structures, systems, or components were inoperable at the start of the event that contributed to the event.

D. Cause of each component or system failure, if known:

Not applicable - No component or system failures were involved.

E. Failure mode, mechanism, and effect of each failed component, if known:

Not applicable - no component failures were involved.

F. For failure of components with multiple functions, list of systems or secondary functions that were also affected:

Not applicable - no component failures were involved.

G. For failure that rendered a train of a safety system inoperable, estimated elapsed time from the discovery of the failure until the train was returned to service:

Not applicable - no safety systems were rendered inoperable as a result of this event.

H. Method of discovery of each component or system failure or procedural error:

The procedural error was discovered during a Quality Assurance audit

of the fire protection program. During the audit it was determined that not all fire-rated assemblies were included in the fire protection program and, therefore, not tested as required by the Final Safety Analysis Report (FSAR) section 9.5.1.4. This led to the initiation of an EER which identified the fire-rated assemblies and which initiated the walkdown of the fire-rated assemblies. The walkdown of the fire-rated assemblies identified impaired and missing seals as discussed in section B.

I. Cause of event:

The cause of the event was cognitive personnel error in that the fire protection supervisor (utility, non-licensed) who was responsible for the implementation of the site fire protection program, did not ensure that all the fire-rated assemblies were identified as required by the FSAR.

The cause of the unsealed penetration seals was cognitive personnel error on the part of the plant constructor (contractor, non-licensed) in that there was inadequate design and modification review.

The root cause for the initial design and installation of the seals is indeterminate. The procedural controls in place during that time frame should have been sufficient to prevent the occurrence of this event. However, ANPP believes that the design and installation errors should have been identified and corrected during the development and initial implementation of the surveillance test procedure. The omission of the seals from the procedure resulted in the failure to identify the errors and obtain the appropriate corrective actions. Although the responsible individual is no longer employed by ANPP, interviews with current employees indicate that the omissions were based upon a misinterpretation of the requirements by the responsible supervisor.

Based upon the nature of the event it does not appear that the characteristics of the work locations adversely contributed to the event. As previously discussed the initial design and installation errors associated with the seals were contrary to approved instructions and the failure to subsequently identify the errors was a direct result of an error in an approved procedure. Because of the original event date and the unavailability of the personnel involved a precise determination of the root cause has not been made. ANPP believes that this error is isolated to the event described and that the corrective actions implemented are sufficient to prevent recurrence. However, in the event that additional information becomes available that would alter the determination of root cause or associated corrective actions, a supplement to this report will be issued.

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

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

J. Safety System Response:

There were no manually or automatically initiated safety system responses and none were required.

K. Failed Component Information: . . . . . .

Not applicable - no component failures were involved.

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

There have been hourly fire watches in place in all areas except the Spray Pond Pump Houses and the Main Steam Support Structure and the Condensate Transfer Pump House. Fire detection systems were operable or fire watches in place so a fire would be detected and alarmed in sufficient time for proper fire team response. Therefore, the impaired penetration seals posed no threat to the health and safety of the public.

In the case of the wall penetrations not being sealed, the potential did exist for a fire in one room to spread into the redundant safety equipment room which may have adversely affected the ability to achieve and maintain safe shutdown in the event of a fire.

III. CORRECTIVE ACTIONS:

A. Immediate:

Compensatory fire watches were initiated immediately upon identification of impaired penetration seals.

B. Action to Prevent Recurrence:

Fire protection procedure 14AC-0ZZ01 is being revised to include all the fire-rated assemblies that were identified. Appropriate documents will be initiated for rework of all the impaired and missing penetration seals.

IV. PREVIOUS SIMILAR EVENTS:

There were no previous similar events reported in accordance with the requirements of 10CFR50.73.

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

192-00394-JGH/TDS/JEM
July 14, 1988

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

Dear Sirs:

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Unit 1
Docket No. STN 50-528 (License No. NPF-41)
Licensee Event Report 1-84-001-00
File: 88-020-404

Attached please find Licensee Event Report (LER) No. 84-001-00 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 T. D. Shriver, Compliance Manager at (602) 393-2521.

Very truly yours,

JG Haynes

J. G. Haynes
Vice President
Nuclear Production

JGH/TDS/JEM/kj

Attachment

cc: D. B. Karner (all w/a)
E. E. Van Brunt, Jr.
J. B. Martin
T. J. Polich
E. A. Licitra
A. C. Gehr
INPO Records Center

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