Palo Verde 2

Initiating Events

Significance: G 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)*

Mitigating Systems

Significance: G 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: G 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: G 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: G 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: G 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: G 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: G Dec 08, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
Unit 2 Train B DC Equipment Room Cooler IsolationValve Found Closed or Partially Closed
The outlet isolation valve to theTrain 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

Emergency Preparedness

Occupational Radiation Safety

Significance: G 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)*

Public Radiation Safety

Physical Protection

Significance: G 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)*

Miscellaneous

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 : April 01, 2002

Palo Verde 2

Initiating Events

Significance: G 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)*

Mitigating Systems

Significance: G 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: G 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: G 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: G 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: G 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: G 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: G Dec 08, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
Unit 2 Train B DC Equipment Room Cooler IsolationValve Found Closed or Partially Closed
The outlet isolation valve to theTrain 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

Emergency Preparedness

Occupational Radiation Safety

Significance: G 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)*

Public Radiation Safety

Physical Protection

Significance: G 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)*

Miscellaneous

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 : April 01, 2002

Palo Verde 2

Initiating Events

Significance: G 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)*

Mitigating Systems

Significance: G 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: G 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: G 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: G 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: G 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: G 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: G Dec 08, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
Unit 2 Train B DC Equipment Room Cooler IsolationValve Found Closed or Partially Closed
The outlet isolation valve to theTrain 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

Emergency Preparedness

Occupational Radiation Safety

Significance: G 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)*

Public Radiation Safety

Physical Protection

Significance: G 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)*

Miscellaneous

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 : March 29, 2002

Palo Verde 2

Initiating Events

Significance: G 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)*

Mitigating Systems

Significance: G Dec 08, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
Unit 2 Train B DC Equipment Room Cooler IsolationValve Found Closed or Partially Closed
The outlet isolation valve to theTrain 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)*

Significance: G 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: G 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: G 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: G 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: G 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: G 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)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance: G 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)*

Public Radiation Safety

Physical Protection

Significance: G 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)*

Miscellaneous

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 : March 28, 2002

Palo Verde 2

Initiating Events

Significance: G 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)*

Mitigating Systems

Significance: G 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: G 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: G 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: G Dec 08, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
Unit 2 Train B DC Equipment Room Cooler IsolationValve Found Closed or Partially Closed
The outlet isolation valve to theTrain 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)*

Significance: G 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: G 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: G 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)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance: G 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)*

Public Radiation Safety

Physical Protection

Significance: G 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)*

Miscellaneous

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 : March 28, 2002

Palo Verde 2

Initiating Events

Significance: G 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)*

Mitigating Systems

Significance: G 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: G 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: G 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: G Dec 08, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
Unit 2 Train B DC Equipment Room Cooler IsolationValve Found Closed or Partially Closed
The outlet isolation valve to theTrain 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)*

Significance: G 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: G 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: G 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)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance: G 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)*

Public Radiation Safety

Physical Protection

Significance: G 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)*

Miscellaneous

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 : March 27, 2002

Palo Verde 2

Initiating Events

Significance: G 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)*

Mitigating Systems

Significance: G 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: G 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: G 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: G 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: G 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: G 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: G Dec 08, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
Unit 2 Train B DC Equipment Room Cooler IsolationValve Found Closed or Partially Closed
The outlet isolation valve to theTrain 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

Emergency Preparedness

Occupational Radiation Safety

Significance: G 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)*

Public Radiation Safety

Physical Protection

Significance: G 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)*

Miscellaneous

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 : March 26, 2002

Palo Verde 2

Initiating Events

Significance: G 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)*

Mitigating Systems

Significance: G 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: G 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: G 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: G 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: G 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: G 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: G Dec 08, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
Unit 2 Train B DC Equipment Room Cooler IsolationValve Found Closed or Partially Closed
The outlet isolation valve to theTrain 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

Emergency Preparedness

Occupational Radiation Safety

Significance: G 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)*

Public Radiation Safety

Physical Protection

Significance: G 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)*

Miscellaneous

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 : March 01, 2002

Palo Verde 2

Initiating Events

Significance: G 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)*

Mitigating Systems

Significance: G 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: G 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: G 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: G 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: G 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: G 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: G Dec 08, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
Unit 2 Train B DC Equipment Room Cooler IsolationValve Found Closed or Partially Closed
The outlet isolation valve to theTrain 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

Emergency Preparedness

Occupational Radiation Safety

Significance: G 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)*

Public Radiation Safety

Physical Protection

Significance: G 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)*

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

Palo Verde 2

Initiating Events

Significance: G 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)*

Mitigating Systems

Significance: G 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: G 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: G 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: G 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: G 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: G 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: G Dec 08, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
Unit 2 Train B DC Equipment Room Cooler IsolationValve Found Closed or Partially Closed
The outlet isolation valve to theTrain 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

Emergency Preparedness

Occupational Radiation Safety

Significance: G 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)*

Public Radiation Safety

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)*

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 : August 29, 2002

Palo Verde 2

Initiating Events

Significance: G 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)*

Mitigating Systems

Significance: G 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: G 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: G 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: G 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: G 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: G 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: G Dec 08, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
Unit 2 Train B DC Equipment Room Cooler IsolationValve Found Closed or Partially Closed
The outlet isolation valve to theTrain 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

Emergency Preparedness

Significance: G Sep 26, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to periodically test the ability to meet minimum emergency response facility staffing response times during off-hours.
IR 05000528-02-04, IR 05000529-02-04, IR 05000530-02-04, IR 72-44/02-02; Arizona Public Service Company; 6/23/02 - 9/21/02; Palo Verde Nuclear Generating Station, Units 1, 2, and 3; Emergency Response Organization Augmentation Testing and Access Control. A noncited violation of very low safety significance was identified for failure to periodically test the ability to meet minimum emergency response facility staffing response times during off-hours. Off-hours exercises are only conducted once every 6 years, and off-hours quarterly pager and autodialer tests conducted over the past year were only functional tests that did not establish response times to the emergency facilities. Failure to adequately test the ability to meet minimum emergency response facility staffing response times during off-hours is a violation of 10 CFR 50.54(q), which requires that a licensee follow their emergency plans. Section 8.1.3, "Drills," of the Emergency Plan states that drills for the emergency organization are conducted periodically throughout the year to test response timing and emergency equipment and to ensure members of the Emergency Response Organization are familiar with their duties. Section 5.1.2.2 of Emergency Plan Implementing Procedure 08 requires that quarterly pager and autodialer testing be conducted to demonstrate minimum staffing response capability for the emergency facilities. Minimum staffing is defined in Table 1 of the Emergency Plan and includes positions and response times during normal and off-hours for each emergency facility. Contrary to the above, drills for the emergency response organization have not tested off-hours response timing periodically throughout the year. The last off-hours facility activation drill was conducted in 1999, and off-hours pager and autodialer tests conducted each quarter did not demonstrate response timing. The finding was determined to be a performance deficiency associated

with emergency response organization augmentation testing. The finding was evaluated to be more than minor using the Emergency Preparedness Significance Determination Process because it affects the emergency preparedness cornerstone objective in that inadequate testing of the augmentation function can fail to identify problems in staffing the emergency facilities in a timely manner. The finding was evaluated as having very low safety significance (Green), since it was a failure of a regulatory requirement but not a failure to meet an emergency planning standard. This finding is in the licensee's corrective action process as Condition Report/Disposition Request 2532635 and is being treated as a noncited violation (50-528/02-04-01; 50-529/02-04-01; 50-530/02-04-01) in accordance with Section VI.A of the NRC Enforcement Policy (Section 1EP3).
Inspection Report# : 2002004*(pdf)*

