

## Palo Verde 2

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### Initiating Events



**Significance:** Nov 18, 2000

Identified By: Licensee

Item Type: NCV NonCited Violation

**Reactor trip caused by a failure to follow an operations procedure**

On November 18, 2000, Unit 2 experienced a reactor cut-back resulting from a turbine-generator component fault. Following the reactor cut-back, the reactor operator manually inserted reactivity at a rate sufficient to cause an Auxiliary Variable Over Power Trip. The licensee determined that the reason for the reactor trip was that the load rejection procedure, which required that the reactor be stabilized at > 20% power or < 12% power, was not followed. This was a violation of Technical Specification 5.4.1. [This violation was entered into the licensee's corrective action program as CRDR 2339523. This finding was determined to have a very low risk significance because it was an anticipated transient and all safety related equipment functioned properly.]

Inspection Report# : [2001004\(pdf\)](#)

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### Mitigating Systems



**Significance:** Sep 22, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

**Auxiliary feedwater pump became inoperable due to improper operation of a steam trap**

Technical Specification 5.4, "Procedures," requires that written procedures be implemented and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Section 3.i of this Regulatory Guide includes instructions for operating the main steam system. Procedure 40OP-9SG01, "Main Steam," Revision 23, provides instructions for critical steam trap blowdown operation. On September 22, 2001, a Unit 2 steam trap isolation valve shut due to loss of control power. [Because of incorrect understanding of the impact of this failure], steam trap blowdown was not performed within the time requirements of Procedure 40OP-9SG01, which resulted in the licensee declaring auxiliary feedwater Pump A inoperable for approximately 4 hours. This was identified in the licensee's corrective action program as CRDR 2425046. This finding is only of very low significance because it only affects the mitigation systems cornerstone and all mitigating systems, including auxiliary feedwater Pump A, were functional.

Inspection Report# : [2001005\(pdf\)](#)



**Significance:** Aug 06, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to promptly identify HPSI valve misalignment on condition report/disposition request**

10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action requires that conditions adverse to quality be promptly identified and corrected. Procedure 90DP-0IP10, "Condition Reporting," Revision 11, requires that a condition report be written for conditions such as a valve or component misalignment. On October 31, 2000, the operations crew that performed Procedure 73ST-9XI 33, "HPSI Pump and Check Valve Full Flow Test," Revision 19, discovered a valve misalignment and did not document the misalignment in a condition report. This event was discovered during the investigation for CRDR 2332280, "Failure of HPSI Pump Discharge Check Valve 2PSIBV405," and was determined to have caused a hydraulic transient in the high pressure safety injection system. This finding is described in CRDR 2352119. This finding is of very low safety significance because the hydraulic transient in the high pressure safety injection system did not damage the system.

Inspection Report# : [2001003\(pdf\)](#)



**Significance:** Aug 06, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

**Failure to prevent recurrence of HPSI check valve failure, a significant condition adverse to quality**

10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requires that the cause of significant conditions adverse to quality be

determined and corrective action be taken to preclude repetition. Contrary to this, the licensee determined that they had not adequately addressed prior Borg-Warner check valve failures that occurred in 1997 and 1998, which were identified as significant conditions adverse to quality. As a result, a repeat failure occurred. Specifically, on October 23, 2000, while PVNGS, Unit 2, was in mode 6, the licensee identified that Unit 2, Train B, high pressure safety injection pump discharge Check Valve 2PSIBV405 had excessive back-leakage. This violation is in the licensee's corrective action program as CRDR 2332280. The issue was determined to be of very low safety significance because the core would have been adequately cooled, during the most severe accidents. Inspection Report# : [2001003\(pdf\)](#)



**Significance:** Mar 31, 2001

Identified By: NRC

Item Type: FIN Finding

**Anomalies in testing and test results for essential cooling water heat exchangers leads to ineffective trending**

The inspector identified that the licensee was not effectively trending essential cooling water heat exchanger thermal performance. Ineffective heat exchanger performance trending could allow thermal performance to degrade below design bases limits without detection, which is a credible impact on safety. The essential cooling water system is a mitigating system. The finding was of very low safety significance, because the actual cumulative effect of these errors was less than the available thermal performance margin and in all cases, the heat exchangers remained operable.

Inspection Report# : [2001002\(pdf\)](#)



**Significance:** Mar 07, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

**Auxiliary feedwater pump inoperable due to improper operation of a steam trap**

TS 5.4, "Procedures," requires that written procedures be implemented and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Section 3.i of this Regulatory Guide includes instructions for operating the main steam system. Procedure 40OP-9SG01, "Main Steam," Revision 23, provides instructions for operation of steam traps when they are removed from service. On March 7, 2001, Unit 2 Auxiliary Feedwater Pump AFA-P01 was made inoperable for approximately 3.5 hours after Steam Trap SGN-M23 was removed from service and not operated as described in 40OP-9SG01. This finding is described in CRDR 2369601. This finding is of very low safety significance because it did not cause a loss of the auxiliary feedwater safety function.

