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 2

TITLE (4)

MSIS Actuation Due to Personnel Error

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)
												0 5 0 0 0
0 3	2 5	8 6	8 6	–	0 1 4	–	0 0	0 4	2 3	8 6		0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
4		20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
0 0 0		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
William F. Quinn, Manager - Nuclear Licensing (Extension 4087)	6 0 2 9 4 3 - 7 2 0 0

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 March 25, 1986, at 2023, with Palo Verde Unit 2 in Mode 4 (HOT SHUTDOWN) at 0 percent reactor power, a Main Steam Isolation System (MSIS) actuation occurred on both trains A and B during the performance of the Plant Protection System (PPS) monthly functional test. This was an actuation of an Engineered Safety Feature (ESF). All equipment operated as designed.

The root cause of the event was a cognitive personnel error, since the instrumentation and control (I&C) technicians (contractor) did not fully adhere to the procedure instructions and caution notes. The technicians rotated the "Relay Trip" selector switch through positions 1 and 2 without resetting each relay in the "off" position before making the next selection.

As a corrective action, the I&C technicians involved in the incident received counselling and appropriate disciplinary action. Additionally, I&C technicians in Units 1, 2 and 3 will attend a briefing session addressing the following items:

1. The specifics of the 3/25/86 Unit 2 inadvertent MSIS.
2. Maintaining strict adherence to procedure instructions and cautions.
3. Obtaining needed assistance to resolve uncertainties prior to taking action.

No component or system failures contributed to the event.

No similar events have occurred.

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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 6	— 0 1 4	— 0 0	0 2 OF 0 2

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

On March 25, 1986, at 2203, with Palo Verde Unit 2 in Mode 4 (HOT SHUTDOWN), at 0 percent power, a Main Steam Isolation System (MSIS) (JE) actuation occurred on both trains A and B. This was an automatic actuation of an Engineered Safety Feature (ESF) (JE). All equipment operated as designed.

At the time of the event, primary and secondary heat balance was being maintained using the Steam Bypass Control System (SBCS) (JI). Surveillance testing of the Plant Protection System (PPS) (JC) was being conducted for entry into Mode 3 (HOT STANDBY). During the surveillance test, the control room operators received the MSIS. No pretrip or trip indicators were evident; however, all actuation indicators, including Main Steam Isolation Valve (MSIV) (SB) closure, were verified.

As an immediate corrective action, two Atmospheric Dump Valves (ADV) (JI) were opened and the appropriate emergency procedure was applied to verify equipment actuation prior to commencing troubleshooting.

The root cause of the event was a cognitive personnel error, since the instrumentation and control (I&C) technicians (contractor) did not adhere to the approved procedure instructions and caution notes. The technicians had completed the testing of MSIS trip paths 1 and 2 on all six actuation matrices. Testing of the third matrix (AC) for trip path 3 was in progress when one of the I&C technicians questioned whether the correct indication had been observed on a previous procedure step. In an attempt to reverify the questioned indication, the lead test performer, contrary to approved procedure instruction steps and cautions, rotated the RELAY TRIP SELECT switch through positions "2" and "1" to the OFF position. This action caused a MSIS initiation signal in trip paths 1 and 2 with the resulting train A and B MSIS actuations.

No system or safety train failures contributed to the event. No unusual characteristics of the work location directly contributed to 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. All equipment was restored at 0145, on March 26, 1986. The event lasted approximately 5 hours and 22 minutes.

As a corrective action, the I&C technicians involved in the incident received counselling and appropriate disciplinary action. Additionally, I&C technicians in Units 1, 2 and 3 will attend a training briefing session addressing the following items:

1. The specifics of the 3/25/86 Unit 2 inadvertent MSIS.
2. Maintaining strict adherence to procedure instructions and cautions.
3. Obtaining needed assistance to resolve uncertainties prior to taking action.

No similar events have occurred.

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

April 23, 1986
ANPP-36383-EEVB/PGN/98.05

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

Subject: Palo Verde Nuclear Generating Station
Unit 2
Docket No. STN-50-529 (License NPF-46)
Licensee Event Report - 86-014-00
File: 86-020-404

Dear Sirs:

Attached please find Licensee Event Report (LER) No. 86-014-00 prepared and submitted pursuant to 10 CFR 50.73. In accordance with 10 CFR 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 question, please contact me.

Very truly yours,

for E. E. Van Brunt, Jr.
Executive Vice President
Project Director

EEVB/PGN/dlm
Attachment

cc: J. B. Martin (all w/a)
R. P. Zimmerman
A. L. Hon
E. A. Licitra
A. C. Gehr
INPO Records Center

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