Occupational Radiation Safety

Significance: G 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)*

Public Radiation Safety

Physical Protection

Significance: G Sep 26, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to mark a portion of a document as containing Safeguards information.
IR 05000528-02-04, IR 05000529-02-04, IR 05000530-02-04, IR 72-44/02-02; Arizona Public Service Company; 6/23/02 - 9/21/02; Palo Verde Nuclear Generating Station, Units 1, 2, and 3; Emergency Response Organization Augmentation Testing and Access Control. A noncited violation of very low safety significance was identified for failure to mark a portion of a document as containing Safeguards information. On September 18, 2001, pursuant to 10 CFR 50.90, the licensee submitted to NRC Headquarters a change to its physical security plan. A portion (page) of this plan change included the size (number) of the armed response force used to defend all three units at Palo Verde and was not marked as containing "Safeguards Information." 10 CFR 73.21 requires, in part, that information regarding the size (number) of responding security forces be marked "Safeguards Information" in a conspicuous manner to indicate the presence of protected information. Following identification of this issue, the licensee withdrew all copies of this physical security plan change. The failure to conspicuously mark a portion of a document as "Safeguards Information"

was determined to be a performance deficiency. The finding was evaluated to be more than minor because it affects a physical protection cornerstone objective and if left uncorrected it would become a more significant safety concern. Using the Physical Protection Significance Determination Process, the inspector determined the violation had very low safety significance because there were not more than two similar findings in four calendar quarters. Because of the very low safety significance (Green) and because the licensee included the finding in their corrective action program as Condition Report/Disposition Request 2433526, this finding is being treated as a noncited violation (50-528/02-04-02; 50-529/02-04-02; 50-530/02-04-02) in accordance with Section VI.A of the NRC Enforcement Policy (Section 3PP2).
Inspection Report# : 2002004*(pdf)*

Significance: G Sep 26, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to mark a drawing as containing Safeguards information.
IR 05000528-02-04, IR 05000529-02-04, IR 05000530-02-04, IR 72-44/02-02; Arizona Public Service Company; 6/23/02 - 9/21/02; Palo Verde Nuclear Generating Station, Units 1, 2, and 3; Emergency Response Organization Augmentation Testing and Access Control. A noncited violation of very low safety significance was identified for failure to mark a drawing as containing Safeguards information. On June 27, 2002, the licensee maintained Drawing TY-GL-002 (sheet 1 of 1), which contained an overview block diagram of the Palo Verde new North Access Facility and the new Independent Spent Fuel Storage Installation (ISFSI) and was not marked as containing "Safeguards Information." 10 CFR 73.21 requires, in part, that information regarding the site-specific drawings that substantially represent the final design features of the physical protection system be marked "Safeguards Information" in a conspicuous manner to indicate the presence of protected information. Following identification of this issue, the licensee ensured that all copies of the drawing were properly marked. The failure to conspicuously mark the drawing as "Safeguards Information" was determined to be a performance deficiency. The finding was evaluated to be more than minor because it affects a physical protection cornerstone objective and if left uncorrected it would become a more significant safety concern. Using the Physical Protection Significance Determination Process, the inspector determined the violation had very low safety significance because there were not more than two similar findings in four calendar quarters. Because of the very low safety significance (Green) and because the licensee included the finding in their corrective action program as Condition Report/Disposition Request 2533054, this finding is being treated as a noncited violation (50-528/02-04-03; 50-529/02-04-03; 50-530/02-04-03) in accordance with Section VI.A of the NRC Enforcement Policy (Section 3PP2).
Inspection Report# : 2002004*(pdf)*

Significance: G 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)*

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 : December 02, 2002

Palo Verde 2

Initiating Events

Mitigating Systems

Barrier Integrity

Emergency Preparedness

Significance: G Sep 26, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to periodically test the ability to meet minimum emergency response facility staffing response times during off-hours.
IR 05000528-02-04, IR 05000529-02-04, IR 05000530-02-04, IR 72-44/02-02; Arizona Public Service Company; 6/23/02 - 9/21/02; Palo Verde Nuclear Generating Station, Units 1, 2, and 3; Emergency Response Organization Augmentation Testing and Access Control. A noncited violation of very low safety significance was identified for failure to periodically test the ability to meet minimum emergency response facility staffing response times during off-hours. Off-hours exercises are only conducted once every 6 years, and off-hours quarterly pager and autodialer tests conducted over the past year were only functional tests that did not establish response times to the emergency facilities. Failure to adequately test the ability to meet minimum emergency response facility staffing response times during off-hours is a violation of 10 CFR 50.54(q), which requires that a licensee follow their emergency plans. Section 8.1.3, "Drills," of the Emergency Plan states that drills for the emergency organization are conducted periodically throughout the year to test response timing and emergency equipment and to ensure members of the Emergency Response Organization are familiar with their duties. Section 5.1.2.2 of Emergency Plan Implementing Procedure 08 requires that quarterly pager and autodialer testing be conducted to demonstrate minimum staffing response capability for the emergency facilities. Minimum staffing is defined in Table 1 of the Emergency Plan and includes positions and response times during normal and off-hours for each emergency facility. Contrary to the above, drills for the emergency response organization have not tested off-hours response timing periodically throughout the year. The last off-hours facility activation drill was conducted in 1999, and off-hours pager and autodialer tests conducted each quarter did not demonstrate response timing. The finding was determined to be a performance deficiency associated with emergency response organization augmentation testing. The finding was evaluated to be more than minor using the Emergency Preparedness Significance Determination Process because it affects the emergency preparedness cornerstone objective in that inadequate testing of the augmentation function can fail to identify problems in staffing the emergency facilities in a timely manner. The finding was evaluated as having very low safety significance (Green), since it was a failure of a regulatory requirement but not a failure to meet an emergency planning standard. This finding is in the licensee's corrective action process as Condition Report/Disposition Request 2532635 and is being treated as a noncited violation (50-528/02-04-01; 50-529/02-04-01; 50-530/02-04-01) in accordance with Section VI.A of the NRC Enforcement Policy (Section 1EP3).
Inspection Report# : 2002004*(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Significance: G Sep 26, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to mark a portion of a document as containing Safeguards information.
IR 05000528-02-04, IR 05000529-02-04, IR 05000530-02-04, IR 72-44/02-02; Arizona Public Service Company; 6/23/02 - 9/21/02; Palo Verde Nuclear Generating Station, Units 1, 2, and 3; Emergency Response Organization Augmentation Testing and Access Control. A noncited violation of very low safety significance was identified for failure to mark a portion of a document as containing Safeguards information. On September 18, 2001, pursuant to 10 CFR 50.90, the licensee submitted to NRC Headquarters a change to its physical security plan. A portion (page) of this plan change included the size (number) of the armed response force used to defend all three units at Palo Verde and was not marked as containing "Safeguards Information." 10 CFR 73.21 requires, in part, that information regarding the size (number) of responding security forces be marked "Safeguards Information" in a conspicuous manner to indicate the presence of protected information. Following identification of this issue, the licensee withdrew all copies of this physical security plan change. The failure to conspicuously mark a portion of a document as "Safeguards Information" was determined to be a performance deficiency. The finding was evaluated to be more than minor because it affects a physical protection cornerstone objective and if left uncorrected it would become a more significant safety concern. Using the Physical Protection Significance Determination Process, the inspector determined the violation had very low safety significance because there were not more than two similar findings in four calendar quarters. Because of the very low safety significance (Green) and because the licensee included the finding in their corrective action program as Condition Report/Disposition Request 2433526, this finding is being treated as a noncited violation (50-528/02-04-02; 50-529/02-04-02; 50-530/02-04-02) in accordance with Section VI.A of the NRC Enforcement Policy (Section 3PP2).
Inspection Report# : 2002004*(pdf)*