Inspection Report# : [2001003\(pdf\)](#)



**Significance:** Feb 22, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to promptly identify and correct an inadequate HPSI system venting procedure**

A non-cited violation was identified when the licensee failed to promptly identify and correct an inadequate surveillance procedure that was used to periodically vent the high pressure safety injection (HPSI) system. The procedure failed to include guidance for conducting HPSI system venting and the acceptance criteria to ensure successful venting. This failure resulted inadequate HPSI system venting since February 1997. This was a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI. This violation was entered into the licensee's corrective action program as CRDR 2316659. The underlying technical issue, an inadequate surveillance procedure, was assessed by the significance determination process and determined to have very low safety significance because the high pressure safety injection system remained operable.

Inspection Report# : [2001004\(pdf\)](#)



**Significance:** Dec 08, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

**Unit 2 Train B DC Equipment Room Cooler Isolation Valve Found Closed or Partially Closed**

The outlet isolation valve to the Train B DC equipment room cooler was found by licensee personnel to be fully closed on two occasions and partially closed on a third occasion within an 8-week period (August 25 through October 25, 1998). The failure to identify the condition on August 25, 1998, as a significant adverse condition; to identify the root cause and to take corrective actions to prevent recurrence was identified as a violation of Criterion XVI of Appendix B to 10 CFR Part 50. The finding was of very low significance because all mitigation systems remained operable, barrier integrity was not challenged, and the license entered the finding into the corrective action program (Section 1R21.3.b)

Inspection Report# : [2000013\(pdf\)](#)

## Barrier Integrity

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## Emergency Preparedness

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## Occupational Radiation Safety



**Significance:** Feb 22, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to conduct adequate radiation surveys**

Three examples of a failure to conduct adequate radiological surveys. On December 21, 1999, radiological surveys failed to detect changing radiological conditions at the "B" concentrate monitor tank. On May 4, 2000, radiological surveys failed to detect changing radiological conditions at the "B" LPSI pump cyclone separator and changing radiological conditions following a drain down of the spent fuel transfer canal. As a result, radiological area postings and controls for these areas were inappropriate. These three examples of inadequate radiological surveys were a violation of 10 CFR Part 20.1501. This violation was entered into the licensee's corrective action program as CRDRs 113251, 117874 and 117970. These findings were determined to have very low risk significance because there was no overexposure or substantial potential for an overexposure and the ability to assess radiation doses was not compromised.

Inspection Report# : [2001004\(pdf\)](#)

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## Public Radiation Safety

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## Physical Protection



**Significance:** Nov 29, 2000

Identified By: Licensee

Item Type: NCV NonCited Violation

### **Failure to properly secure safeguards information.**

10 CFR 73.21(d)(2) states that, while safeguards information is unattended, the information shall be stored in a locked security storage container. Procedure 20DP-OSK43, Revision 4, paragraph 3.8.3, states that, while unattended, materials containing safeguards information shall be stored in an approved, locked safeguards storage container. Contrary to the above requirements, on July 28, 2000, the licensee left a safeguards safe unlocked outside the protected area. This condition was identified by the licensee and corrective actions were specified in Condition Report/Disposition Request 2308078. This condition was reported in LER 50-528;-529;-530/2000-S01-00. This issue was determined to be of very low safety significance (Green) by the significance determination process because there were not greater than two similar findings in the last four quarters.

Inspection Report# : [2000010\(pdf\)](#)

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## Miscellaneous

**Significance:** N/A Mar 19, 2002

Identified By: NRC

Item Type: FIN Finding

### **Identification and resolution of problems.**

The licensee was generally effective at identifying problems and placing them into the corrective action program. The licensee effectively used risk information in prioritizing the extent of evaluation of individual problems and the schedule for implementation of corrective actions. The licensee effectively prioritized and evaluated issues with few exceptions. One exception involved a final

operability evaluation which concluded that the main steam and feedwater isolation system actuation circuitry was operable took approximately 5 months to complete. Another example involved a failure to fully determine the extent of a condition associated with Borg-Warner check valve failures which resulted in additional failures. Corrective actions, when specified, were implemented in a timely manner. Based on interviews conducted during this inspection, workers at the site felt free to input safety issues into the problem identification and resolution program (Section 4OA2).

Inspection Report# : [2002005\(pdf\)](#)

**Significance: N/A** Feb 22, 2001

Identified By: NRC

Item Type: FIN Finding

**Identification and resolution of problems was effective**

The licensee was effective at identifying problems and putting them into the corrective action program. The licensee's effectiveness at problem identification was evidenced by the relatively few deficiencies identified by external organizations (including the NRC) that had not been previously identified by the licensee during the review period. The licensee effectively used risk information in prioritizing the extent of evaluation of individual problems and the schedule for implementation of corrective actions. Corrective actions, when specified, were generally implemented in a timely manner. However, there was one instance that is discussed below, where the licensee did not promptly identify and correct an inadequate procedure. Licensee audits and assessments were effective. Based on the interviews conducted during this inspection, workers at the site felt free to input safety issues into the problem

identification and resolution program (Sections 4OA2.1b;2b;3b;4b).  
Inspection Report# : [2001004\(pdf\)](#)

Last modified : July 22, 2002