

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Palo Verde Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 5 2 8 1	PAGE (3) 1 OF 0 1 3
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TITLE (4)
Automatic Actuation of Balance of Plant Engineered Safety Feature System

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)																																																											
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<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:15%;">OPERATING MODE (9)</td> <td style="width:10%;">6</td> <td colspan="10">THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)</td> </tr> <tr> <td rowspan="5">POWER LEVEL (10) 0 1 0 0</td> <td></td> <td>20.402(b)</td> <td></td> <td>20.406(c)</td> <td><input checked="" type="checkbox"/></td> <td>50.73(a)(2)(iv)</td> <td></td> <td>73.71(b)</td> </tr> <tr> <td></td> <td>20.406(a)(1)(i)</td> <td></td> <td>50.36(e)(1)</td> <td></td> <td>50.73(a)(2)(v)</td> <td></td> <td>73.71(e)</td> </tr> <tr> <td></td> <td>20.406(a)(1)(ii)</td> <td></td> <td>50.36(e)(2)</td> <td></td> <td>50.73(a)(2)(vi)</td> <td></td> <td rowspan="3">OTHER (Specify in Abstract below and in Text, NRC Form 386A)</td> </tr> <tr> <td></td> <td>20.406(a)(1)(iii)</td> <td></td> <td>50.73(a)(2)(i)</td> <td></td> <td>50.73(a)(2)(vii)(A)</td> <td></td> </tr> <tr> <td></td> <td>20.406(a)(1)(iv)</td> <td></td> <td>50.73(a)(2)(ii)</td> <td></td> <td>50.73(a)(2)(vii)(B)</td> <td></td> </tr> <tr> <td></td> <td>20.406(a)(1)(v)</td> <td></td> <td>50.73(a)(2)(iii)</td> <td></td> <td>50.73(a)(2)(ix)</td> <td></td> <td></td> </tr> </table>												OPERATING MODE (9)	6	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)										POWER LEVEL (10) 0 1 0 0		20.402(b)		20.406(c)	<input checked="" type="checkbox"/>	50.73(a)(2)(iv)		73.71(b)		20.406(a)(1)(i)		50.36(e)(1)		50.73(a)(2)(v)		73.71(e)		20.406(a)(1)(ii)		50.36(e)(2)		50.73(a)(2)(vi)		OTHER (Specify in Abstract below and in Text, NRC Form 386A)		20.406(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(vii)(A)			20.406(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(vii)(B)			20.406(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(ix)		
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LICENSEE CONTACT FOR THIS LER (12)

NAME William F. Quinn (extension 6087)	TELEPHONE NUMBER AREA CODE: 6 0 2 9 4 3 - 7 2 0 0
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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)

<input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE) <input type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15) MONTH: 0 6 DAY: 3 1 YEAR: 8 5
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ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

Automatic actuation of the Containment Purge Isolation Actuation Signal (CPIAS), Fuel Building Essential Ventilation Actuation Signal (FBEVAS), and Control Room Essential Filtration Actuation Signal (CREFAS) occurred simultaneously due to a spurious auxiliary equipment failure alarm on their associated radiation monitoring units. A similar event occurred on January 24, 1985. All attendant equipment actuated satisfactorily. The cause of the spurious auxiliary equipment failure alarm has not yet been determined. This LER addresses both inadvertent actuations.

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

On January 22, 1985 at 0020 Palo Verde Unit 1 was in Mode 6. Initial Fuel Loading had been completed and Train A of shutdown cooling was in operation. The Balance of Plant Engineered Safety Features Actuation System (BOP/ESFAS), Containment Purge Isolation Actuation System (CPIAS) Train B, Fuel Building Essential Ventilation Actuation System (FBEVAS) Train A, and the Control Room Essential Filtration Actuation Signal (CREFAS) Train B were automatically actuated by a spurious auxiliary equipment failure alarm of their associated radiation monitors. Actuation of one train will cause a cross trip of the associated train. These trips are per design and all associated equipment operated satisfactorily. On January 24, 1985 at 0048, a similar event occurred. The above conditions were identical, but in addition, CREFAS Train A also initiated.

Each of the radiation monitors are located in different parts of the unit. They are supplied from different train power. The only common points are the location of their Remote Indicating Control (RIC's) units, which are in the control room, and the plant grounding system.

The BOP/ESFAS signal will operate from either a high radiation signal or an equipment failure signal from the associated radiation monitors. The spurious auxiliary equipment failure alarm lasted for approximately two to six seconds as indicated on the radiation monitoring system computer. The computer does not identify the cause of the spurious auxiliary equipment failure alarm.

All indications available on the radiation monitors showed they had returned to pre-event status and the radiation monitors were not declared inoperable.

Chart recorders were attached to record the BOP/ESFAS actuation voltage across the RIC's relays, the RIC's power supply voltage and frequency, and the radiation monitor's power supply voltage and frequency on January 25, 1985. The chart recorders were removed on February 4, 1985 with no further spurious actuation noted.

Equipment failures and high radiation alarms were simulated on the Train A monitors to verify proper actuation of BOP/ESFAS and associated cross trips. All testing was satisfactory.

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

During subsequent testing of the radiation monitor, a similar actuation could not be generated. The plant design architect engineer and vendor were requested to assist in identifying troubleshooting techniques to be used. The following actions were taken:

(1) Simulated Voltage and Frequency Transients

All available loads on the bus supplying the radiation monitor Remote Indication Controller (RIC) were operated while monitoring bus voltage and frequency. No voltage transients were observed and no actuation occurred.

(2) Simulated Electro-magnetic Interference

Two-way radios were operated in front of the radiation detectors, the radiation monitor micro-computers, and the remote indication controllers. No actuation occurred.

The vendor is investigating, at the present time, the impact on the radiation monitoring system which may be caused by disturbances on the equipment's electrical ground.

The plant BOP/ESFAS systems operated in a fail safe manner, with a spurious failure alarm of the radiation monitoring system.

The cause of the problem at the present time is indeterminate and corrective action will be taken when the cause is found. A supplemental report will be filed documenting corrective actions taken.