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LEVINE,J.M. Arizona Public Service Co. (formerly Arizona Nuclear Power
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 89-003-02:on 890217,loss of power to alternate fuel bldg effluent radiation monitor occurred.W/900929 ltr.

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Arizona Public Service Company
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JAMES M. LEVINE
VICE PRESIDENT
NUCLEAR PRODUCTION

192-00695-JML/TRB/RKR
September 29, 1990

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Mail Station P1-37
Washington, DC 20555

Dear Sirs:

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Unit 1
Docket No. STN 50-528 (License No. NPF-41)
Licensee Event Report 89-003-02
File: 90-020-404

Attached please find Supplement Number 2 to Licensee Event Report (LER) No. 89-003 prepared and submitted pursuant to 10CFR50.73. This report is being submitted to update the scheduled date for implementing a design modification. The schedule is being revised due to material delays. In accordance with 10CFR50.73(d), we are forwarding a copy of the LER to the Regional Administrator of the Region V office.

If you have any questions, please contact T. R. Bradish, Compliance Manager at (602) 393-2521.

Very truly yours,

James M. Levine

JML/TRB/RKR/dmn

Attachment

cc: W. F. Conway (all with attachment)
J. B. Martin
D. H. Coe
A. C. Gehr
A. H. Gutterman
INPO Records Center

0322

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1/1

NRC FORM 366 (6-89)

U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Palo Verde Unit 1	0 5 0 0 0 5 2 8	1 OF 0 6

TITLE (4)

Loss of Power to Alternate Fuel Building Effluent Radiation Monitor

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)
0 2	1 7	8 9	8 9	0 0 3	0 2	0 9	2 9	9 0	N/A	0 5 0 0 0
									N/A	0 5 0 0 0

OPERATING MODE (9)	POWER LEVEL (10)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
1	1 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
Thomas R. Bradish, Compliance Manager	AREA CODE 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
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

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

On February 17, 1989, at approximately 1415 MST, Palo Verde Unit 1 was in Mode 1 (POWER OPERATION) at approximately 100 percent power when a Chemistry Effluent Technician (utility, non-licensed) discovered that the Preplanned Alternate Sampling System (IL) for the Fuel Building was inoperable. The circuit breaker, which supplies the electrical power (EC), had opened and deenergized the alternate system. With the alternate sampling inoperable, Unit 1 operated in a condition contrary to Technical Specification (TS) 3.3.3.8. At approximately 1425 MST, the power to the Preplanned Alternate Sampling System power was restored. No safety system responses occurred and none were necessary.

The root cause of the event was temporary and permanent electrical loads in excess of circuit capacity. In response, the circuit breaker supplying the electrical power opened and caused the loss of electrical power (EC)(BRK) to the alternate sampling system.

A Design Change has been issued to install dedicated alternate sample systems to radiation monitors RU-141, RU-143 and RU-145.

Similar events were reported in LER 529/87-14, 529/88-13, and 530/88-07.

I. DESCRIPTION OF WHAT OCCURRED:

A. Initial Conditions:

On February 17, 1989, at approximately 1415 MST, Palo Verde Unit 1 was in Mode 1 (POWER OPERATION) at approximately 100 percent power.

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

Event Classification: Condition Prohibited by the Plant's Technical Specifications (TS)

On February 17, 1989, at approximately 1415 MST, a Chemistry Effluent Technician (Utility, non-licensed) discovered that the Preplanned Alternate Sampling System (IL) for the Fuel Building (VL) was inoperable. The circuit breaker, which supplies the electrical power (EC), had opened and deenergized the alternate system. With the alternate sampling system inoperable, Unit 1 operated in a condition contrary to TS 3.3.3.8.

Prior to the event, on February 16, 1989 at approximately 0540 MST, the normal Fuel Building low and high range effluent monitors (RU-45 and RU-146)(IL) were declared inoperable due to failure of the detector to satisfactorily source check. Appropriate actions were initiated in accordance with approved procedures. These actions included the installation of the Preplanned Alternate Sampling System on a portable cart within one hour in accordance with TS 3.3.3.8 ACTION 37 and 40. The alternate sampling system taps into the Fuel Building vent and uses a particulate and charcoal cartridge for sample collection with an in-line flow gauge and sampling pump. The alternate sampling system is electrically powered from a local outlet.

Following the installation of the alternate sampling system, the process and sample flow rates were verified every four hours pursuant to TS 3.3.3.8 ACTION 36. On february 17, 1989, at approximately 1130 MST, a process and alternate sampling system flow check was performed. At this time, the alternate sampling system was energized and operable.