Significance: G Sep 26, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to mark a drawing as containing Safeguards information.
IR 05000528-02-04, IR 05000529-02-04, IR 05000530-02-04, IR 72-44/02-02; Arizona Public Service Company; 6/23/02 - 9/21/02; Palo Verde Nuclear Generating Station, Units 1, 2, and 3; Emergency Response Organization Augmentation Testing and Access Control. A noncited violation of very low safety significance was identified for failure to mark a drawing as containing Safeguards information. On June 27, 2002, the licensee maintained Drawing TY-GL-002 (sheet 1 of 1), which contained an overview block diagram of the Palo Verde new North Access Facility and the new Independent Spent Fuel Storage Installation (ISFSI) and was not marked as containing "Safeguards Information." 10 CFR 73.21 requires, in part, that information regarding the site-specific drawings that substantially represent the final design features of the physical protection system be marked "Safeguards Information" in a conspicuous manner to indicate the presence of protected information. Following identification of this issue, the licensee ensured that all copies of the drawing were properly marked. The failure to conspicuously mark the drawing as "Safeguards Information" was determined to be a performance deficiency. The finding was evaluated to be more than minor because it affects a physical protection cornerstone objective and if left uncorrected it would become a more significant safety concern. Using the Physical Protection Significance Determination Process, the inspector determined the violation had very low safety significance because there were not more than two similar findings in four calendar quarters. Because of the very low safety significance (Green) and because the licensee included the finding in their corrective action program as Condition Report/Disposition Request 2533054, this finding is being treated as a noncited violation (50-528/02-04-03; 50-529/02-04-03; 50-530/02-04-03) in accordance with Section VI.A of the NRC Enforcement Policy (Section 3PP2).
Inspection Report# : 2002004*(pdf)*

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)*

Last modified : March 25, 2003

Palo Verde 2
1Q/2003 Plant Inspection Findings

Initiating Events

Mitigating Systems

Barrier Integrity

Emergency Preparedness

Significance: G Sep 26, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to periodically test the ability to meet minimum emergency response facility staffing response times during off-hours.
IR 05000528-02-04, IR 05000529-02-04, IR 05000530-02-04, IR 72-44/02-02; Arizona Public Service Company; 6/23/02 - 9/21/02; Palo Verde Nuclear Generating Station, Units 1, 2, and 3; Emergency Response Organization Augmentation Testing and Access Control. A noncited violation of very low safety significance was identified for failure to periodically test the ability to meet minimum emergency response facility staffing response times during off-hours. Off-hours exercises are only conducted once every 6 years, and off-hours quarterly pager and autodialer tests conducted over the past year were only functional tests that did not establish response times to the emergency facilities. Failure to adequately test the ability to meet minimum emergency response facility staffing response times during off-hours is a violation of 10 CFR 50.54(q), which requires that a licensee follow their emergency plans. Section 8.1.3, "Drills," of the Emergency Plan states that drills for the emergency organization are conducted periodically throughout the year to test response timing and emergency equipment and to ensure members of the Emergency Response Organization are familiar with their duties. Section 5.1.2.2 of Emergency Plan Implementing Procedure 08 requires that quarterly pager and autodialer testing be conducted to demonstrate minimum staffing response capability for the emergency facilities. Minimum staffing is defined in Table 1 of the Emergency Plan and includes positions and response times during normal and off-hours for each emergency facility. Contrary to the above, drills for the emergency response organization have not tested off-hours response timing periodically throughout the year. The last off-hours facility activation drill was conducted in 1999, and off-hours pager and autodialer tests conducted each quarter did not demonstrate response timing. The finding was determined to be a performance deficiency associated with emergency response organization augmentation testing. The finding was evaluated to be more than minor using the Emergency Preparedness Significance Determination Process because it affects the emergency preparedness cornerstone objective in that inadequate testing of the augmentation function can fail to identify problems in staffing the emergency facilities in a timely manner. The finding was evaluated as having very low safety significance (Green), since it was a failure of a regulatory requirement but not a failure to meet an emergency planning standard. This finding

is in the licensee's corrective action process as Condition Report/Disposition Request 2532635 and is being treated as a noncited violation (50-528/02-04-01; 50-529/02-04-01; 50-530/02-04-01) in accordance with Section VI.A of the NRC Enforcement Policy (Section 1EP3).
Inspection Report# : 2002004*(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Significance: G Mar 06, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PREVENT THE RELEASE OF DETECTABLE AMOUNTS OF LICENSED RADIOACTIVE MATERIAL
IR 05000528-03-08, IR 05000529-03-08, IR 05000530-03-08, on 2/24/03 - 3/06/30; Arizona Public Service Company; Palo Verde Nuclear Generating Station, Units 1, 2, and 3; Radioactive Material Control; Radiation Safety Team Inspection. Green. The team identified three examples (one NRC identified and two self-revealing) of a noncited violation of Technical Specification 5.4.1.a because the licensee failed to follow procedural requirements. Specifically, the licensee failed to prevent detectable amounts of licensed radioactive material from being unconditionally released from the radiologically controlled area, as required by Procedure 75RP-9RP09, Revision 21, Section 3.2. Unconditionally releasing equipment from the radiologically controlled area with detectable radioactivity was a performance deficiency. The finding was more than minor because it was associated with the cornerstone attribute (material release) and it affected the associated cornerstone objective (to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain). The finding involved an occurrence in the radiological material control program that was contrary to licensee procedures. When processed through the Public Safety Significance Determination Process, the finding was found to have very low safety significance because the finding was a radioactive material control issue, was not a transportation issue, public exposure was not greater than 5 millirem, and there were less than five occurrences.
Inspection Report# : 2003008*(pdf)*

