

LICENSEE EVENT REPORT (LER)

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

TITLE (4)
Surveillance Requirement Missed for Containment Purge Isolation Valves

| 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 NUMBERS |
| | | | | | | | | | Palo Verde Unit 2 | | 0 5 0 0 0 5 2 9 |
| 1 | 1 | 0 3 9 4 | 9 4 | - 0 0 7 | - 0 1 | 0 6 2 8 9 5 | | | Palo Verde Unit 3 | | 0 5 0 0 0 5 3 0 |

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|--------------------------------|---|------------------|---------------------|--|--|--|--|--|--|--|--|
| OPERATING MODE (9) 1 | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: (Check one or more of the following) (11) | | | | | | | | | | |
| POWER LEVEL (10) 9 8 | 20.402(b) | 20.405(c) | 50.73(a)(2)(v) | 73.71(b) | | | | | | | |
| | 20.405(a)(1)(i) | 50.38(c)(1) | 50.73(a)(2)(v) | 73.71(c) | | | | | | | |
| | 20.405(a)(1)(ii) | 50.38(c)(2) | 50.73(a)(2)(vi) | OTHER (Specify in Abstract below and in Text, NRC Form 306A) | | | | | | | |
| | 20.405(a)(1)(iii) | X 50.73(a)(2)(i) | 50.73(a)(2)(vii)(A) | | | | | | | | |
| | 20.405(a)(1)(iv) | 50.73(a)(2)(ii) | 50.73(a)(2)(vii)(B) | | | | | | | | |
| 20.405(a)(1)(v) | 50.73(a)(2)(iii) | 50.73(a)(2)(v) | | | | | | | | | |

LICENSEE CONTACT FOR THIS LER (12)

| | |
|--|---|
| NAME Burton A. Grabo, Supervisor, Nuclear Regulatory Affairs | TELEPHONE NUMBER |
| | AREA CODE 6 0 2 3 9 3 - 6 4 9 2 |

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

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

On November 3, 1994, at approximately 1030 MST, Palo Verde Units 1, 2, and 3 were in Mode 1 (POWER OPERATIONS), when it was identified by APS Design Engineering personnel that the thermal overload protection for the Containment Purge Refueling Isolation Valves was not being tested in accordance with Technical Specification Surveillance Requirements (TS SR) 4.8.4.2.1. TS SR 4.8.4.2.1 requires that the thermal overload protection shall be verified to be bypassed continuously or under accident conditions. These valves are to be tested at least once per 18 months, and following maintenance on the motor starter.

On November 17, 1994, this condition was confirmed by APS System Electrical/I&C Engineering. The procedures used to test the thermal overload bypasses did not adequately test the parallel path (Containment Purge Isolation Actuation Signal, CPIAS). Therefore, TS SR 4.8.4.2.1 has been missed since October 18, 1987, Unit 1's first refueling outage. On November 18, 1994, this event was deemed reportable.

These valves are closed and de-energized in Modes 1 thru 4, therefore, they are performing their intended containment isolation function when in these modes. Administrative controls have been established to ensure that all three units do not enter plant conditions where these valves are needed until the complete circuitry has been tested and demonstrated to be operable.

There have been no previously similar events reported pursuant to 10 CFR 50.73 in the last three years.

This supplement is solely for the inclusion of EIIS codes, to update corrective actions, and the correction of minor typographical errors.

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TEXT

1. REPORTING REQUIREMENT:

This LER 528/529/530/94-007 is being written to report an event that resulted in a condition prohibited by the plant's Technical Specifications (TS) as specified in 10 CFR 50.73(a)(2)(i)(B).

Specifically, at approximately 1030 MST on November 3, 1994, APS Design Engineering personnel (utility, nonlicensed) identified that the thermal overload protection (49) for the Containment Purge Refueling Isolation Valves (CPRIVs) (BD) (ISV) was not being tested in accordance with TS SR 4.8.4.2.1. TS SR 4.8.4.2.1 requires that the thermal overload protection shall be verified to be bypassed continuously or under accident conditions. These valves are to be tested at least once per 18 months, and following maintenance on the motor starter.

The procedures used at the time to test the bypass capability of the thermal overload protection only tested the circuit by utilizing the Containment Isolation Actuation Signal (CIAS) (BD) (JE) subgroup relay and not the CPIAS relay. Therefore, the continuous thermal overload bypass has not been tested per TS SR 4.8.4.2.1 (in all three units) since October 18, 1987, Unit 1's first refueling outage. This condition was in violation of TS 4.0.1 through 4.0.4.

