

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Palo Verde Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 5 2 8	PAGE (3) 1 OF 0 3
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TITLE (4)
Procedural Deficiency Results in a Loss of Power to the DC Bus and ESF Actuations

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)																																																																																													
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LICENSEE CONTACT FOR THIS LER (12)

NAME William F. Quinn, Manager - Nuclear Licensing (Extension 4087)	TELEPHONE NUMBER 6 0 2 9 4 3 - 7 2 0 0
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS

SUPPLEMENTAL REPORT EXPECTED (14)

<input type="checkbox"/> YES (if yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)	MONTH DAY YEAR
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ABSTRACT (Limit to 1400 spaces, i.e. approximately fifteen single space typewritten lines) (16)

At 2301 on March 12, 1986, Palo Verde Unit 1 was in Mode 5 (COLD SHUTDOWN), when a Control Room Essential Filtration Actuation Signal, Control Room Ventilation Isolation Actuation Signal, Containment Purge Isolation Actuation Signal, and Fuel Building Essential Ventilation Actuation signal were initiated on both Balance of Plant Engineered Safety Features Actuation System (BOP-ESFAS) Trains due to a loss of power to the channel "A" vital instrument distribution panel and the 125 volt DC distribution panel.

The root cause of this event was personnel error due to an inadequate procedure. Control room personnel were attempting to transfer battery chargers on the channel "A" DC bus, with the channel "A" battery disconnected. A loss of power occurred when the standby battery charger tripped after the normal battery charger was taken off line. With the battery disconnected, the backup AC source not aligned to the vital instrument distribution panel, and both battery chargers out of service, a loss of AC and DC power occurred to the Train "A" BOP-ESFAS. This resulted in a Train "A" BOP-ESFAS actuation and a subsequent crosstrip of Train "B" BOP-ESFAS.

To prevent recurrence, a procedure change notice which cautions personnel against transferring battery chargers without the battery connected to the DC bus has been approved.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Palo Verde Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 5 2 8	LER NUMBER (6)			PAGE (3)		
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		8 6	- 0 1 1 9	- 0 1 0	0 2	OF	0 3

TEXT (If more space is required, use additional NRC Form 366A (1/17))

At 2301 on March 12, 1986, Palo Verde Unit 1 was in Mode 5 (COLD SHUTDOWN), when a Control Room Essential Filtration Actuation Signal (CREFAS) (JE), Control Room Ventilation Isolation Actuation Signal (CRVIAS) (JE), Fuel Building Essential Ventilation Actuation Signal (FBEVAS) (JE) and Containment Purge Isolation Actuation Signal (CPIAS) (JE) were initiated on both channels of the Balance of Plant Engineered Safety Features Actuation System (BOP-ESFAS) (JE). These actuations annunciated in the control room on the main control board (MCBD). Both Trains of the BOP-ESFAS were manually reset by control room personnel at 0030 on March 13, 1986. Both Trains of the BOP-ESFAS were unavailable for 1 hour and 29 minutes.

Utility electrical technicians were performing the 18 month surveillance test of the channel "A" Unit 1 batteries (BTRY) (EJ) when the failure of the load test equipment caused the surveillance test to be suspended. During the performance of the surveillance test, the channel "A" battery breaker (BKR) was open. A utility unlicensed operator, under the direction of a utility licensed operator, closed the channel "A" battery breaker to restore the system to normal operating configuration. When the battery breaker was closed, the channel "A" normal battery charger (BYC) (EJ) malfunctioned due to the current limiter being out of adjustment. The channel "A" battery breaker was then reopened to prevent damage to the battery charger. The standby battery charger (BYC) (EJ) was then placed in parallel with the normal battery charger, as per approved procedure, so that the normal battery charger current limiter could be adjusted and the channel "A" battery could be connected to the standby battery charger. When the normal battery charger was taken off line, the standby battery charger tripped on a suspected overcurrent condition since the channel "A" battery was disconnected.

Since the alternate 120 volt AC back up power source (EF) was not aligned to the vital instrument distribution panel, the channel "A" battery breaker was open, and both channel "A" battery chargers were out of service, a loss of DC power to the 120 volt DC Class 1E distribution panel and 120 volt AC Class 1E power to the vital instrument distribution panel occurred on the channel "A" bus. The loss of power to the channel "A" bus resulted in the Train "A" BOP-ESFAS initiation of CREFAS, CPIAS, CRVIAS, and FBEVAS and a subsequent crosstrip of the corresponding Train "B" BOP-ESFAS actuations. These trips were as per design under the condition described above and all associated equipment operated satisfactorily. Although the loss of DC power was not expected by the operators, the BOP-ESFAS actuations that resulted were an expected result of a DC power loss.

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TEXT (If more space is required, use additional NRC Form 365A's) (17)

A review of the procedures determined that the root cause of this event was personnel error due to inadequate procedural guidance to caution control room personnel against transferring battery chargers without the battery connected to the DC bus.

To prevent recurrence, a procedure change notice which cautions control room personnel against transferring battery chargers without the battery connected to the DC bus has been approved.

There were no component, system, or safety train failures or malfunctions, other than as listed above, that contributed to this event. There were no unusual work conditions that contributed to this event.

Since an actual emergency condition did not exist at the time of the event, there was no threat to the safe operation of the plant or health and safety of the public. Had an emergency condition existed during the event, all safety equipment would have acutated as shown above.

The current limiter malfunction caused the channel "A" normal battery charger to limit itself below its designed output, therefore, the battery charger and channel "A" battery could not have been damaged. The battery charger current limiter adjustment would have been corrected during scheduled battery charger testing and maintenance. The channel "A" normal battery charger was returned to service after the current limiter was readjusted.

A similar event involving a loss of power to the Train "A" BOP-ESFAS panel was reported for Unit 1 in LER 1-85-014-00.



Arizona Nuclear Power Project

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

April 29, 1986
ANPP-36427-EEVB/PGN/98.05

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

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Unit 1
Docket No. STN 50-528 (License NPF-41)
Licensee Event Report - 86-019-00
File: 86-020-404

Dear Sirs:

Attached please find a corrected copy of Licensee Event Report (LER) No. 86-019-00 prepared and submitted pursuant to 10 CFR 50.73. The original LER was submitted with a report date of 04/19/86. The correct report date should be 04/11/86. In accordance with 10 CFR 50.73(d), we are herewith forwarding a copy of the corrected LER to the Regional Administrator of the Region V Office.

If you have any questions, please contact me.

Very truly yours,

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

EEVB/PGN/rw
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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