Physical Protection

Significance: N/A Jan 17, 2003
Identified By: NRC
Item Type: FIN Finding
Verification of compliance with Interim Compensatory Measures Order
On February 25, 2002, the NRC imposed by Order, Interim Compensatory Measures to enhance physical security. The inspectors determined that, overall, the licensee appropriately incorporated the Interim Compensatory Measures into the site protective strategy and access authorization program; developed and implemented relevant procedures; ensured that the emergency plan could be implemented; and established and effectively coordinated interface agreements with offsite organizations.
Inspection Report# : 2003006*(pdf)*

Significance: G Sep 26, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to mark a portion of a document as containing Safeguards information.
IR 05000528-02-04, IR 05000529-02-04, IR 05000530-02-04, IR 72-44/02-02; Arizona Public Service Company; 6/23/02 - 9/21/02; Palo Verde Nuclear Generating Station, Units 1, 2, and 3; Emergency Response Organization Augmentation Testing and Access Control. A noncited violation of very low safety significance was identified for failure to mark a portion of a document as containing Safeguards information. On September 18, 2001, pursuant to 10 CFR 50.90, the licensee submitted to NRC Headquarters a change to its physical security plan. A portion (page) of this plan change included the size (number) of the armed response force used to defend all three units at Palo Verde and was not marked as containing "Safeguards Information." 10 CFR 73.21 requires, in part, that information regarding the size (number) of responding security forces be marked "Safeguards Information" in a conspicuous manner to indicate the presence of protected information. Following identification of this issue, the licensee withdrew all copies of this physical security plan change. The failure to conspicuously mark a portion of a document as "Safeguards Information" was determined to be a performance deficiency. The finding was evaluated to be more than minor because it affects a physical protection cornerstone objective and if left uncorrected it would become a more significant safety concern. Using the Physical Protection Significance Determination Process, the inspector determined the violation had very low safety significance because there were not more than two similar findings in four calendar quarters. Because of the very low safety significance (Green) and because the licensee included the finding in their corrective action program as Condition Report/Disposition Request 2433526, this finding is being treated as a noncited violation (50-528/02-04-02; 50-529/02-04-02; 50-530/02-04-02) in accordance with Section VI.A of the NRC Enforcement Policy (Section 3PP2).
Inspection Report# : 2002004*(pdf)*

Significance: G Sep 26, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to mark a drawing as containing Safeguards information.
IR 05000528-02-04, IR 05000529-02-04, IR 05000530-02-04, IR 72-44/02-02; Arizona Public Service Company; 6/23/02 - 9/21/02; Palo Verde Nuclear Generating Station, Units 1, 2, and 3; Emergency Response Organization Augmentation Testing and Access Control. A noncited violation of very low safety significance was identified for failure to mark a drawing as containing Safeguards information. On June 27, 2002, the licensee maintained Drawing TY-GL-002 (sheet 1 of 1), which contained an overview block diagram of the Palo Verde new North Access Facility and the new Independent Spent Fuel Storage Installation (ISFSI) and was not marked as containing "Safeguards Information." 10 CFR 73.21 requires, in part, that information regarding the site-specific drawings that substantially represent the final design features of the physical protection system be marked "Safeguards Information" in a conspicuous manner to indicate the presence of protected information. Following identification of this issue, the licensee ensured that all copies of the drawing were properly marked. The failure to conspicuously mark the drawing as "Safeguards Information" was determined to be a performance deficiency. The finding was evaluated to be more than minor because it affects a physical protection cornerstone objective and if left uncorrected it would become a more significant safety concern. Using the Physical Protection Significance Determination Process, the inspector determined the violation had very low safety significance because there were not more than two similar findings in four calendar quarters. Because of the very low safety significance (Green) and because the licensee included the finding in their corrective action program as Condition Report/Disposition Request 2533054, this finding is being treated as a noncited violation (50-528/02-04-03; 50-529/02-04-03; 50-530/02-04-03) in accordance with Section VI.A of the NRC Enforcement Policy (Section 3PP2).
Inspection Report# : 2002004*(pdf)*

Miscellaneous

Last modified : May 30, 2003

Palo Verde 2
2Q/2003 Plant Inspection Findings

Initiating Events

Mitigating Systems

Barrier Integrity

Emergency Preparedness

Significance:  Sep 26, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to periodically test the ability to meet minimum emergency response facility staffing response times during off-hours.
IR 05000528-02-04, IR 05000529-02-04, IR 05000530-02-04, IR 72-44/02-02; Arizona Public Service Company; 6/23/02 - 9/21/02; Palo Verde Nuclear Generating Station, Units 1, 2, and 3; Emergency Response Organization Augmentation Testing and Access Control. A noncited violation of very low safety significance was identified for failure to periodically test the ability to meet minimum emergency response facility staffing response times during off-hours. Off-hours exercises are only conducted once every 6 years, and off-hours quarterly pager and autodialer tests conducted over the past year were only functional tests that did not establish response times to the emergency facilities. Failure to adequately test the ability to meet minimum emergency response facility staffing response times during off-hours is a violation of 10 CFR 50.54(q), which requires that a licensee follow their emergency plans. Section 8.1.3, "Drills," of the Emergency Plan states that drills for the emergency organization are conducted periodically throughout the year to test response timing and emergency equipment and to ensure members of the Emergency Response Organization are familiar with their duties. Section 5.1.2.2 of Emergency Plan Implementing Procedure 08 requires that quarterly pager and autodialer testing be conducted to demonstrate minimum staffing response capability for the emergency facilities. Minimum staffing is defined in Table 1 of the Emergency Plan and includes positions and response times during normal and off-hours for each emergency facility. Contrary to the above, drills for the emergency response organization have not tested off-hours response timing periodically throughout the year. The last off-hours facility activation drill was conducted in 1999, and off-hours pager and autodialer tests conducted each quarter did not demonstrate response timing. The finding was determined to be a performance deficiency associated with emergency response organization augmentation testing. The finding was evaluated to be more than minor using the Emergency Preparedness Significance Determination Process because it affects the emergency preparedness cornerstone objective in that inadequate testing of the augmentation function can fail to identify problems in staffing the emergency facilities in a timely manner. The finding was evaluated as having very low safety significance (Green), since it was a failure of a regulatory requirement but not a failure to meet an emergency planning standard. This finding

is in the licensee's corrective action process as Condition Report/Disposition Request 2532635 and is being treated as a noncited violation (50-528/02-04-01; 50-529/02-04-01; 50-530/02-04-01) in accordance with Section VI.A of the NRC Enforcement Policy (Section 1EP3).
Inspection Report# : 2002004*(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Significance: G Mar 06, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PREVENT THE RELEASE OF DETECTABLE AMOUNTS OF LICENSED RADIOACTIVE MATERIAL
IR 05000528-03-08, IR 05000529-03-08, IR 05000530-03-08, on 2/24/03 - 3/06/30; Arizona Public Service Company; Palo Verde Nuclear Generating Station, Units 1, 2, and 3; Radioactive Material Control; Radiation Safety Team Inspection. The team identified three examples (one NRC identified and two self-revealing) of a noncited violation of Technical Specification 5.4.1.a because the licensee failed to follow procedural requirements. Specifically, the licensee failed to prevent detectable amounts of licensed radioactive material from being unconditionally released from the radiologically controlled area, as required by Procedure 75RP-9RP09, Revision 21, Section 3.2. Unconditionally releasing equipment from the radiologically controlled area with detectable radioactivity was a performance deficiency. The finding was more than minor because it was associated with the cornerstone attribute (material release) and it affected the associated cornerstone objective (to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain). The finding involved an occurrence in the radiological material control program that was contrary to licensee procedures. When processed through the Public Safety Significance Determination Process, the finding was found to have very low safety significance because the finding was a radioactive material control issue, was not a transportation issue, public exposure was not greater than 5 millirem, and there were less than five occurrences.
Inspection Report# : 2003008*(pdf)*

