

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1): Palo Verde Unit 1	DOCKET NUMBER (2): 0 5 0 0 0 5 1 2 8	PAGE (3): 1 OF 0 1 3
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TITLE (4):
Diesel Generator Failure and Technical Specification ACTION Statement Exceeded

EVENT DATE (5):			LET. 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	1	2	5	8	6	8	6	6	-	0	0	1	-	0	0	0	2	2	4	8	6			0	5	0	0	0

OPERATING MODE (9): 4	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11):									
POWER LEVEL (10): 0 1 0 1 0	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)						
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.38(a)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)						
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.38(a)(2)	<input type="checkbox"/> 50.73(a)(2)(vi)	<input checked="" type="checkbox"/> OTHER (Specify in Abstract below and in Text, NRC Form 365A)						
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	Special Report						
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	1-SR-86-004						
<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)								

LICENSEE CONTACT FOR THIS LER (12):

NAME: William F. Quinn, Manager - Nuclear Licensing (Extension 4087)	TELEPHONE NUMBER: 6 1 0 2 9 4 3 1 - 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 NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS
B	E K	R E S	X 9 9 9	N					
B	E K	A M P	W 2 9 0	N					

SUPPLEMENTAL REPORT EXPECTED (14):

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 7500 characters - if approximately 17000 characters type on two pages) (16):

At 0442 on 1/25/86, Diesel Generator "B" failed to start during a manual start attempt. Subsequent to this failure, a demonstration of the operability of the remaining A.C. sources, required by a Technical Specification ACTION Statement, was not performed within the required time.

The cause of the Diesel Generator failure was a failed resistor in the electric governor circuitry. The failed resistor had caused an amplifier module to fail, resulting in a minimum fuel signal being supplied to the diesel. The failed resistor and amplifier module were replaced and the diesel was tested satisfactorily. The failed resistor was sent to the manufacturer for failure analysis.

The failure to perform the ACTION Statement on time was personnel error. As corrective action, the responsible personnel were counseled on the importance of performing ACTION Statements on time. In addition, all operators were directed to use the existing personal computer to track items such as ACTION Statement time limits. The computer would provide an audible reminder that a time limit was being approached.

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		86	001	00	02	OF	03

TEXT IF more space is required, use additional NRC Form 308A's (17)

This report provides LER 86-001-00 for failure to perform a Technical Specification ACTION Statement within the required time. It also provides Special Report 1-SR-86-004 for a valid Diesel Generator failure pursuant to Technical Specification 4.8.1.1.3 and 6.9.2, and includes the information recommended in Regulatory Position C.3.b of Regulatory Guide 1.108, Revision 1, August 1977.

On 1/25/86, with Unit 1 in Mode 4 (HOT SHUTDOWN), a manual start of Diesel Generator "B" (DG) was attempted at 0442 to support the performance of a heat balance test of the Essential Cooling Water System (BI). Following the start attempt, DG "B" came up to running speed and then immediately decelerated and tripped. The Control Room received an Underfrequency and an Incomplete Sequence trip alarm. With one DG inoperable, Technical Specification 3.8.1.1 ACTION Statement (a) requires the remaining A.C. sources to be demonstrated operable within 1 hour and at least once per 8 hours thereafter. The appropriate surveillance test (Inoperable Power Sources Action Statement Surveillance 3.8.1.1) was initially performed at 0515. On 1/25/86 at 1355, operators discovered that this surveillance had not been performed again prior to 1315 (once per 8 hours thereafter) as required. The surveillance was then satisfactorily performed at 1406. All subsequent Technical Specification ACTION Statement requirements were performed within the required time irames.

Following the failure of DG "B" to start, an investigation into the cause was immediately initiated. Extensive troubleshooting identified the cause as a failed wire-wound resistor (300 ohm, 70 watt) in the DG electric governor circuitry (EK). The failed resistor had created transient voltages which caused the failure of an amplifier module (AMP)(Woodward Governor part No. 8270-890) in the governor control panel. This resulted in a minimum fuel signal being generated, thereby slowing down the DG following the start signal. As corrective action, the failed resistor and amplifier module were replaced, and DG B was returned to operable status at 0016 on 1/29/86. The failed resistor was sent to the manufacturer (Pacific Resistor Co.) for failure analysis. Evaluation for possible 10 CFR 50.55(e) and/or 10 CFR Part 21 reportability will be performed upon receipt of the manufacturers response. There have been no similar resistor failures.

The root cause of the failure to perform Technical Specification ACTION Statement (a) at 1315 on 1/25/86 was personnel error (utility-licensed operators). Control Room personnel were aware that the appropriate surveillance was due to be performed at 1315, but did not remember to perform the surveillance on time. As corrective action, the responsible

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		0	0	1	0	0	0 3 OF 0 3

TEXT IF more space is required, use additional NRC Form 365A (9-83)

personnel were counseled on the importance of performing ACTION Statement requirements on time. In addition, all licensed Control Room personnel were directed to use the existing personal computer to track items such as ACTION Statement time limits. The computer would provide an audible reminder that a Technical Specification Limiting Condition for Operation time limit was being approached, thereby assisting operators in preventing recurrence of this type of event. There have been no previous similar events.

The safety consequences and implications of the failure to perform the Technical Specification ACTION Statement on time are minimal since the remaining A.C. sources had been demonstrated operable at 0515 on 1/25/86, and were subsequently demonstrated operable at 1406 on 1/25/86. There is no evidence to indicate that these sources would not have been available, if needed, regardless of the plant operating condition.

The failure of DG "B" represented the third failure in the last 100 valid tests (on a per nuclear unit basis). Accordingly, the surveillance test interval was increased to not more than 7 days to comply with Regulatory Position C.2.d. of Regulatory Guide 1.108.



Arizona Nuclear Power Project

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February 24, 1986
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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 - 86-001-00
Special Report - Valid Failure of Diesel Generator "B" to Start
File: 86-020-404

Dear Sirs:

Attached please find Licensee Event Report (LER) No 86-001-00 prepared and submitted pursuant to 10 CFR 50.73. This LER also satisfies the requirement for a Special Report (1-SR-86-004) pursuant to Technical Specifications 4.8.1.1.3 and 6.9.2. The Special Report discusses the valid failure of Diesel Generator "B" to start. 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,

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

EEVB/KLM/rw
Attachment

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

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