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 FACIL: STN-50-528 Palo Verde Nuclear Station, Unit 1, Arizona Publi 05000528
 AUTH. NAME AUTHOR AFFILIATION
 HAYNES, J. G. Arizona Nuclear Power Project (formerly Arizona Public Serv
 RECIP. NAME RECIPIENT AFFILIATION
 MARTIN, J. B. Region 5, Office of Director

SUBJECT: Special Rept 1-SR-87-012: on 870302, following cleaning of
 contacts, diesel generator "A" failed to start in emergency
 mode. Caused by defective power resistor. Root cause of
 failure data sheet initiated & further action will be taken.

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NOTES: Standardized plant. M. Davis, NRR: 1Cy.

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192-00173-JGH/TRB/TJB

March 30, 1987

Mr. John B. Martin, Regional Administrator
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region V
1450 Maria Lane, Suite 210
Walnut Creek, CA 94596-5368

Subject: Palo Verde Nuclear Generating Station
Unit 1
Docket No. STN 50-528 (License NPF-41)
Special Report 1-SR-87-012
File: 87-020-404

Dear Mr. Martin:

Attached please find a Special Report 1-SR-87-012 prepared and submitted pursuant to Technical Specifications 4.8.1.1.3 and 6.9.2. This report discusses a valid Diesel Generator failure that occurred on March 2, 1987.

If you have any questions, please contact Tom Bradish, Compliance Supervisor at (602) 932-5300, Ext. 6936.

Very truly yours,

J. G. Haynes
Vice President
Nuclear Production

JGH/TRB/TJB/cld

Attachment

cc: O. M. DeMichele (all w/a)
E. E. Van Brunt, Jr.
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INPO Records Center

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PALO VERDE NUCLEAR GENERATING STATION UNIT 1

Valid Diesel Generator Failure on March 2, 1987

Docket No. 50-528

License No. NPF-41

Special Report 1-SR-87-012

This Special Report describes an event involving a valid failure of an Emergency Diesel Generator. The report is provided pursuant to Technical Specifications 4.8.1.1.3 and 6.9.2 and contains the information recommended in Regulatory Position C.3.b of Regulatory Guide 1.108, Revision 1, August 1977.

At approximately 0036 MST on March 2, 1987, with Palo Verde Unit 1 in Mode 4 (HOT SHUTDOWN), Diesel Generator "A" was declared inoperable in order to allow contacts on relays (#9, #10, #21) to be burnished. The contacts were being burnished as a prudent measure based on the identification of an oxidation film on the corresponding Diesel Generator relay contacts in Unit 2. Action Statement 3.8.1.1.b was entered as a result of the Diesel Generator inoperability.

At 0245, following the contact cleaning, emergency start signals were simulated through the use of installed jumpers in accordance with the appropriate work order retest instructions. After the jumpers were installed, Diesel Generator "A" started however, speed, voltage and frequency began oscillating. A second start attempt was made with the same results.

Troubleshooting of the Diesel Generator revealed that the cause of the failure was a defective power resistor (65PR). The power resistor receives 135 vdc, reduces it to 24 vdc, and provides it to the Governor Amplifier. The Governor Amplifier is part of the main electronic controls for the Governor which regulates the Diesel Generator's engine speed by controlling the fuel control system. Thus, the loss of the power resistor renders the Diesel Generator incapable of starting in the emergency mode. A root cause of failure data sheet has been initiated to determine the cause of the power resistor failure. Additional corrective action will be taken, if necessary, based upon the results of the root cause determination.

Following the troubleshooting effort, the power resistor was replaced, the appropriate surveillance test was completed, Technical Specification Action Statement 3.8.1.1.b was exited, and the Diesel Generator was returned to service at 0237 on March 3, 1987. The Diesel Generator was unavailable for approximately 24 hours after the power resistor failure was identified. This is the fourth (4th) failure in the last 100 valid tests. In accordance with the Palo Verde Unit 1 Technical Specification, the current surveillance test interval (once in 31 days) may be continued based on the number of failures (determined on a per Diesel Generator basis).