Physical Protection

Significance: N/A Jan 17, 2003
Identified By: NRC
Item Type: FIN Finding
Verification of compliance with Interim Compensatory Measures Order
On February 25, 2002, the NRC imposed by Order, Interim Compensatory Measures to enhance physical security. The inspectors determined that, overall, the licensee appropriately incorporated the Interim Compensatory Measures into the site protective strategy and access authorization program; developed and implemented relevant procedures; ensured that the emergency plan could be implemented; and established and effectively coordinated interface agreements with offsite organizations.
Inspection Report# : 2003006*(pdf)*

Significance: G Sep 26, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to mark a portion of a document as containing Safeguards information.
IR 05000528-02-04, IR 05000529-02-04, IR 05000530-02-04, IR 72-44/02-02; Arizona Public Service Company; 6/23/02 - 9/21/02; Palo Verde Nuclear Generating Station, Units 1, 2, and 3; Emergency Response Organization Augmentation Testing and Access Control. A noncited violation of very low safety significance was identified for failure to mark a portion of a document as containing Safeguards information. On September 18, 2001, pursuant to 10 CFR 50.90, the licensee submitted to NRC Headquarters a change to its physical security plan. A portion (page) of this plan change included the size (number) of the armed response force used to defend all three units at Palo Verde and was not marked as containing "Safeguards Information." 10 CFR 73.21 requires, in part, that information regarding the size (number) of responding security forces be marked "Safeguards Information" in a conspicuous manner to indicate the presence of protected information. Following identification of this issue, the licensee withdrew all copies of this physical security plan change. The failure to conspicuously mark a portion of a document as "Safeguards Information" was determined to be a performance deficiency. The finding was evaluated to be more than minor because it affects a physical protection cornerstone objective and if left uncorrected it would become a more significant safety concern. Using the Physical Protection Significance Determination Process, the inspector determined the violation had very low safety significance because there were not more than two similar findings in four calendar quarters. Because of the very low safety significance (Green) and because the licensee included the finding in their corrective action program as Condition Report/Disposition Request 2433526, this finding is being treated as a noncited violation (50-528/02-04-02; 50-529/02-04-02; 50-530/02-04-02) in accordance with Section VI.A of the NRC Enforcement Policy (Section 3PP2).
Inspection Report# : 2002004*(pdf)*

Significance: G Sep 26, 2002
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to mark a drawing as containing Safeguards information.
IR 05000528-02-04, IR 05000529-02-04, IR 05000530-02-04, IR 72-44/02-02; Arizona Public Service Company; 6/23/02 - 9/21/02; Palo Verde Nuclear Generating Station, Units 1, 2, and 3; Emergency Response Organization Augmentation Testing and Access Control. A noncited violation of very low safety significance was identified for failure to mark a drawing as containing Safeguards information. On June 27, 2002, the licensee maintained Drawing TY-GL-002 (sheet 1 of 1), which contained an overview block diagram of the Palo Verde new North Access Facility and the new Independent Spent Fuel Storage Installation (ISFSI) and was not marked as containing "Safeguards Information." 10 CFR 73.21 requires, in part, that information regarding the site-specific drawings that substantially represent the final design features of the physical protection system be marked "Safeguards Information" in a conspicuous manner to indicate the presence of protected information. Following identification of this issue, the licensee ensured that all copies of the drawing were properly marked. The failure to conspicuously mark the drawing as "Safeguards Information" was determined to be a performance deficiency. The finding was evaluated to be more than minor because it affects a physical protection cornerstone objective and if left uncorrected it would become a more significant safety concern. Using the Physical Protection Significance Determination Process, the inspector determined the violation had very low safety significance because there were not more than two similar findings in four calendar quarters. Because of the very low safety significance (Green) and because the licensee included the finding in their corrective action program as Condition Report/Disposition Request 2533054, this finding is being treated as a noncited violation (50-528/02-04-03; 50-529/02-04-03; 50-530/02-04-03) in accordance with Section VI.A of the NRC Enforcement Policy (Section 3PP2).
Inspection Report# : 2002004*(pdf)*

Miscellaneous

Last modified : September 04, 2003

Palo Verde 2
3Q/2003 Plant Inspection Findings

Initiating Events

Mitigating Systems

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Significance: G Mar 06, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PREVENT THE RELEASE OF DETECTABLE AMOUNTS OF LICENSED RADIOACTIVE MATERIAL
IR 05000528-03-08, IR 05000529-03-08, IR 05000530-03-08, on 2/24/03 - 3/06/30; Arizona Public Service Company; Palo Verde Nuclear Generating Station, Units 1, 2, and 3; Radioactive Material Control; Radiation Safety Team Inspection.

The team identified three examples (one NRC identified and two self-revealing) of a noncited violation of Technical Specification 5.4.1.a because the licensee failed to follow procedural requirements. Specifically, the licensee failed to prevent detectable amounts of licensed radioactive material from being unconditionally released from the radiologically controlled area, as required by Procedure 75RP-9RP09, Revision 21, Section 3.2.

Unconditionally releasing equipment from the radiologically controlled area with detectable radioactivity was a performance deficiency. The finding was more than minor because it was associated with the cornerstone attribute (material release) and it affected the associated cornerstone objective (to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain). The finding involved an occurrence

in the radiological material control program that was contrary to licensee procedures. When processed through the Public Safety Significance Determination Process, the finding was found to have very low safety significance because the finding was a radioactive material control issue, was not a transportation issue, public exposure was not greater than 5 millirem, and there were less than five occurrences.
Inspection Report# : 2003008*(pdf)*

Physical Protection

Significance: N/A Jan 17, 2003
Identified By: NRC
Item Type: FIN Finding
Verification of compliance with Interim Compensatory Measures Order
On February 25, 2002, the NRC imposed by Order, Interim Compensatory Measures to enhance physical security. The inspectors determined that, overall, the licensee appropriately incorporated the Interim Compensatory Measures into the site protective strategy and access authorization program; developed and implemented relevant procedures; ensured that the emergency plan could be implemented; and established and effectively coordinated interface agreements with offsite organizations.
Inspection Report# : 2003006*(pdf)*

Miscellaneous

Last modified : December 01, 2003

Palo Verde 2
4Q/2003 Plant Inspection Findings

Initiating Events

Mitigating Systems

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Significance: G Mar 06, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PREVENT THE RELEASE OF DETECTABLE AMOUNTS OF LICENSED RADIOACTIVE MATERIAL
IR 05000528-03-08, IR 05000529-03-08, IR 05000530-03-08, on 2/24/03 - 3/06/30; Arizona Public Service Company; Palo Verde Nuclear Generating Station, Units 1, 2, and 3; Radioactive Material Control; Radiation Safety Team Inspection.

