

REGULAR INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8707140055 DOC. DATE: 87/07/02 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 87-009-00: on 870604, inadvertent control room essential
 filtration actuation occurred due to radiation monitor
 pump cycling. Caused by motor drawing too much current. Ground
 to motor & radiation monitor separated. W/870702 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 2
 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: Standardized plant. M. Davis, NRR: 1Cy. 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/ROAB	2 2
	AEOD/DSP/TPAB	1 1	DEDRO	1 1
	NRR/DEST/ADE	1 0	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/GAB	1 1
	NRR/DOEA/EAB	1 1	NRR/DREP/RAB	1 1
	NRR/DREP/RPB	2 2	NRR/PMAS/ILRB	1 1
	NRR/PMAS/PTSB	1 1	<u>REG FILE</u> 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	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		

TOTAL NUMBER OF COPIES REQUIRED: LTTR 46 ENCL 44

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Palo Verde Unit 1										DOCKET NUMBER (2) 0 5 1 0 0 0 5 2 8										PAGE (3) 1 OF 0 13																																
TITLE (4) Inadvertent Control Room Essential Filtration Actuation Due to Radiation Monitor Pump Cycling																																																				
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 1 0 0 0												
0 6 0			4 8 7			8 7			0 0 9			0 0			0 7 0			2 8 7			N/A													0 5 1 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)									<input checked="" type="checkbox"/> 50.73(a)(2)(iv)									73.71(b)																
									20.406(a)(1)(i)									50.36(c)(1)									<input type="checkbox"/> 50.73(a)(2)(v)									73.71(c)																
									20.406(a)(1)(ii)									50.36(c)(2)									<input type="checkbox"/> 50.73(a)(2)(vii)									OTHER (Specify in Abstract below and in Text, NRC Form 366A)																
									20.406(a)(1)(iii)									50.73(a)(2)(i)									<input type="checkbox"/> 50.73(a)(2)(viii)(A)																									
									20.406(a)(1)(iv)									50.73(a)(2)(ii)									<input type="checkbox"/> 50.73(a)(2)(viii)(B)																									
									20.406(a)(1)(v)									50.73(a)(2)(iii)									<input type="checkbox"/> 50.73(a)(2)(ix)																									
LICENSEE CONTACT FOR THIS LER (12)																																																				
NAME T. R. Bradish, Compliance Supervisor (Ext. 6936)															TELEPHONE NUMBER AREA CODE 6 0 2 9 3 2 - 5 3 0 0																																					
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																																																				
CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPDs		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPDs		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPDs		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPDs		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPDs																								
B	IIL	RII	I	KIO	2	O	Y																																													
X	IIL	P		X	9	9	P	N																																												
SUPPLEMENTAL REPORT EXPECTED (14)															EXPECTED SUBMISSION DATE (15)																																					
<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)

At 0527 on June 4, 1987 Palo Verde Unit 1 was in Mode 1 (Power Operation) at 100 percent power when the Control Room Air Intake Radiation Monitor (RU-30) generated a high radiation signal and actuated the Control Room Essential Filtration System. The actuation occurred on the "B" Train and crosstripped the "A" Train as designed. All associated equipment operated properly.

Investigation of the actuation revealed that the sample pump motor was cycling off and on. Troubleshooting identified that the motor was drawing too much current causing the thermal overloads to actuate. After the thermal overloads cooled, the motor would automatically restart. As the motor cycled, the radiation monitor would generate a spurious high radiation signal. The root cause of the motor drawing too much current has been identified to be a malfunctioning air sample pump.

The motor and the radiation monitor utilize the same ground. Cycling of the motor causes electrical noise to pass from the common ground to the radiation monitor which generates a spurious high radiation signal.

As corrective action to prevent recurrence the ground to the motor and radiation monitor will be separated and the air pump will be replaced.

Although Control Room Essential Filtration actuations have occurred previously due to radiation monitor spikes, no events have been reported where the cycling of the sample pump motor caused an actuation.

IE 22
11

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	05000528	87	009	00	02	OF	03

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

At 0527 on June 4, 1987 Palo Verde Unit 1 was in Mode 1 (Power Operation) at 100 percent power when the Control Room Air Intake Radiation Monitor (RU-30) (IL) (RI) generated a high radiation signal and actuated the Control Room Essential Filtration System (VI). This was identified by control room annunciation (ANN). The actuation occurred on the "B" train and crosstripped the "A" train as designed. All associated essential equipment operated properly. RU-30 was reset at 0554 on June 4, 1987. The event lasted approximately 27 minutes.

Equipment failure and low sample flow alarms were received for RU-30 in the control room at approximately the same time as the Engineered Safety Features actuation. Based on this information the Control Room Operators (utility-licensed) declared RU-30 inoperable. Grab samples taken after the event revealed no abnormal radiation levels.

Due to the inoperability of the other Control Room Air Intake Radiation Monitor (RU-29) the Control Room Essential Filtration System was placed in the recirculation mode as required by Technical Specification ACTION requirements. RU-29 had been declared inoperable to perform routine preventive maintenance.

Investigation of the actuation revealed that the sample pump (P) motor (MO) was cycling off and on. Troubleshooting identified that the motor was drawing too much current causing the thermal overloads to actuate. After the thermal overloads cooled, the motor would automatically restart. As the motor cycled the radiation monitor would generate a spurious high radiation signal. The root cause of the motor drawing excessive current has been attributed to a malfunctioning air sample pump. The pump is a Roots Pump (Model #AF22). An analysis will be performed on the sample pump to determine the root cause of the malfunction.

The motor and the radiation monitor utilize the same ground. When the motor cycles, electrical noise passes from the common ground to the radiation monitor causing the monitor to generate a spurious high radiation signal. The monitor is a Kaman Monitor (Model #952105-002).

As corrective action to prevent recurrence the ground to the motor and radiation monitor will be separated for RU-29 and 30 in Unit 1. The effects of the grounding changes will be monitored to determine if the electrical noise has been reduced. An evaluation will then be conducted to determine if the modifications should be incorporated in Units 2 and 3. The air sample pump will also be replaced.

The Control Room Essential Filtration System actuated as designed for a high radiation signal and all required equipment operated properly. Based on samples taken after the event, no abnormal radiation levels existed therefore, this event had no impact on the health and safety of the public.

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 0 9	-	0 0	0 3	OF	0 3

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

Although Control Room Essential Filtration actuations have occurred previously due to radiation monitor spikes, no events have been reported where the cycling of the sample pump motor caused an actuation.

Should other concerns or information pertinent to this event be discovered, a supplement to this report will be issued.

There were no structures, systems, or components other than RU-29 that were inoperable at the start of the event that contributed to the event. There were no other manually or automatically initiated safety system responses.



Arizona Nuclear Power Project

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

192-00233-JGH/TRB/JHT

July 2, 1987

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

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Unit 1
Docket No. 50-528
Licensee Event Report 87-009-00
File: 87-020-404

Dear Sirs:

Attached please find Licensee Event Report (LER) No. 87-009-00 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 Supervisor at (602) 932-5300, Ext. 6936.

Very truly yours,

J. G. Haynes
Vice President
Nuclear Production

JGH/JHT/cld

Attachment

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

IE22
1/1