2. EVENT DESCRIPTION:

At approximately 1030 MST on November 3, 1994, APS Design Engineering personnel identified that the thermal overload protection for the Containment Purge Refueling Isolation Valves (CPRIVs) was not being tested in accordance with TS SR 4.8.4.2.1. TS SR 4.8.4.2.1 requires that the thermal overload protection shall be verified to be bypassed continuously or under accident conditions. These valves are to be tested at least once per 18 months, and following maintenance on the motor starter.



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TEXT

These valves receive close signals from the CIAS and the Containment Purge Isolation Actuation Signal (CPIAS) (BD) (JE). The CIAS and CPIAS also have thermal overload protection contacts in parallel across the overload relay.

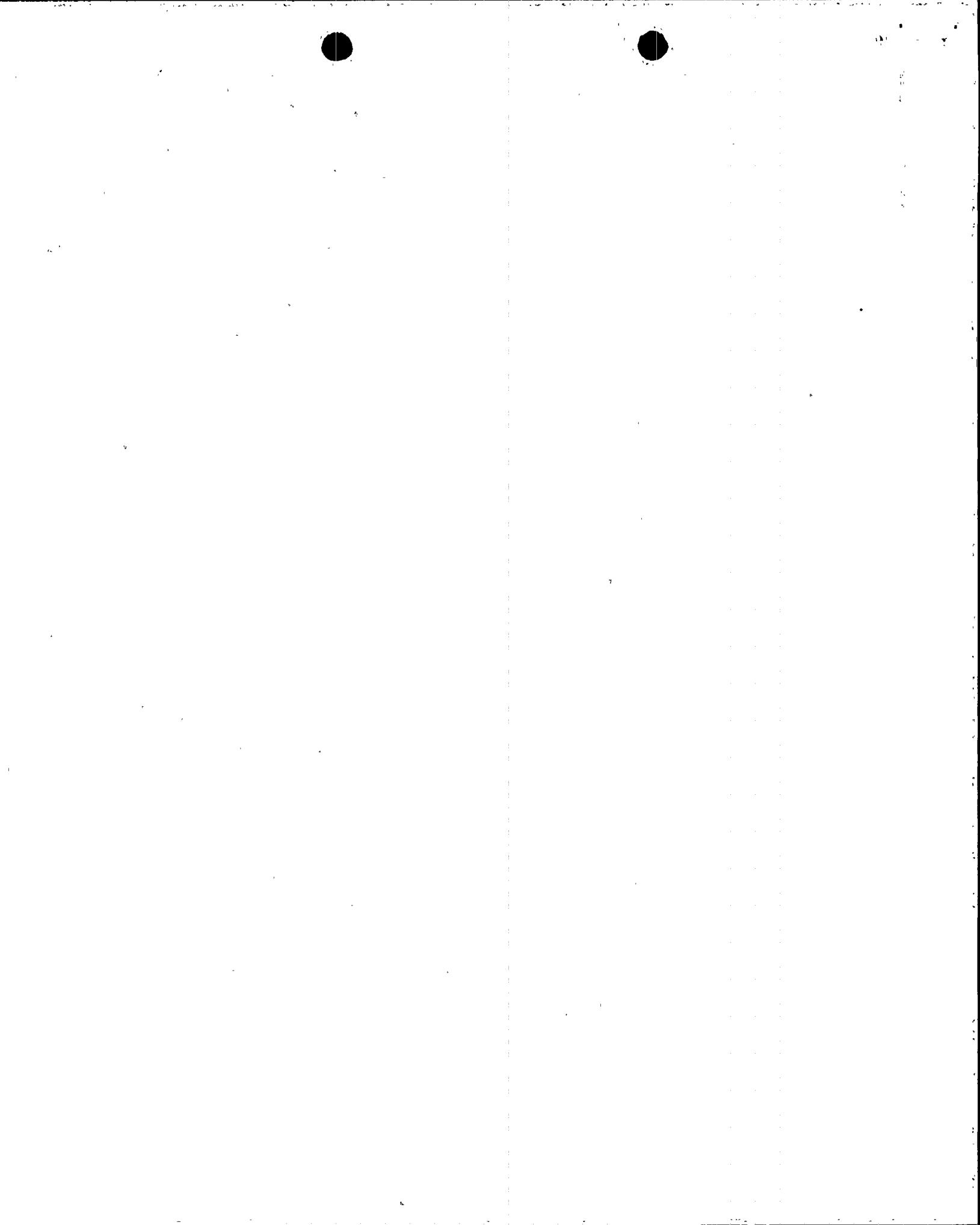
The procedures used at the time to test the bypass capability of the thermal overload protection only tested the circuit by utilizing the CIAS subgroup relay and not the CPIAS relay. Therefore, the continuous thermal overload bypass has not been tested per TS SR 4.8.4.2.1 (in all three units) since October 18, 1987, Unit 1's first refueling outage when the TS SR was first due.

