

REGULARY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8711300193 DOC. DATE: 87/11/24 NOTARIZED: NO DOCKET #  
 FACIL: STN-50-528 Palo Verde Nuclear Station, Unit 1, Arizona Publi 05000528  
 AUTH. NAME AUTHOR AFFILIATION  
 BRADISH, T. R. Arizona Nuclear Power Project (formerly Arizona Public Serv  
 HAYNES, J. G. Arizona Nuclear Power Project (formerly Arizona Public Serv  
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-026-00: on 871027, automatic actuation of balance of  
 plant ESF occurred due to inadvertent containment purge  
 isolated actuation signal. Caused by personnel error.  
 Responsible individual will be reinstructed. W/871124 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 4  
 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: Standardized plant.

05000528

	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL		RECIPIENT ID CODE/NAME	COPIES LTTR 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	1 0		NRR/DEST/CEB	1 1
	NRR/DEST/ELB	1 1		NRR/DEST/ICSB	1 1
	NRR/DEST/MEB	1 1		NRR/DEST/MTB	1 1
	NRR/DEST/PSB	1 1		NRR/DEST/RSB	1 1
	NRR/DEST/SGB	1 1		NRR/DLPQ/HFB	1 1
	NRR/DLPQ/QAB	1 1		NRR/DOEA/EAB	1 1
	NRR/DREP/RAB	1 1		NRR/DREP/RPB	2 2
	NRR/DRIS/SIB	1 1		NRR/PMAS/ILRB	1 1
	REG FILE 02	1 1		RES DEPY GI	1 1
	RES TEFORD, J	1 1		RES/DE/EIB	1 1
	RGN5 FILE 01	1 1			
EXTERNAL:	EG&G GROH, M	5 5		H ST LOBBY WARD	1 1
	LPDR	1 1		NRC PDR	1 1
	NSIC HARRIS, J	1 1		NSIC MAYS, G	1 1
NOTES:		1 1			



## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Palo Verde Unit 1										DOCKET NUMBER (2) 0 5 0 0 0 5 2 8 1										PAGE (3) 1 OF 0 3									
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TITLE (4) Automatic Actuation of an Engineered Safety Feature Due to Personnel Error																													
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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 N/A												DOCKET NUMBER(S) 0 5 0 0 0											
1 0			2 7			8 7			8 7			0 2			6 0			1 1			2 4			8 7			N/A												0 5 0 0 0											

OPERATING MODE (9) 6										THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)																																							
POWER LEVEL (10) 0 0 0										20.402(b)										20.406(c)										<input checked="" type="checkbox"/> 60.73(a)(2)(iv)										73.71(b)									
										20.406(a)(1)(i)										60.36(c)(1)										60.73(a)(2)(v)										73.71(c)									
										20.406(a)(1)(ii)										60.36(c)(2)										60.73(a)(2)(vi)										OTHER (Specify in Abstract below and in Text, NRC Form 366A)									
										20.406(a)(1)(iii)										60.73(a)(2)(i)										60.73(a)(2)(vii)(A)																			
										20.406(a)(1)(iv)										60.73(a)(2)(ii)										60.73(a)(2)(vii)(B)																			
										20.406(a)(1)(v)										60.73(a)(2)(iii)										60.73(a)(2)(ix)																			

LICENSEE CONTACT FOR THIS LER (12)																													
NAME T. R. Bradish, Compliance Lead																				TELEPHONE NUMBER 6 0 2 3 9 3 - 3 5 3 1									

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)											
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	

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 October 27, 1987 at approximately 0530 MST, Palo Verde Unit 1 was in Mode 6 (REFUELING) when an actuation of the Balance of Plant Engineered Safety Features Actuation System (BOP ESFAS) occurred which was caused by an inadvertent Containment Purge Isolated Actuation Signal (CPIAS). CPIAS also cross tripped a Control Room Essential Filtration Actuation Signal (CREFAS) by design.

The ESF actuation occurred when a Radiation Protection Technician did not take sufficient measures to ensure that CPIAS was placed in bypass prior to modifying a conversion factor for radiation monitoring unit RU-37 (Power Access Purge Area).

The root cause of this event was a cognitive personnel error in that the technician did not ensure that CPIAS was placed in bypass as required by procedural controls. Also, procedural controls did not contain sufficient instructions in a format conducive to operator useability.

To prevent recurrence: the responsible individual will be re-instructed as to the importance of ensuring compliance with procedural requirements training will be conducted to ensure that department personnel are aware of the importance of bypassing radiation monitors prior to changing parameters, and the procedure will be revised.

There have been no similar events which followed the sequence of events described herein.

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## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO 3150-0104

EXPIRES: 8/31/88

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

TEXT (If more space is required, use additional NRC Form 368A's) (17)

On October 27, 1987 at approximately 0530 MST, Palo Verde Unit 1 was in Mode 6 (REFUELING) with the Reactor Coolant System (RCS)(AB) vented to atmosphere at approximately 80°F when a Containment Purge Isolation Actuation Signal (CPIAS) was initiated on Train "A" of the Balance of Plant Engineered Safety Features Actuation System (BOP ESFAS)(JE). The CPIAS was initiated by the Channel "A" Power-Access Purge Area Radiation Monitor (RU-37)(IL)(RI). The Train "A" CPIAS then cross-tripped the Train "B" CPIAS, and the Train "A" and "B" Control Room Essential Filtration Actuation Signals (CREFAS) per design. The BOP ESF actuations resulted in the Containment Purge System (VR) being isolated, the Control Room Essential Ventilation System (VI) being actuated and the Essential Chilled Water System (KM) being actuated. All equipment operated as designed. The BOP ESFAS actuations were identified by control room operators (utility-licensed) as a result of main control board (MCBD) annunciations (ANN).

