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ACCESSION NBR: 9010150066 DOC. DATE: 90/09/29 NOTARIZED: NO DOCKET #
 FACIL: STN-50-529 Palo Verde Nuclear Station, Unit 2, Arizona Publi 05000529
 AUTH. NAME AUTHOR AFFILIATION
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 RECIP. NAME RECIPIENT AFFILIATION
 NRC - No Detailed Affiliation Given

SUBJECT: LER 90-003-01: on 900331, loss of power to alternate plant
 ventilation effluent radiation monitor. W/900929 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 7
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: Standardized plant.

05000529

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Arizona Public Service Company

PALO VERDE NUCLEAR GENERATING STATION
P.O. BOX 52034 • PHOENIX, ARIZONA 85072-2034

JAMES M. LEVINE
VICE PRESIDENT
NUCLEAR PRODUCTION

192-00694-JML/TRB/RKR
September 29, 1990

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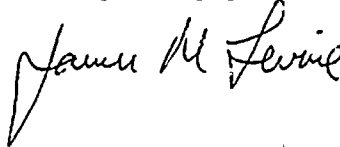
Dear Sirs:

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Unit 2
Docket No. STN 50-529 (License No. NPF-51)
Licensee Event Report 90-003-01
File: 90-020-404

Attached please find Supplement Number 1 to Licensee Event Report (LER) No. 90-003 prepared and submitted pursuant to 10CFR50.73. This report is being submitted to update the schedule 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,



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

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PDR ADCK 05000529
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LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 60.0 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) **Palo Verde Unit 2** DOCKET NUMBER (2) **0 | 5 | 0 | 0 | 0 | 5 | 2 | 9** PAGE (3) **1** OF **0 | 7**

TITLE (4)
Loss of Power to Alternate Plant Ventilation 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		
0	3	3	1	9	0	9	0	0	N/A		
0	3	3	1	9	0	9	0	0	N/A		

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

OPERATING MODE (9)	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
<input checked="" type="checkbox"/> N	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.38(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
POWER LEVEL (10) 0 0 0	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.38(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	
	<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)	

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 NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input type="checkbox"/>	<input checked="" type="checkbox"/>				

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

At approximately 1230 MST on March 31, 1990, Palo Verde Unit 2 was in a refueling outage with the reactor core offloaded to the Spent Fuel Pool when a Chemistry Effluent Technician and the Control Room Shift Supervisor discovered that the Preplanned Alternate Sampling Program (PASP) portable sample cart for the Fuel Building Ventilation had been inoperable. At approximately 0620 MST on March 31, 1990, the load center supplying power to the PASP portable sample cart had been deenergized for a preplanned electrical outage. When the load center was deenergized, it was not recognized that it supplied power to the PASP portable sample cart. At approximately 0840 MST on March 31, 1990, the PASP portable sample cart was returned to OPERABLE status. With the PASP portable sample cart inoperable for approximately two hours and twenty minutes, Unit 2 operated in a condition contrary to Technical Specification 3.3.3.8.

The cause of the event was a personnel error due to inadequate identification of the loads on the load center prior to deenergization.

As corrective action a Design Modification has been issued to install dedicated alternate sample systems to radiation monitors RU-141, RU-143 and RU-145.

Similar events were reported in LERs 529/87-14, 529/88-13, 530/88-07, 530/89-03, and 529/89-005.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 60.0 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)

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Palo Verde Unit 2

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TEXT (If more space is required, use additional NRC Form 365A's) (17)

I. DESCRIPTION OF WHAT OCCURRED:

A. Initial Conditions:

At approximately 0620 MST on March 31, 1990, Palo Verde Unit 2 was in a refueling outage with the reactor core (AC) offloaded 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 (TS)

At approximately 1230 MST on March 31, 1990, a Chemistry Effluent Technician (utility, non-licensed) and the Control Room Shift Supervisor (utility, licensed) discovered that the Preplanned Alternate Sampling Program (PASP)(IL) portable sample cart for the Fuel Building ventilation (VL) had been inoperable. The power supply for the PASP portable sample cart had been deenergized for a preplanned electrical outage at approximately 0620 MST on March 31, 1990. The power supply was reenergized at approximately 0802 MST. Prior to the event discovery, at approximately 0840 MST on March 31, 1990, the PASP portable sample cart flow had been verified to confirm proper operation. With the PASP portable sample cart inoperable for approximately two hours and twenty minutes, Unit 2 operated in a condition contrary to TS 3.3.3.8.

Prior to the event, at approximately 1700 MST on March 23, 1990, the Fuel Building Ventilation System Low and High Range Radioactive Gaseous Effluent Monitors (RU-145 and RU-146)(MON)(IL) were removed from service when their power supply was deenergized for scheduled maintenance during the refueling outage. This was reported in Special Report 2-SR-90-001 dated April 12, 1990, in accordance with TS 3.3.3.8 ACTION 42b and TS 6.9.2. Appropriate actions were initiated in accordance with approved procedures. These actions included the installation of the PASP portable sample cart within one hour in accordance with TS 3.3.3.8 ACTIONS 37 and 40. The portable sample cart taps into the Fuel Building ventilation and uses a particulate and charcoal cartridge for sample collection with an inline flow gauge and sampling pump. The portable sample cart is electrically powered from a local outlet. The Portable Area Monitor (PAM) was also installed. The PAM is located on the Fuel Building roof to monitor the Fuel Building Ventilation discharge pipe. The output from the PAM is connected to the Radiation Monitoring System (RMS) minicomputer

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH 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.

