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SUBJECT: Special Rept 3-SR-89-001:on 890105,inoperability of RU-143 & RU-144 discovered.

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192-00446-JGH/TDS/JJN
January 31, 1989

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

Dear Sirs:

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Unit 3
Docket No. STN 50-530 (License No. NPF-74)
Special Report 3-SR-89-001
File: 89-020-404

Attached please find Special Report 3-SR-89-001 prepared and submitted pursuant to Technical Specifications 3.3.3.8 and 6.9.2. This report discusses the inoperability of RU-143 and RU-144.

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/JJN/kj

Attachment

cc: D. B. Karner (all w/attachments)
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IE22
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PALO VERDE NUCLEAR GENERATING STATION

Radiation Monitoring Unit Inoperable for Greater Than 72 Hours

License No. NPF-74

Docket No. STN 50-530

Special Report No. 3-SR-89-001

This Special Report is being submitted pursuant to Technical Specification 3.3.3.8 ACTION 42b and Technical Specification 6.9.2 to report an event in which a Radioactive Gaseous Effluent Monitor (Plant Vent High Range Gaseous Activity Monitor RU-144) was inoperable for greater than 72 hours. The 72 hour limit for returning to operability was exceeded at approximately 0950 MST on January 8, 1989.

At approximately 0950 MST on January 5, 1989, Palo Verde Unit 3 was in Mode 1 (POWER OPERATION) at approximately 100 percent power when the Plant Vent System Radioactive Gaseous Effluent Monitors (RU-143 and RU-144) were declared inoperable for corrective maintenance and design enhancements. Pursuant to Technical Specification 3.3.3.8 ACTION 42a the Preplanned Alternate Sampling Program was initiated to monitor the Plant Vent System.

Monitors RU-143 and RU-144 work as a pair with RU-143 being the low range monitor and RU-144 being the high range monitor. Normal configuration consists of RU-143 operating and RU-144 in standby. When RU-143 reaches a predetermined setpoint, RU-144 automatically starts and RU-143 goes to standby. RU-144 is provided for tracking of postulated accident releases. RU-144 must be declared inoperable when RU-143 is inoperable.

Design enhancements were performed under an approved work document to replace integrated circuits (E-Proms) on RU-143. These new E-Proms contained improved software for converting count rate to radiation level, eliminating unnecessary alarms, and correcting the interface between the internal clock and the data processing. Corrective maintenance was performed on RU-144's display to replace the Light Emitting Diodes (LEDs).

Finally, corrective maintenance was performed on the RU-143 Channel 2 high voltage power supply. The diodes on the power supply limited output voltage to 1250 volts. This condition did not affect operability (Reference: Special Report 3-SR-88-003 submitted August 10, 1988). During the performance of the corrective maintenance to replace the diodes the I&C technician identified that the part number on the engineering document in the work order did not match the part installed in the detector. Further evaluation determined that the correct part number was installed but that the engineering document was in error. The part number specified was for the Channel 1 power supply which is comparable to the Channel 2 power supply except for the number of output ports. This error occurred while transcribing the part number. A "one" was substituted for a "two" in the last digit. However, this disposition of the engineering document was equally valid for both part numbers. New diodes were installed in accordance with the revised engineering document to restore the monitor to the original design configuration.

On January 8, 1989, at approximately 1022 MST, the monitors were restored to service. The monitors were inoperable for 72 hours and 32 minutes.