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ACCESSION NBR:8808260419 DOC.DATE: 88/08/16 NOTARIZED: NO DOCKET #
FACIL:STN-50-528 Palo Verde Nuclear Station, Unit 1, Arizona Publi 05000528
AUTH.NAME AUTHOR AFFILIATION
SHRIVER,T.D. 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 88-019-00:on 880722,inadvertent ESF actuation while replacing relay.

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. 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
	ACRS WYLIE	1	1	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	NRR/DEST/MEB 9H	1	1
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	NRR/DEST/RSB 8E	1	1	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
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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)
erde Unit 1	0 5 0 0 0 5 2 8	1 OF 0 4

vertent Engineered Safety Feature Actuation While Replacing Relay

ATE (5)			LER NUMBER (6)					REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
AY	YEAR	YEAR		SEQUENTIAL NUMBER		REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
										N/A	0 5 0 0 0
2 2	8 8	8 8	—	0 1 9	—	0 0	0 8	1 6	8 8	N/A	0 5 0 0 0

PERATING MODE (9)	5	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)
OWER EVEL (10)	0 0 0	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)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		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	MANUFAC-TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	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)

At 0118 MST on July 22, 1988, Palo Verde Unit 1 was in Mode 5 (COLD SHUTDOWN) with the Reactor Coolant System (RCS) cold leg temperature at approximately 103 degrees F and the RCS at atmospheric pressure.

A Loss of Power (LOP) was received for the "B" train class 1E 4.16 kV bus 1E-PBB-S04. Emergency Diesel Generator (EDG) "B" automatically started and supplied power to 1E-PBB-S0R. Train "B" Fuel Building Essential Ventilation Actuation Signal (FBEVAS) was received and cross-tripped the train "B" Control Room Essential Filtration Actuation Signal (CREFAS) as per design. The train "B" FBEVAS and CREFAS cross-tripped the train "A" FBEVAS and CREFAS respectively as designed.

The cause of the event was the physical layout of the work location contributing to a personnel error.

To decrease the possibility of recurrence, this event will be discussed with the Instrument and Control Technicians in Units 1, 2 and 3.

No similar events have been previously reported.

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I. DESCRIPTION OF WHAT OCCURRED:

A. Initial Conditions:

At 0118 MST on July 22, 1988, Palo Verde Unit 1 was in Mode 5 (COLD SHUTDOWN) with the Reactor Coolant System (RCS)(AB) cold leg temperature at approximately 103 degrees F and the RCS at atmospheric pressure.

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

Event Classification: Any event or condition that resulted in manual or automatic actuation of any Engineered Safety Feature (ESF)(JE), including the Reactor Protection System (RPS)(JC).

Prior to the event a maintenance technician (utility, non-licensed) was replacing a Balance of Plant Engineered Safety Feature Actuation System (BOP-ESFAS)(JE) relay (RLY)(JE) in support of a reportability evaluation. The technician and the control room staff (utility, licensed) were aware of the possibility of ESF actuations.

At 0118 MST on July 22, 1988, a Loss of Power (LOP) signal was received for the "B" train class 1E 4.16 kV bus (EB)(BU) 1E-PBB-S04. The bus was load shed and the "B" Emergency Diesel Generator (EDG)(EK) automatically started and supplied power to the bus as designed. Train "B" Fuel Building Essential Ventilation Actuation Signal (FBEVAS)(VG) was received and cross-tripped the train "B" Control Room Essential Filtration Actuation Signal (CREFAS)(VI) as per design. The train "B" FBEVAS and CREFAS cross-tripped the train "A" FBEVAS and CREFAS respectively as designed. In accordance with an approved procedure the Control Room Operators (utility, licensed) verified proper actuation of all equipment and that an inadvertent actuation had occurred. At the same time the actuation occurred, a maintenance technician (utility, non-licensed) informed the control room staff that the actuation was inadvertently initiated by him. There were no operator actions that contributed to the event.

At 0144 MST trains "A" and "B" CREFAS and FBEVAS were reset. At 0155 MST 1E-PBB-S04 was paralleled to its normal power supply and the EDG was removed from the bus and shutdown. Ventilation systems were then realigned to normal operating status.

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

No structures, systems, or components were inoperable at the start of the event that contributed to the event.

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 8	— 0 1 9	— 0 0	0 3 OF 0 4

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

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 failures 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 failures were involved.

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

Not applicable - no component or system failures or procedural errors were involved.

I. Cause of Event:

The cause of the event was the physical layout of the work location contributing to a personnel error. The technician had replaced a BOP-ESFAS relay with a spare relay. The BOP-ESFAS relay was removed for evaluation in support of a reportability evaluation and the spare installed in its place. When reterminating the leads on the relay, the screw, with the power lead and the screwdriver attached, slipped off the terminal to which it was to be attached. The screw momentarily touched the relay chassis and grounded the power lead. This momentary dip in the power supply initiated the LOP and caused the BOP-ESFAS relays to change state and initiate the ESF actuations.

The unusual characteristic of the work location was the location of the relay. The relay is located inside and on the side of a cabinet. The technician had to perform the task looking from the side and attempting to place the screw on the underside of the relay. The location of the signal wires (24) prevented the technician from having a clear direct route of installing the power leads. The coil terminal was not perpendicular to the relay chassis compounding the difficulty of the work.

J. Safety System Response:

A Control Room Ventilation Isolation Actuation Signal (CRVIAS)(VI) was manually initiated prior to removing the BOP-ESFAS relay. This relay initiates CRVIAS. This was a planned evolution since it was known that deenergizing that relay would cause an actuation of CRVIAS. There were no other manually or automatically initiated ESF actuations other than discussed previously.

K. Failed Component Information:

Not applicable - no failed components were involved.

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

No ESF setpoints were approached and the actuations were identified to be inadvertent. Therefore there was no threat to the health and safety of the public.

III. CORRECTIVE ACTIONS:

A. Immediate:

The ESF actuations were verified to be inadvertent and all equipment returned to normal plant operating status. Also termination of the spare relay was completed and CRVIAS returned to normal status.

B. Action to Prevent Recurrence:

To decrease the possibility of recurrence, this event will be discussed with the Instrument and Control Technicians in Units 1, 2 and 3.

IV. PREVIOUS SIMILAR EVENTS:

No similar events have been previously reported.

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

192-00403-JGH/TDS/JEM
August 16, 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 1-88-019-00
File: 88-020-404

Attached please find Licensee Event Report (LER) No. 1-88-019-00 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,

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
M. J. Davis
A. C. Gehr
INPO Records Center

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