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(CPU)(IL) in the Chemistry Lab. The PAM is also powered from a local outlet.

Following the installation of the portable sample cart, the process and sample flow rates were verified a minimum of every four hours pursuant to TS 3.3.3.8 ACTION 36. At approximately 0615 MST on March 31, 1990, a portable sample cart flow check was performed. At that time, the portable sample cart was energized and operable. At approximately 0620 MST on March 31, 1990, a non-class IE 480 Volt load center (NGN-L17)(XFMR)(EC), which normally supplies nonessential lighting and outlets, was deenergized to permit connection of a temporary power supply to allow its normal power supply to be deenergized for a preplanned electrical outage. The load center was providing power to the local outlets for the portable sample cart and PAM. During the next scheduled tour, at approximately 0711 MST, a Chemistry Effluent Technician discovered that the PAM was not operating and notified the Control Room Shift Supervisor (utility, licensed).

At approximately 0750 MST while investigating the PAM inoperability, the Chemistry Effluent Technician discovered that the PAM was deenergized and notified the Control Room Shift Supervisor. The Control Room Shift Supervisor determined that the PAM was inoperable due to its load center being deenergized. At approximately 0802 MST, the PAM was returned to service when the load center was reenergized. The PAM had been inoperable from approximately 0620 MST to approximately 0802 MST on March 31, 1990, a period of approximately 1 hour and 42 minutes. The PAM was not required to be OPERABLE during this time period to meet TS requirements.

At approximately 1230 MST on March 31, 1990, while reviewing the loads supplied by the load center, the Chemistry Effluent Technician and the Control Room Shift Supervisor discovered that the portable sample cart was powered by the same load center as the PAM. Prior to this discovery, at approximately 0840 MST on March 31, 1990 (after the load center had been reenergized), proper operation of the portable sample cart flow had been verified during the regularly scheduled surveillance. The portable sample cart was inoperable from approximately 0620 MST to 0840 MST on March 31, 1990, for approximately 2 hours and 20 minutes. This is contrary to TS 3.3.3.8 ACTION 40 which requires that "effluent releases via the affected pathway may continue provided samples are continuously collected with auxiliary sampling equipment".

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ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 60.0 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.

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- 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 Ventilation System Radioactive Gaseous Effluent Monitors, RU-145 and RU-146, were inoperable due to deenergization of their power supply for scheduled maintenance during the refueling outage. The PASP portable sample cart and PAM became inoperable as described in Section I.B. 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.

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

Not applicable - no failures were noted.

- 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 failures were involved.

- 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 cause of the event was a personnel error (SALP Cause Code A) by chemistry personnel (utility, non-licensed). Interim corrective action from a previous similar event (LER 529/89-005) required that PASP equipment be electrically powered such that a loss of power would provide an alarm in the control room. Preplanned bus outages during the refueling resulted in loss of power to several radiation monitors. In accordance with TS ACTION

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TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-830), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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requirements, PASP equipment was placed in service to provide alternate sampling for the monitors out of service. Since the alarm computer in the control room could not accept all of the alarms, the alternate sample cart for Radiation Monitor RU-145 was not connected to the alarm computer in the control room. Other higher priority PASP equipment was connected instead.

Since the PASP equipment could not be connected to the alarm computer, chemistry personnel should have taken additional action and notified the control room that the PASP equipment was being supplied from a specific outlet and that additional measures were required to prevent a loss of power to the PASP equipment (e.g., caution tag power supplies for the PASP equipment). Chemistry personnel did not inform the control room which electrical outlets were supplying power to the PASP equipment resulting in operations personnel (utility, licensed) not performing an adequate review of the loads on the non class 1E load center prior to deenergizing the load center. There were no administrative controls which recommended that chemistry personnel inform the control room which outlets were supplying power to the PASP equipment. There were no unusual characteristics of the work location that directly contributed to this event.

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:

The portable sample cart was determined to be inoperable for approximately 2 hours and 20 minutes. There was no fuel movement or crane movement over the spent fuel pool during this event. The Fuel Building Area Radiation Monitors (RU-19 and RU-31) did not indicate any change in radiation levels during this event. The PASP sample from the portable sample cart and the PAM did not indicate any significant radiation levels prior to and after this event. Therefore, there were no safety consequences or implications as a result of this event. This event did not adversely effect the health and safety of the public.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 60.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-630), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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III. CORRECTIVE ACTIONS:

A. Immediate:

Power was returned to the alternate sampling system and PAM.

B. Action to Prevent Recurrence:

1. A Design Modification has been issued 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.
2. The RMS Sample Collection Procedure for all three units has been changed to require that when PASP equipment cannot be connected to the alarm computer in the control room, chemistry personnel inform the control room which electrical outlets PASP equipment is powered from and request that the power supplies for the PASP equipment (when it is in use) be caution tagged to alert personnel that Technical Specification required equipment is connected to these power supplies.

IV. PREVIOUS SIMILAR EVENTS:

Five previous events have occurred which are similar to this event:

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 Technical Specification required equipment. Since the event described in this LER involves deenergizing the power supply for the PASP equipment, the corrective action described in LER 87-014 would not have been expected to prevent 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. Based on this evaluation, a design modification was issued to supply dedicated power to the alternate