At approximately 1410 MST, the "Radiation Monitoring System Daily Surveillance Test", 75ST-9ZZ07, was successfully completed. Prior to returning RU-145 to service, at approximately 1415 MST, the

Chemistry Effluent Technician decided to perform one last flow check prior to completing activities to make RU-145 and RU-146 operable and discovered that the alternate sampling system was deenergized. The alternate sampling system was made operable at approximately 1425. At approximately 1500 MST, the new particulate and iodine filter were installed and RU-145 and RU-146 were returned to service.

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

As stated in Section I.B, the Fuel Building Radiation Monitors, RU-145 and RU-146 were inoperable for corrective maintenance. No other structures, systems, or components were inoperable at the start of the event that contributed to the event.

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

Not applicable - no component or system failures were involved. However, as stated in Section I, B, electrical power to the alternate sampling system was interrupted when the circuit breaker opened.

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 a failure 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 failures were involved. However, the alternate sampling system was discovered inoperable on February 17, 1989, at approximately 1415 MST. The alternate sampling system was made operable at approximately 1425 MST. The total elapsed time was approximately ten minutes.

RU-145 and RU-146 were restored to service on February 17, 1989, at approximately 1500 MST. RU-145 and RU-146 were declared

inoperable on February 16, 1989 at approximately 0540 MST. The total elapsed time was approximately 34 hours and 40 minutes.

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

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

I. Cause of event:

The root cause of the event was temporary and permanent electrical loads in excess of the circuit capacity. In response, the circuit breaker opened and caused a loss of electrical power to the alternate sampling system. Without electrical power, the sampling pump can not draw a sample from the Fuel Building vent.

An informal review of the local outlets available to power the alternative sampling system has determined that the circuits are near capacity loading.

J. Safety System Response:

Not applicable - no safety system responses occurred 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:

No adverse safety consequences or implications resulted from this event. The alternate system was determined to be operable two hours and 45 minutes prior to the discovery of the loss of power. Upon discovery of the loss of power, the alternate sampling system power was restored within approximately ten minutes and RU-145 and RU-146 were returned to service within approximately 45 minutes. The TS 3.3.3.8 ACTION 40 permits 1 hour to install the alternate sampling system. No significant levels of radiation were measured before or after the event.

III. CORRECTIVE ACTION:

A. Immediate:

Power was restored to the alternate sampling system. Additionally, the normal Fuel Building Radiation Monitors RU-145 and RU-146 were restored to service. Therefore, the ACTION statements for the alternate sampling system operability were exited.

B. Action to Prevent Recurrence:

A Design Change has been issued to to install dedicated alternate sample systems to radiation monitors RU-141, RU-143 and RU-145. The alternate sample systems will be supplied by dedicated power. Implementation of the design modification in Units 1, 2, and 3 was originally expected to be completed by September 30, 1990, however due to material delays the modification is expected to be completed by December 1990.

IV. PREVIOUS SIMILAR EVENTS:

Three previous events have occurred which are similar to the event described in this LER. A description of each is described below:

1) LER 529/87-014 described an event where the alternate sampling system for the Fuel Building Ventilation Radiation Monitor (RU-145) had been turned off and rendered inoperable. As corrective action to prevent recurrence, a placard was installed on the cart which identifies the cart as a Technical Specification piece of equipment. Since the event described in this LER involves the overloading and subsequent tripping of the power supply breaker, the corrective action described in LER 87-014 would not have prevented the event described in this LER.

2) LER 529/88-013 described an event where the alternate sampling system for Normal Plant Ventilation Radiation Monitor (RU-143) had been rendered inoperable when the circuit breaker opened. As corrective action to prevent recurrence, an Engineering Evaluation Request was issued to evaluate the feasibility of supplying alternate power to the loads. This evaluation had progressed to the point of a conceptual study when this event occurred and thus, did not prevent the event.

3) LER 530/88-007 described an event where the alternate sampling

system for the Condenser Vacuum Pump/Gland Seal Exhaust Radiation Monitor (RU-141) became electrically disconnected from a nearby electrical outlet and thus, render inoperable. As action to prevent recurrence, the involved individual was counseled, additional training was performed, and enhanced labeling for the sample cart was developed. Additionally, an evaluation was initiated to upgrade the installation of the sample cart. The evaluation discussed is part of the conceptual study discussed as corrective action in Section III.B of this LER. Installation of these upgrades would not have prevented the event described in this LER. Also, counseling, training, and labeling would not have prevented the event discussed in this LER.