Prior to the ESF actuation, a Radiation Protection (RP) Technician (contractor, non-licensed) had performed a routine setpoint verification during which he identified that RU-37's radiation level conversion factor (RLF), which converts "counts" to units of dose rate, was set at a conservative value such that indicated dose rate would be higher than actual dose rate (1.63E-03 vs. 1.60E-03). The RP Technician then obtained the permission and concurrence of the Assistant Shift Supervisor (utility-licensed) to change the RLF. During the setpoint change, the CPIAS was initiated when an erroneous value (1.60E-00) for the RLF was randomly entered when the monitor's Remote Indication and Control Unit (RIC) (XIK) automatically reset. This self-actuated reset during a process variable change is considered to be abnormal system behavior; however, procedural controls are established to preclude ESF actuations by requiring that the monitor be placed in bypass. Subsequent investigation into the abnormal operation of the RIC could not determine the reason for the RLF being set improperly or the reason that the RIC automatically reset; therefore, an Engineering Evaluation Request has been initiated to evaluate these abnormalities.

Based upon the information provided to the Assistant Shift Supervisor by the RP Technician prior to the RLF conversion, the Assistant Shift Supervisor determined that the alarm/trip was spurious and that there was no actual radiation level increase. The Assistant Shift Supervisor then directed the control room operator (utility-licensed) to reset CPIAS and CREFAS. At 0540 MST the control room operator (utility-licensed) reset CREFAS channels "A" and "B", and CPIAS channels "A" and "B". By 0550 MST, CREFAS actuated Trains "A" and "B" equipment, and CPIAS actuated trains "A" and "B" equipment were returned to normal service. By 0558 MST the Assistant Shift Supervisor had verified that the RLF was set correctly and that all equipment was returned to normal thus terminating the event. The total duration of the event was approximately 28 minutes.



## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO 3150-0104

EXPIRES: 8/31/88

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

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

Investigation into the event identified the root cause as being a cognitive personnel error in that the RP Technician (contractor, non-licensed) did not take sufficient measures to ensure that the monitor was placed in bypass. Additionally, the procedural controls were evaluated and determined not to contain sufficient instructions in a format conducive to operator useability. The applicable procedure, Radiation Monitoring System Operations (75RP-9SQ03), contains "Caution" statements in the instructions portions of the procedure which in effect directs the RP Technician to notify the control room prior to making any process variable changes on RU-37. Additionally, 75RP-9SQ03 contains a "Precaution" in the "Job Planning" section which directs the RP Technician to ensure that the control room places BOP ESFAS in bypass prior to making a process variable change in RU-37. Prior to changing the RLF, the RP Technician notified the control room in accordance with the "Caution" notes contained in the instructions portion of the procedure; however, he was not aware of the "Precaution" contained in the "Job Planning" part of the procedure.

As corrective action to prevent recurrence: the responsible individual will be re-instructed as to the importance of ensuring compliance with procedural requirements, training will be conducted to ensure that department personnel are aware of the importance of bypassing radiation monitors which actuate ESF equipment prior to changing parameters which could cause an inadvertent actuation, and 75RP-9SQ03 will be revised to provide more definitive guidance for ensuring that BOP ESFAS is placed in bypass when needed for changing process variables.

The setpoint change was being made in accordance with approved Radiation Protection Department procedures with the exception of the action described above. There were no unusual characteristics of the work location that directly contributed to the event. There were no component, system, or safety train failures that contributed to the event. Therefore, there were no safety consequences or implications of the event. No safety limits were approached, no fission product barriers were challenged, and all equipment functioned as designed. Therefore, there was no threat to the health and safety of the public. There were no structures, systems or components inoperable prior to the event which contributed to the event.

There have been other previous events wherein personnel errors have resulted in inadvertent actuations of BOP ESFAS equipment. However, none of the previous events followed the sequence of events described above nor did any previous events involve an inadvertent CPIAS actuation due to not following approved procedures.







## Arizona Nuclear Power Project

P.O. BOX 52034 • PHOENIX, ARIZONA 85072-2034

192-00313-JGH/TRB/DAJ

November 24, 1987

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

Dear Sirs:

Subject: Palo Verde Nuclear Generating Station (PVNGS)  
Unit 1  
Docket No. STN 50-528  
Licensee Event Report 87-026-00  
File: 87-020-404

Attached please find Licensee Event Report (LER) No. 87-026-00 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. R. Bradish, Compliance Lead at (602) 393-3531.

Very truly yours,

J. G. Haynes  
Vice President  
Nuclear Production

JGH/TRB/DAJ/kj

Attachment

cc: O. M. DeMichele (all w/a)  
E. E. Van Brunt, Jr.  
J. B. Martin  
J. R. Ball  
R. C. Sorenson  
E. A. Licitra  
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INPO Records Center

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