This condition was documented and sent to APS System Electrical/I&C Engineering personnel (utility, nonlicensed) for evaluation and disposition. On November 17, 1994, APS System Electrical/I&C Engineering personnel confirmed that the Surveillance Test (ST) procedures used did not adequately test the CPIAS contacts.

On November 16, 1994, an operability determination for the CPRIVs was performed by Unit 1 Operations personnel (utility, licensed). This determination found that the CPRIVs are OPERABLE in their current condition in Modes 1 (POWER OPERATION) thru 4 (HOT SHUTDOWN) because the valves are in the closed position and de-energized. This meets the requirements of TS Limiting Condition of Operation (LCO) 3.6.1.7, Containment Purge Valve Isolation System. This operability determination is applicable for all three units.

Administrative controls were put in place for the CPRIVs on November 17, 1994. These controls will ensure that all three units have completed testing of the CPIAS relay contacts prior to future core alterations or movement of irradiated fuel within the containment (TS LCO 3.9.9).

On November 18, 1994, APS personnel (utility, nonlicensed) completed a reportability evaluation and deemed that this event was reportable per 10CFR50.73.



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TEXT

On November 27, 1994, the CPRIVs were tested in Unit 3 while in Mode 5 (COLD SHUTDOWN) during a mid-cycle outage. There was no fuel movement during this mid-cycle outage. This test in Unit 3 demonstrated that the thermal overload protection was bypassed on a CPIAS signal.

3. ASSESSMENT OF THE SAFETY CONSEQUENCES AND IMPLICATION OF THIS EVENT:

Following the discovery of the event, an evaluation was performed by APS System Electrical/I&C Engineering personnel. This evaluation determined that the CPRIV actuation's are credited in the design basis as providing protection to satisfy 10 CFR Part 100. However, offsite dose calculations have shown that with the worst case Loss of Coolant Accident (LOCA, Modes 1 thru 4), or Fuel Handling Accident (Mode 6, REFUELING) with no credit taken for CPIAS, the offsite doses are substantially below and less than one-third of 10 CFR Part 100 limits (respectively).

Additionally, the CIAS part of the parallel path has been demonstrated to be OPERABLE, therefore, this part of the circuitry was available to close the CPRIVs and mitigate any postulated releases.

The event did not result in any challenges to the fission product barriers or result in any releases of radioactive materials. Therefore, there were no safety consequences or implications as a result of this event. This event did not adversely affect the safe operation of the plant or health and safety of the public.

4. CAUSE OF THE EVENT:

An evaluation was performed in accordance with the APS Incident Investigation Program. The evaluation concluded that the procedures used to test the thermal overload protection bypasses were inadequate (SALP Cause Code D: Defective Procedure). The procedures did not ensure that both the CIAS and CPIAS relay contacts were tested.



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TEXT

5. STRUCTURES, SYSTEMS, OR COMPONENTS INFORMATION:

An operability determination was completed on the CPRIVs and concluded that the CPRIVs are operable in Modes 1 thru 4. However, prior to core alterations or movement of irradiated fuel within the containment (NH) the CPRIVs need to be tested through the CPIAS relay contacts to prove operability.

No other structures, systems, or components were inoperable at the start of the event which contributed to this event. There were no component or system failures involved, therefore, no safety systems were rendered inoperable. No components with multiple functions were involved. There were no safety system responses and none were required.

6. CORRECTIVE ACTIONS TO PREVENT RECURRENCE:

The post maintenance test procedure (32ST-9ZZ09) has been revised to ensure that the CPIAS thermal overloads are tested after maintenance on the motor starter. Procedures 4XST-XCP03, Containment Purge Isolation Valve Closure Test, Surveillance Requirement 4.6.3.2.b, 4.9.4.b and 4.9.9, were revised on February 3, 1995, to ensure that the CPIAS relay contacts are tested at least once per 18 months.

7. PREVIOUS SIMILAR EVENTS:

Although previous similar events involving procedure inadequacies have been reported, no events have been reported pursuant to 10 CFR 50.73 which involved the same cause and sequence of events. Therefore, the corrective actions for any previous event would not have prevented this event.