The team identified three examples (one NRC identified and two self-revealing) of a noncited violation of Technical Specification 5.4.1.a because the licensee failed to follow procedural requirements. Specifically, the licensee failed to prevent detectable amounts of licensed radioactive material from being unconditionally released from the radiologically controlled area, as required by Procedure 75RP-9RP09, Revision 21, Section 3.2.

Unconditionally releasing equipment from the radiologically controlled area with detectable radioactivity was a performance deficiency. The finding was more than minor because it was associated with the cornerstone attribute (material release) and it affected the associated cornerstone objective (to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain). The finding involved an occurrence

in the radiological material control program that was contrary to licensee procedures. When processed through the Public Safety Significance Determination Process, the finding was found to have very low safety significance because the finding was a radioactive material control issue, was not a transportation issue, public exposure was not greater than 5 millirem, and there were less than five occurrences.
Inspection Report# : 2003008*(pdf)*

Physical Protection

Significance: N/A Jan 17, 2003
Identified By: NRC
Item Type: FIN Finding
Verification of compliance with Interim Compensatory Measures Order
On February 25, 2002, the NRC imposed by Order, Interim Compensatory Measures to enhance physical security. The inspectors determined that, overall, the licensee appropriately incorporated the Interim Compensatory Measures into the site protective strategy and access authorization program; developed and implemented relevant procedures; ensured that the emergency plan could be implemented; and established and effectively coordinated interface agreements with offsite organizations.
Inspection Report# : 2003006*(pdf)*

Miscellaneous

Last modified : March 02, 2004

Palo Verde 2
1Q/2004 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance:  Dec 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Implement Surveillance Requirement 3.5.3.8
Green. The inspectors identified a noncited violation for the licensee's failure to implement Surveillance Requirement 3.5.3.8 for all three units. The licensee failed to identify and remove debris in Trains A and B emergency core cooling system sumps during their last performance of Procedure 31ST-SI01, "Cleaning/Inspection of ECCS Sumps," Revision 7. Specifically, the licensee failed to identify unqualified tie-wraps that were attached to the stem of the containment sump suction valves inside the emergency core cooling system sumps.

This finding is greater than minor, since it affected the mitigating system cornerstone objective of equipment reliability because the debris could have affected containment spray pump flow by clogging spray nozzles. The finding is of very low safety significance because the amount of debris would have only degraded containment spray pump flow during a potential large break loss of coolant accident, but the safety function would have been fulfilled based on the small amount of debris.

Inspection Report# : 2003005*(pdf)*

Significance:  Dec 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Improper Design Control Results in Unscreened 1-inch Hole in Emergency Core Cooling Sump Cover
Green. The inspectors identified a noncited violation related to 10 CFR Part 50, Criterion III, "Design Control." This violation is related to having an unscreened hole in each emergency core cooling system train's sump covers. These 1-inch holes were greater than the 1/8-inch gaps allowed by the emergency core cooling system sump design.

This finding is greater than minor because it affected the mitigating system cornerstone objective of equipment reliability by not assuring that the sump structure would filter out all debris greater than 3/16-inch diameter. The finding is of very low safety significance because the location of these holes were not in the design flowpath for water into the emergency core cooling system sump, which would have limited the amount of debris introduced into the system.

Inspection Report# : 2003005*(pdf)*

Barrier Integrity

Significance:  Dec 31, 2003
Identified By: NRC
Item Type: FIN Finding
FAILURE TO USE A CONSERVATIVE METHOD TO CALCULATE REACTOR COOLANT SYSTEM HEAT LOSSES FOR POSTMODIFICATION TESTING
Green. Proposed postmodification testing to determine the new heat losses to ambient term used in reactor thermal power calculations was inappropriate because it would have resulted in a nonconservative bias. Changes to the reactor coolant system components and new insulation were expected to cause a change in heat lost from the reactor coolant system. The licensee's software for calculating reactor thermal power included a constant term used to account for the reactor power lost in this way. The licensee planned to determine the new heat loss term by measuring it with the plant shutdown at the no-load operating temperature, and then applying it to all power levels. The proposed test would

measure a lower heat loss term than would be present at full load power and temperatures, introducing a nonconservative bias in the calculated reactor power. The licensee estimated that the bias was expected to be about 0.3 MWth (.01 percent power). Since the output of this calculation was used to calibrate nuclear instrument reactor power and turbine power instruments, this bias would have caused a similar effect in these instruments.

The safety significance of the proposed testing being nonconservative was very low, since the licensee planned to account for this condition prior to the implementation of the plant changes. This issue affected the Barrier Integrity Cornerstone objective for design control in maintaining fuel integrity. It was more than minor because if left uncorrected, it would be more significant because the licensee could inadvertently operate Unit 2 above its maximum licensed power level.

Inspection Report# : 2003009*(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Miscellaneous

Last modified : May 05, 2004

Palo Verde 2
2Q/2004 Plant Inspection Findings

Initiating Events

Significance: G Jun 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PREVENT LOSS OF SPENT FUEL POOL INVENTORY EVENTS THROUGH TIMELY CORRECTIVE ACTIONS
A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to identify the root cause of spent fuel pool inventory loss events and implement corrective actions to preclude recurrence. Specifically, the improper positioning of a fuel pool cleanup suction valve and inadequate level monitoring resulted in three losses of spent fuel pool inventory events. This finding involves problem identification and resolution cross-cutting aspects associated with the failure to identify root causes and implement corrective actions. The issue also involved human performance cross-cutting aspects associated with mispositioned valves and awareness of plant conditions by operations personnel. This issue was entered into the corrective action program as CRDR 2599869.

The finding is greater than minor because it affected the configuration control and human performance attributes of the initiating events cornerstone objective. This finding cannot be evaluated by the significance determination process because Manual Chapter 0609, "Significance Determination Process," Appendix A, "Significance Determination of reactor Inspection Findings for At-Power Situations," and Appendix G, "Shutdown Operations Significance Determination Process," do not apply to the spent fuel pool. This finding is determined to be of very low safety significance by management review because radiation shielding was provided by the spent fuel pool water level, the spent fuel pool cooling and fuel building ventilation systems were available, and there were multiple sources of makeup water.
Inspection Report# : 2004003*(pdf)*

Significance: G Jun 30, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW HEAVY LOAD MOVEMENT PROCEDURE
A self-revealing noncited violation of Technical Specification 5.4.1.a was identified when personnel failed to follow a maintenance procedure preceding a 12 to 24 inch heavy load drop of a 7000 pound steam generator snubber level plate inside the Unit 2 containment. The drop was due to a series of errors between the engineering contractor and rigging crews. The snubber plate was dropped in the vicinity of reactor coolant and shutdown cooling piping. This issue was entered into the corrective action program as CRDR 2639721.

