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SUBJECT: Special Rept 1-SR-89-009, Suppl 1: on 890907, radiation
 monitoring unit inoperable in excess of 72 h.

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JAMES M. LEVINE
VICE PRESIDENT
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192-00657-JML/TRB/SBJ
May 2, 1990

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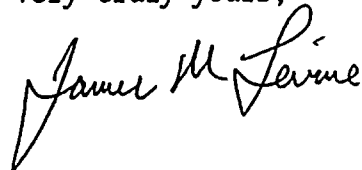
Dear Sirs:

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Unit 1
Docket No. STN 50-528 (License No. NPF-41)
Special Report 1-SR-89-009
File: 89-020-404

Attached please Supplement Number 1 to Special Report 1-SR-89-009 prepared and submitted pursuant to Technical Specification 3.3.3.8 ACTION 42(b) and 6.9.2. This report discusses a radiation monitor inoperable for greater than 72 hours. Additionally, a copy of this report is being sent to the Regional Administrator.

If you have any questions on this matter, please contact Mr. Thomas R. Bradish, Compliance Manager at (602) 393-2521.

Very truly yours,



JML/TRB/SBJ/tlg

Attachment

cc: W. F. Conway (w/attachment)
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D. H. Coe
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PALO VERDE NUCLEAR GENERATING STATION

Radiation Monitoring Unit Inoperable for Greater Than 72 Hours

License No. NPF-41

Docket No. STN 50-528

Supplement 1 to Special Report 1-SR-89-009

This Special Report is submitted in accordance with Technical Specifications 3.3.3.8 ACTION 42(b) and 6.9.2 for an event in which the Plant Vent High Range Effluent Monitor (RU-144) was inoperable for greater than 72 hours. The 72 hours was exceeded at approximately 0623 MST on September 10, 1989.

Palo Verde Unit 1 was in a refueling outage with the core off-loaded to the spent fuel pool at the time of this event. At approximately 0623 on September 7, 1989, the plant vent low and high range effluent monitors (RU-143 and RU-144) were declared inoperable because the Skid Mounted Indication and Control (SMIC) Unit for the low range monitor was not operating properly. Pursuant to Technical Specification 3.3.3.8 ACTION 37, the Preplanned Alternate Sampling Program (PASP) was initiated at approximately 0705 MST on September 7, 1989 and continued until the radiation monitors were declared operable.

RU-143 and RU-144 radiation monitors work as a pair, with the low range monitor normally operating and the high range monitor in standby. When the low range monitor reaches a predetermined setpoint, the high range monitor starts and the low range monitor goes to standby. The high range monitor provides tracking of radioactive effluents during postulated accident scenarios. The high range monitor must be declared inoperable when the low range monitor is inoperable.

Each radiation monitor has a detector communicating with a microcomputer. The microcomputer for RU-143 is located in the post accident monitoring unit (PAMU). Routine radiation information in the microcomputer can be accessed at the radiation monitor using the SMIC unit. A portable indication and control (PIC) unit can be plugged into the microcomputer to access information.

Remote access to the microcomputer is through the minicomputer. Actuations of the radiation monitor are processed by the minicomputer.

The SMIC inability to communicate with the microcomputer was intermittent. Maintenance monitored RU-143 SMIC performance daily after the radiation monitor was declared inoperable. As part of the troubleshooting, the CPU board and system board for the SMIC were replaced. After the board chargeout, SMIC again operated intermittently. The system board was then removed and reinserted. SMIC operated properly after this readjustment.

The intermittent inability of SMIC to communicate with the microcomputer has been attributed to the system board zero insertion connecting socket. The connecting socket did not ensure solid contact at all times. Since the condition does not effect the operability of the radiation monitor, no additional corrective actions for this problem are necessary. The old sockets will be removed whenever it is necessary to replace a system board and new sockets are available. New system boards procured have a different connecting socket.

An engineering evaluation completed on October 10, 1989 determined that the inability of RU-143 SMIC to communicate with the microcomputer did not affect the operability of the radiation monitor. SMIC is only used for accessing data. The radiation monitor was capable of initiating the required annunciations and actuations (see attached drawings). Therefore, RU-143 and RU-144 were declared operable at approximately 1300 MST on October 13, 1990.

In addition, to preclude unnecessarily declaring radiation monitors inoperable, a engineering evaluation has been completed that identifies the minimum requirements for Technical Specification radiation monitors to be operable.

RADIATION MONITORING SYSTEM BLOCK DIAGRAM

