REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8711160187 DOC. DATE: 87/11/09 NOTARIZED: NO DOCKET #
FACIL: STN-50-529 Palo Verde Nuclear Station, Unit 2, Arizona Publi 05000529
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 87-020-00: on 871013, control room essential filtration actuation signal automatically initiated on Train B & cross tripped Train A as designed. Caused by voltage spike. Plant change package approved for plant. W/871109 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. 05000529

	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	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 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			

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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 3

TITLE (4)

ESF Actuation Caused by Spurious Signal From a Radiation Monitor

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 0	1 3	8 7	8 7	— 0 2 0	— 0 0	1 1	0 9	8 7	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)	X 50.73(a)(2)(iv)	73.71(b)
20.406(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
20.406(a)(1)(ii)	50.36(c)(2)	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)	50.73(a)(2)(viii)(A)	
20.406(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
20.406(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Thomas R. Bradish, Compliance Lead	AREA CODE 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 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 October 13, 1987 at 2328 MST, with Palo Verde Unit 2 in Mode 1 (POWER OPERATION) operating at approximately 100 percent power, a Control Room Essential Filtration Actuation Signal (CREFAS) was automatically initiated on Train "B" and cross-tripped Train "A"as designed. This Engineered Safety Feature actuation resulted from a spurious alarm/trip signal on the "B" Control Room Ventilation Intake Noble Gas Monitor (RU-30). All associated equipment actuated satisfactorily.

Following the CREFAS, the "A" Control Room Ventilation Intake Noble Gas Monitor (RU-29) and the Plant Vent Low Range Monitor (RU-143) were verified to be reading normal, thus ensuring that there were no actual radiation level increases. The actuated equipment was subsequently reset and an approved work order was initiated to investigate the cause of the event.

The root cause of the spurious signal is believed to be a voltage spike which was caused by electronic circuit noise in RU-30. To prevent recurrence, a plant change package had previously been approved for Palo Verde Units 1, 2 and 3 to install an isolated grounding system for the Radiation Monitoring System.

IE 22

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 0	— 0 0	0 2 OF 0 3

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

On October 13, 1987 at 2328 MST, with Palo Verde Unit 2 in Mode 1 (POWER OPERATION) operating at approximately 100 percent power, a Control Room Essential Filtration Actuation Signal (CREFAS)(JE) was automatically initiated on Train "B". The Train "B" CREFAS cross-tripped the Train "A" CREFAS as designed. This Engineered Safety Feature actuation resulted from a spurious alarm/trip signal on the "B" Control Room ventilation Intake Noble Gas Monitor (RU-30)(IL)(RI). All associated equipment actuated satisfactorily. The actuations [Control Room Essential Filtration System (VI), Essential Chilled Water System (CC), Essential Cooling Water System (CC), and Spray Pond System (BI)] were identified by the control room operators (utility-licensed) as a result of main control board (MCBD) annunciations (ANN).

A control room operator (utility-licensed) was dispatched to the remote indication and control unit and identified that RU-30 had alarmed high but was reading normal. Operations personnel then verified that the "A" Control Room Ventilation Intake Noble Gas Monitor (RU-29)(IL)(RI) and the Plant Vent Low Range Monitor (RU-143)(IL)(RI) were both reading normal. Based on this information, the Shift Supervisor (utility-licensed) determined the alarm/trip to be spurious. Following the determination that the trip was spurious, the local alarm for RU-30 was reset and CREFAS "B" was bypassed at approximately 2338. Subsequently, at approximately 0019, the actuated components were restored to their normal positions.

An approved work order was utilized to troubleshoot RU-30 and determine the cause of the spiking. Troubleshooting of the monitor was conducted and the root cause of the spurious signal which initiated the CREFAS is believed to be a voltage spike which was caused by electronic circuit noise. This phenomena has been previously identified/evaluated and a plant change package had been approved prior to this event to install an isolated grounding system for the Radiation Monitoring System (RMS)(IL) in all three units. The modification has been completed for the Unit 1 Technical Specification required monitors, but has not been implemented in Units 2 and 3.

In addition, on October 16, 1987, a modification was completed which installed new software for RU-30. This software includes a time delay which should allow the monitor to disregard an alarm/trip signal of duration less than 5 seconds. RU-30 had been declared inoperable on October 12, 1987 at 1030 due to not meeting the deviation acceptance criteria between RU-29 and RU-30 as specified in the RMS shiftly surveillance test procedure 42ST-2ZZ44. RU-30 was declared operable at 0915 on October 19, 1987 following the completion of the work order and the successful completion of surveillance test 36ST-9SQ01. RU-30 was inoperable for approximately 5 days, 10 hours following the initiation of the CREFAS and approximately 6 days, 23 hours since it was first declared inoperable.

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 0	— 0 0	0 3 OF 0 3

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

Based on the determination that abnormal radiation levels did not exist and the CREFAS was due to a spurious voltage spike, this event did not effect the safe operation of the plant or the health and safety of the public. There were no structures, components, or systems that were inoperable at the start of the event, other than those previously described, that contributed to the event. There were no unusual characteristics of the work location which contributed to the event. There were no automatic or manually initiated safety system responses. Should other concerns or information pertinent to this event be discovered, a supplement to this report will be issued.

Previous similar events have been reported in Licensee Event Reports 85-005-01, 85-011-02, 85-031-01, 85-027-01, 85-064-00, 85-062-00, and 87-001-01 for Unit 1 and 87-018-00 for Unit 2. As noted previously, the modification to the Radiation Monitoring System has not been implemented in Units 2 and 3. The modifications are expected to be fully implemented following each unit's first refueling outage.

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

192-00310-JGH/TRB/TJB
November 9, 1987

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

Dear Sirs:

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

Attached please find Licensee Event Report (LER) No. 2-87-020-00 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

J. G. Haynes
Vice President
Nuclear Production

JGH/TJB/cld

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
A. C. Gehr
INPO Records Center

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