The finding was greater than minor because it affects the equipment performance and human performance attributes of the initiating events cornerstone objective to limit the likelihood of events that challenge safety functions during shutdown conditions. Using Manual Chapter 0609, "Significance Determination Process," Appendix G, "Shutdown Operations Significance Determination Process," the senior reactor analyst concluded that this finding did not significantly increase the likelihood of losing the residual heat removal function and did not significantly increase the likelihood that systems that could mitigate a loss of residual heat removal function would be degraded. Therefore, this finding is of very low safety significance.
Inspection Report# : 2004003*(pdf)*

Significance: G May 21, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
FAILURE TO ESTABLISH AN ADEQUATE PROCEDURE FOR PERFORMING PRESSURIZER SPRAY VALVE MAINTENANCE
NRC inspectors previously identified an unresolved item (URI 05000529/2003004-01) with pressurizer spray valve maintenance. This URI resulted from the NRC review of Licensee Event Report 05000529/2003001-00. Based upon further review during this inspection, the team identified a self-revealing non-cited violation of Technical Specification 5.4.1(a) for failure to establish an adequate procedure for performing pressurizer spray valve maintenance. The procedure was not adequate since the valve failed shortly after maintenance on the valve and valve positioner.

This finding was more than minor since it affected the likelihood of an initiating event to upset plant stability and challenge critical safety functions. Based on the results of an SDP Phase 1 analysis, this finding had very low safety significance (Green) since it did not inhibit the performance of a mitigating system, and did not increase the likelihood of a loss of coolant accident.
Inspection Report# : 2004006*(pdf)*

Mitigating Systems

Significance: SL-IV Jun 30, 2004

Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM A COMPLETE SHUT DOWN COOLING HEAT EXCHANGER TEMPERATURE LOOP CHANNEL CALIBRATION
A Severity Level IV noncited violation of Technical Specification 3.3.11 was identified for the failure to include the resistance temperature detectors in the channel calibration for the shutdown cooling heat exchanger temperature instruments. Specifically, prior to the implementation of Improved Technical Specifications, the licensee did not perform testing of the resistance temperature detectors. Following the implementation of Improved Technical Specifications, the licensee did not perform an in-place qualitative assessment of the resistance temperature detectors' behavior. This issue was entered into the corrective action program as CRDR 280178.

The failure to perform a complete shutdown cooling heat exchanger temperature loop channel calibration is determined to have greater than minor significance because the licensee's failure to report the condition impacted the NRC's ability to perform it's regulatory function. Therefore, this finding was considered applicable to traditional enforcement. Although the significance determination process is not designed to assess the significance of violations that potentially impact or impede the regulatory process, the finding can be assessed using the significance determination process. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," this finding is determined to be of very low safety significance because it only affected the mitigating system cornerstone and the resistance temperature detectors were found to be within calibration.
Inspection Report# : 2004003*(pdf)*

Significance: G Jun 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM MONTHLY REVIEWS TO ENSURE EXCESS HOURS HAVE NOT BEEN ASSIGNED
The inspectors identified a noncited violation of Technical Specification 5.2.2.d for the failure of authorized individuals to review monthly overtime reports to ensure that excessive hours have not been assigned. Specifically, following the implementation of an electronic reporting system in 2001, the licensee did not ensure that all managers continued to receive and approve the Excess Hours Report.

The finding is greater than minor because if left uncorrected it could become a more significant safety concern in that exceeding the NRC Generic Letter 82-02, "Nuclear Power Plant Staff Working Hours," guidelines for overtime limits is a contributor to worker fatigue. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," this finding is determined to be of very low safety significance because there were no known actual adverse plant or equipment conditions that could be attributed to worker fatigue.
Inspection Report# : 2004003*(pdf)*

Significance: G Apr 08, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CORRECTLY IMPLEMENT THE VENTING REQUIREMENTS OF PROCEDURE 40OP-9S101
A noncited violation of Technical Specification 5.4.1a. was identified for the failure to correctly implement the venting requirements of Procedure 40OP-9SI01, Appendix D. Specifically, when venting the shutdown cooling system while in reduced inventory, the operators failed to attain a steady stream of air free water from Valve V019 and vented from a location not specified in the procedure.

This finding was more than minor because the failure to properly vent the shutdown cooling system while in reduced inventory could, if left uncorrected, become a more significant safety concern. The inadequate venting was associated with the operability, availability, and function of the shutdown cooling system while in reduced inventory (i.e., potential loss of long term decay heat removal).

This performance issue was found to be of very low safety significance (GREEN), because none of the plant conditions met the threshold for performing a Phase 2 analysis. This finding has cross-cutting implications in the human performance area. That is, this violation was the direct result of operators not correctly implementing a procedure.

The licensee entered this issue into its corrective action program as Condition Report/Discrepancy Request 2686273.

Inspection Report# : 2004009*(pdf)*

Significance: TBD Apr 08, 2004
Identified By: NRC
Item Type: AV Apparent Violation
FAILURE TO PROMPTLY IDENTIFY AND CORRECT AN INCOMPATIBILITY BETWEEN STEAM GENERATOR NOZZLE DAMS AND THE LOCKING RINGS
A violation of Criterion XVI, Corrective Action, of Appendix B to 10 CFR Part 50, was identified for the failure of the measures established to assure that conditions adverse to quality are promptly identified and corrected. Specifically, licensee personnel failed to promptly identify that retaining ring slots were not adequately sized to allow the use of the standard lock pins, contributing to the damage to the diaphragms. Subsequent to the identification, licensee personnel failed to correct the condition by not implementing the actions recommended by plant engineers.

This finding was more than minor because it is associated with the mitigating systems cornerstone and affects reactor coolant system boundary performance. Specifically, the plant operated for an extended period in reduced inventory as a result of not correcting the incompatibility between the nozzle dams and the locking ring. This finding has cross-cutting implications in the problem identification and resolution area. That is, this finding was the direct result of licensee personnel's failure to promptly identify and correct a condition adverse to quality. The licensee entered this issue into its

corrective action program as Condition Report/Discrepancy Requests 2686201 and 2686271. This apparent violation is unresolved because the significance of this finding is to be determined.

Inspection Report# : 2004009*(pdf)*

Significance: G Mar 31, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IDENTIFY DEGRADATION OF POLYETHYLENE CHANNELS ON CLASS 1E BATTERIES
Green. The inspectors identified a noncited violation for the failure to comply with 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Actions. Specifically, the licensee did not identify the degradation of polyethylene insulating channels on Class 1E station batteries. Missing insulating channels could affect the seismic qualification of the batteries.

This finding is greater than minor because it affects the reactor safety mitigating system cornerstone objective to ensure the capability of systems that respond to initiating events. Using the Significance Determination Process Phase 1 Worksheet, the finding was determined to have a very low safety significance, since there was no case where enough insulating channels had slipped to affect the seismic analyses, and the batteries remained in their design configuration.

Inspection Report# : 2004002*(pdf)*

Significance: G Mar 31, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO ESTABLISH AFW PUMP OPERABILITY PRIOR TO MODE 3 ENTRY
Green. The inspectors identified a noncited violation for the failure to comply with Technical Specification 3.0.4 in that Mode 3 was entered on two occasions, once on December 8 and again on December 10, 2003, when compliance with Technical Specification 3.7.5, "Auxiliary Feedwater System," had not been established. Specifically, the acceptance criteria of Procedure 73ST-9XI38, "AFA-P01 Discharge Check Valve AFA-V015 - Inservice Test," was not met. Consequently, the required number of auxiliary feedwater trains were not available to support plant conditions in Mode 3.

