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SUBJECT: Special rept 1-SR-92-007:on 921227,Containment Bldg Atmosphere Radiation Monitor declared inopeable due to high flow conditions.Caused by change in construction of Teledyne Hastings Mass Flow Transducer.T-Mod installed on monitor.

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JAMES M. LEVINE
VICE PRESIDENT
NUCLEAR PRODUCTION

192-00824-JML/TRB/RJR
January 24, 1993

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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Dear Sirs:

Subject: **Palo Verde Nuclear Generating Station (PVNGS)**
Unit 1
Docket No. STN 50-528 (License No. NPF-41)
Special Report 1-SR-92-007
File: 93-020-404

Enclosed please find Special Report 1-SR-92-007 prepared and submitted pursuant to Technical Specifications 3.3.3.1 ACTION 27 and 6.9.2. This report discusses the Containment Building Atmosphere Radiation Monitor being inoperable for a period greater than 72 hours.

If you have any questions, please contact Thomas R. Bradish at (602) 393-5421.

Sincerely,

James M. Levine

JML/TRB/RR/pmm 290027

Enclosure

cc: W. F. Conway (all w/enclosure)
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PALO VERDE NUCLEAR GENERATING STATION UNIT 1

Radiation Monitor Inoperable

License No. NPF-41
Docket No. 50-528
Special Report 1-SR-92-007

PALO VERDE NUCLEAR GENERATING STATION UNIT 1

Radiation Monitor Inoperable

License No. NPF-41

Docket No. 50-528

Special Report 1-SR-92-007

Initial Conditions:

On December 30, 1992, Palo Verde Unit 1 was in Mode 1 (POWER OPERATION) at approximately 100 percent power.

Description of Event:

This special report is being submitted pursuant to Technical Specification 3.3.3.1 ACTION 27 and Technical Specification 6.9.2 to report an event in which the Containment Building Atmosphere Radiation Monitor (RU-1) was inoperable for a period greater than 72 hours. The 72-hour period for returning the monitor to service was exceeded at approximately 1600 MST on December 30, 1992.

On December 27, 1992, at approximately 1600 MST, the Containment Building Atmosphere Radiation Monitor (RU-1) was declared inoperable because of high flow conditions. Troubleshooting was conducted and identified an inadequate ground connection on the Radiation Monitoring System (RMS) grounding system. The ground connection was repaired and the flow element recalibrated. RU-1 was returned to service and declared OPERABLE on December 30, 1992, at approximately 1503 MST after successful performance of the required surveillance testing. Three hours later, at approximately 1830 MST, on December 30, 1992, RU-1 was again declared inoperable due to high flow. A meeting was called by Unit 1 management to determine the operating status of RU-1. Based on the similarity of the December 30, 1992, high flow condition to the previous high flow condition, it was decided that RU-1 had been inoperable since December 27, 1992.

RU-1 continuously monitors the containment atmosphere for particulate and gaseous activity to provide a qualitative indication of an increase in primary coolant system leakage. A portable radiation monitor was installed to continuously sample containment air and grab sampling in accordance with Technical Specification 3.3.3.1 ACTION 23 each time RU-1 was declared inoperable and at no time was the requirement of Technical

Specification 3.4.5.3 ACTION a exceeded. RU-1 was declared OPERABLE on January 18, 1993, at approximately 1715 MST after installation of the temporary modification described in the corrective action section and completion of required surveillance testing.

Cause of Event:

The cause of the event was a change in the construction of the Teledyne-Hastings Mass Flow Transducer used to monitor sample flowrate. The change consisted of internally grounding the thermocouples used to measure the degree of cooling associated with the mass flow measurement technique. This resulted in a normal bias between the plant grounding system and the dedicated RMS grounding system being presented as a change in flow rate.

Bench tests confirmed that the erroneous readings would result from an electrical potential difference between the transducer and the display module. Additional field testing confirmed that the bias error was removed when the transducer ground path was opened. Field testing with both the transducer and display module connected to the plant grounding system resolved the erroneous indication.

Corrective Action:

A Temporary Modification (T-Mod) was installed on the subject radiation monitor to remove the monitor from the dedicated RMS grounding system and connected it to plant grounding system. The purpose of the T-Mod is to evaluate the use of the plant grounding system as a means of eliminating the indication errors associated with sample flow measurement. If no further indication errors are noted by the end of March 1993, Systems Engineering is planning to implement a permanent change to the equipment to leave the monitor on the plant grounding system or modify the transducer to remove the ground path. It should be noted that the operation of the radiation monitor itself is adequate in either grounding configuration.