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RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 89-005-00:on 890628,plant vent low range effluent monitor alarm not properly investigated.

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192-00502-JGH/TDS/DAJ
July 28, 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)
Licensee Event Report 89-005-00
File: 89-020-404

Attached please find Licensee Event Report (LER) No. 89-005-00 prepared and submitted pursuant to 10CFR 50.73. In accordance with 10CFR 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 questions, please contact T. D. Shriver, Compliance Manager at (602) 393-2521.

Very truly yours,

J. G. Haynes
Vice President
Nuclear Production

JGH/TDS/DAJ/kj

Attachment

cc: W. F. Conway (all w/a)
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NRC Form 366 (9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Palo Verde Unit 3	0 5 0 0 0 5 3 0	1 OF 0 5

TITLE (4)
Plant Vent Low Range Effluent Monitor Alarm Not Properly Investigated

EVENT DATE (5)			LER 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)
									N/A	0 5 0 0 0
0 6	2 8	8 9	8 9	0 0 5	0 0	0 7	2 8	8 9	N/A	0 5 0 0 0

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 0 0	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
Timothy D. Shriver, Compliance Manager	6 0 2 — 3 9 3 - 2 5 2 1

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
X YES (If yes, complete EXPECTED SUBMISSION DATE)	NO		0 9	3 0	8 9

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

At approximately 1115 MST on June 28, 1989, Palo Verde Unit 3 was in a refueling outage with the core off-loaded to the Spent Fuel Pool when a Unit 3 Technician discovered that the sample flow rate for the Plant Vent Low Range Radioactive Effluent Monitor (RU-143) was below the low flow alarm setpoint rendering the monitor inoperable. Investigation determined that the low flow alarm had occurred at approximately 0531 MST on June 28, 1989; however, the alarm was not properly investigated. This resulted in not meeting ACTION requirements 36 and 40 of Technical Specification (T.S.) 3.3.3.8.

The cause of the low flow condition on RU-143 was a loose set screw on the coupling between the monitor's sample pump and its drive motor. The cause of the improper follow-up action for the low flow alarm is under investigation in accordance with the PVNGS Incident Investigation Program and will be described in a supplement to this report.

As corrective action, the Pre-Planned Alternate Sampling Program was implemented by 1150 MST on June 28, 1989, fulfilling T.S. 3.3.3.8 ACTION requirements. The loose set screw was tightened and RU-143 was returned to service at approximately 1558 MST on June 24, 1989.

A previous similar event was reported in Unit 1 LER 528/85-067.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Palo Verde Unit 3	0 5 0 0 0 5 3 0	8 9	— 0 0 5	— 0 0	0 2 OF 0 5

TEXT *(If more space is required, use additional NRC Form 366A's)* (17)

I. DESCRIPTION OF WHAT OCCURRED:

A. Initial Conditions:

At approximately 0631 MST on June 28, 1989, Palo Verde Unit 3 was in a refueling outage with the core (AC) off-loaded to the Spent Fuel Pool (ND).

B. Reportable Event Description (Including Dates and Approximate Times of Major Occurrences):

Event Classification: Condition prohibited by the plant's Technical Specifications.

At approximately 1115 MST on June 28, 1989, during the performance of Radiation Monitoring System (IL) daily surveillance testing, a Unit 3 Chemistry Technician (utility, non-licensed) discovered that the indicated sample flow rate for the Plant Vent Low Range Radioactive Effluent Monitor (RU-143)(VL)(RI)(IL) was below the alarm setpoint. Investigation determined that a low flow alarm had occurred at approximately 0531 MST on June 28, 1989 and acknowledged in the Control Room; however, the alarm was not properly investigated. Since an actual low flow condition existed, the monitor had been inoperable since approximatey 0531 MST and ACTION requirements 36 and 40 of Technical Specification 3.3.3.8 were not met within the allowable interval.

With RU-143 inoperable, Technical Specification 3.3.3.8 ACTIONS 36 and 40 require that effluent releases via the Plant Vent may continue provided the flow rate is estimated at least once per four (4) hours and auxiliary sampling equipment is installed within one hour after the monitor is declared inoperable (i.e., implement Pre-Planned Alternate Sampling Program).

Prior to event discovery, at approximately 0530 MST on June 28, 1989, Unit 3 Operations personnel (utility, licensed and non-licensed) were in the process of preparing for a planned maintenance outage on the Train "A" Class 1E electrical power system (EB). During the process, several alarms were received as components were de-energized. At approximately the same time (0531 MST per computer logs) the low flow alarm for RU-143 occurred. Control Room personnel (utility, licensed) acknowledged the low flow alarm and contacted Radiation Protection personnel (utility, non-licensed) per procedural requirements. No further followup action was taken. Pursuant to Technical Specification 3.3.3.8 ACTIONS 36, 37, and 40, the Pre-Planned Alternate Sampling Program should have been implemented by 0631 MST on June 28, 1989.

At approximately 1115 MST on June 28, 1989, Unit 3 Chemistry personnel were performing daily Radiation Monitoring System

surveillance testing and noted the low flow condition for RU-143. Control Room personnel were contacted and the applicable ACTION requirements of Specification 3.3.3.8 were implemented by approximately 1150 MST on June 28, 1989 in accordance with the Pre-Planned Alternate Sampling Program.

C. Status of structures, systems, or components that were inoperable at the start of the event that contributed to the event:

Except as described in Section I.B, no other structures, systems or components were inoperable at the start of the event which contributed to the event.

D. Cause of each component or system failure, if known:

Not applicable - no component or system failures were involved.

E. Failure mode, mechanism, and effect of each failed component, if known:

Not applicable - no component failures were involved.

F. For failures of components with multiple functions, list of systems or secondary functions that were also affected:

Not applicable - no component failures were involved.

G. For failures that rendered a train of a safety system inoperable, estimated time elapsed from the discovery of the failure until the train was returned to service:

Not applicable - no component failures were involved. However, the Plant Vent Low Range Radioactive Effluent Monitor (RU-143) became inoperable at approximately 0531 MST on June 28, 1989, due to the low flow conditions. Following appropriate repairs, RU-143 was returned to service at approximately 1558 MST on June 29, 1989. RU-143 was inoperable for approximately 34 hours and 27 minutes.

H. Method of discovery of each component or system failure or procedural error:

Not applicable - there were no component or system failures or procedural errors.

I. Cause of Event:

The cause of the low flow on the Plant Vent Low Range Monitor (RU-143) was a loose set screw on the coupling between the monitor's air sample pump (P) and its drive motor (MO). The loose

set screw resulted in a loose coupling and the motor would not adequately turn the sample pump.

The cause of the inadequate followup for the RU-143 low flow alarm is under investigation in accordance with the PVNGS Incident Investigation Program. The investigation is expected to be completed by August 31, 1989. A supplement to this report will be submitted to describe the results of the investigation. The supplement is expected to be submitted by September 30, 1989.

J. Safety System Response:

There were no automatic or manual safety system responses and none were necessary.

K. Failed Component Information:

Not applicable - no component failures were involved.

II. ASSESSMENT OF THE SAFETY CONSEQUENCES AND IMPLICATIONS OF THIS EVENT:

Plant Vent gaseous effluent instrumentation is provided to monitor for radioactive materials released during normal plant operations or postulated accident conditions. There are two separate radioactive gaseous effluent monitoring channels for the Plant Vent: the low range effluent monitor (RU-143) for normal plant radioactive gaseous effluents and the high range effluent monitor (RU-144) for post-accident plant radioactive gaseous effluents. The low range monitor continuously operates until the concentration of radioactivity in the effluent is above a pre-determined setpoint. At this setpoint, sample flow is re-directed to the high range monitor and the low range monitor is secured.

The Plant Vent low and high range monitors measure particulate and gaseous gross beta activity as well as volatile I-131. The particulate beta channel uses a beta scintillator to count deposited activity on a fixed filter paper. A second beta scintillator counts the filtered gas for gaseous beta activity. The I-131 channel uses a single channel analyzer to discriminate and count volatile I-131 decay photon-generated electrical pulses. The monitors sample isokinetically per ANSI 13.1-1969. This is done through receiving either a manual or automatic input of Plant Vent flow rate to a microcomputer (CPU) which in turn sets the correct radiation monitor sample flow rate. With the incorrect sample flow rate described in Section I.B, the Plant Vent effluent was not being sampled isokinetically by the low range monitor (RU-143).

At the time of the event, Unit 3 was shut down during a refueling outage with the core off-loaded to the spent fuel pool. No fuel movement was in progress. Radioactive effluent levels before and after the period of monitor inoperability were normal. There were no accidents or plant

activities in progress which would have resulted in abnormal effluent radioactivity levels during the period of monitor inoperability. Therefore, there were no safety consequences or implications resulting from this event.

III. CORRECTIVE ACTIONS:

A. Immediate:

The Pre-Planned Alternate Sampling Program was implemented to comply with the ACTION requirements of Technical Specification 3.3.3.8.

The set screw on RU-143's sample pump was tightened and the monitor was returned to service as described in Section I.C.

B. Action to Prevent Recurrence:

Action to prevent recurrence for this event will be developed based upon the results of the investigation being conducted. The corrective actions will be described in the supplement to this report.

The loose set screw has not been identified as a recurring problem at PVNGS. In accordance with an APS program, Engineering reviews work order trends. If the loose set screw were identified as a recurring occurrence, additional corrective action would be developed. Additionally, the low flow alarm provides indication that a problem has occurred and enables prompt corrective action and/or compensatory measures.

IV. PREVIOUS SIMILAR EVENTS:

A previous similar event was reported in Unit 1 LER 528/85-067. A low flow alarm for the Plant Vent low range monitor (RU-143) was received in the Control Room and acknowledged by Control Room personnel (utility, licensed). However, Radiation Protection personnel were not notified contrary to procedural requirements.

Based upon the results of the current PVNGS investigation being conducted, a discussion of why previous corrective actions did not prevent the event described in this LER (530/89-005) will be included in the supplement to this report.