The finding is greater than minor since it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of equipment availability. Using the Significance Determination Process Phase 1 and 2 Worksheets, the finding was determined to effect the loss of a single train of a system for greater than its Technical Specification allowed outage time. The finding was very low safety significance because the exposure time for this condition was less than 24 hours and all mitigation capabilities described on the selected Significance Determination Process Phase 2 worksheets for the applicable core damage sequences were maintained.

Inspection Report# : 2004002*(pdf)*

Significance: G Dec 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Implement Surveillance Requirement 3.5.3.8
Green. The inspectors identified a noncited violation for the licensee's failure to implement Surveillance Requirement 3.5.3.8 for all three units. The licensee failed to identify and remove debris in Trains A and B emergency core cooling system sumps during their last performance of Procedure 31ST-SI01, "Cleaning/Inspection of ECCS Sumps," Revision 7. Specifically, the licensee failed to identify unqualified tie-wraps that were attached to the stem of the containment sump suction valves inside the emergency core cooling system sumps.

This finding is greater than minor, since it affected the mitigating system cornerstone objective of equipment reliability because the debris could have affected containment spray pump flow by clogging spray nozzles. The finding is of very low safety significance because the amount of debris would have only degraded containment spray pump flow during a potential large break loss of coolant accident, but the safety function would have been fulfilled based on the small amount of debris.

Inspection Report# : 2003005*(pdf)*

Significance: G Dec 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Improper Design Control Results in Unscreened 1-inch Hole in Emergency Core Cooling Sump Cover
Green. The inspectors identified a noncited violation related to 10 CFR Part 50, Criterion III, "Design Control." This violation is related to having an unscreened hole in each emergency core cooling system train's sump covers. These 1-inch holes were greater than the 1/8-inch gaps allowed by the emergency core cooling system sump design.

This finding is greater than minor because it affected the mitigating system cornerstone objective of equipment reliability by not assuring that the sump structure would filter out all debris greater than 3/16-inch diameter. The finding is of very low safety significance because the location of these holes

were not in the design flowpath for water into the emergency core cooling system sump, which would have limited the amount of debris introduced into the system.

Inspection Report# : 2003005*(pdf)*

Barrier Integrity

Significance: SL-IV Jun 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
CONTAINMENT PURGE PENETRATION NONCONFORMANCE
A Severity Level IV noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to correct a nonconforming condition in a timely manner. Specifically, since June 2001, the licensee discontinued implementation of required Technical Specification surveillance testing for the containment purge valves by declaring the valves inoperable and installing blind flanges. This issue was entered into the corrective action program as CRDR 2711167.

The finding is greater than minor because the licensee's failure to submit a license amendment to correct the nonconforming condition impacted the NRC's ability to perform its regulatory function. Therefore, this finding was considered applicable to traditional enforcement. Although the significance determination process is not designed to assess the significance of violations that potentially impact or impede the regulatory process, the finding can be assessed using the significance determination process. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the barrier integrity cornerstone and the installation of blind flanges adequately maintained containment integrity.
Inspection Report# : 2004003*(pdf)*

Significance: G Jun 30, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
MISSING BOLTS ON SUPPORT FOR MAIN STEAM LINE WHIP RESTRAINT
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion V, was identified for the failure to secure a main steam line pipe whip restraint inside the Unit 2 containment in accordance with design drawings. Specifically, the pipe whip restraint was missing four ½-inch diameter nuts from the embedded anchor bolts. This issue was entered into the corrective action program as CRDR 2643347.

The finding is greater than minor since it is associated with the equipment performance attribute of the barrier integrity cornerstone and affects the cornerstone objective of protecting the containment barrier from radionuclide releases caused by accidents or events. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," this finding is determined to have very low safety significance because it did not represent an actual open pathway in the physical integrity of the reactor containment and did not represent an actual reduction of the atmospheric pressure control function of the reactor containment.
Inspection Report# : 2004003*(pdf)*

Significance: SL-IV May 21, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROVIDE AN EVALUATION OF A CHANGE TO THE FACILITY AS DESCRIBED IN THE UFSAR, UNDER 10 CFR 50.59 REQUIREMENTS
The team identified a Severity Level IV violation of 10 CFR 50.59 requirements for failing to evaluate a modification to spent fuel storage in the spent fuel pools. The team reviewed CRDR 2524176, regarding the lack of a criticality analysis to support the use of rod capture tubes, which hold individual harvested fuel pins, in the spent fuel rack. The team reviewed the licensee's process of storing individual fuel pins, removed from a parent fuel assembly, and placed in rod capture tubes to be located in guide tubes of another host assembly. This resulted in a component that had nuclear fuel pins, of varying enrichment and depletion, stored as a regular fuel assembly in the spent fuel pools. The team noted that Section 9.1 of the UFSAR specifically described the storage of spent fuel in regions based upon fuel assembly initial enrichment, actual burnup, and actual decay time. The UFSAR does not describe the storage of individual pins in these regions. The licensee previously interpreted this as meaning the UFSAR did not prohibit such storage, and would not require consideration of enrichment, burnup, and decay of individual pins. The licensee failed to provide an evaluation of a change to the facility as described in the UFSAR, under 10 CFR 50.59 requirements. The licensee subsequently performed an evaluation of the criticality under station procedure 72DP-9NF01, "Control of SNM Transfer and Inventory," which was found acceptable.

The issue was determined to be more than minor, through Inspection Manual Chapter 0612, Appendix B, in that it affected the barrier integrity cornerstone attribute of human performance, and could have represented a more significant issue if left uncorrected. In accordance with the NRC Enforcement Manual, violations of 10 CFR 50.59 are not processed through the significance determination process. Therefore, this issue was considered applicable to traditional enforcement. Although the significance determination process is not designed to assess significance of violations that potentially impact or impede the regulatory process, the result of a 10 CFR 50.59 violation can be assessed significance through the significance determination process. The team leader and the Region IV senior reactor analyst discussed the significance of this finding. An SDP Phase 1 screening was performed and the finding was determined to have very low safety significance because there was no actual loss of the barrier integrity function. The licensee entered this issue into its corrective action program as CRDR 2711241.

Inspection Report# : 2004006*(pdf)*

Significance: G Apr 08, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO ENTER A NONCONFORMITY REPORT FROM THE STEAM GENERATOR FABRICATOR INTO THE PALO VERDE CORRECTIVE ACTION PROGRAM
A noncited violation of Criterion XVI, Corrective Action, of Appendix B to 10 CFR Part 50, was identified for the failure of the measures established to assure conditions adverse to quality are promptly identified and corrected. Specifically, although a fabricator informed licensee representatives of a tube with damage from a packing crate screw, the licensee representative did not enter the issue into the corrective action program to assure that the adverse condition (i.e., inadequate packing of tubes) was promptly corrected. Additionally, the corrective action program was deficient in that there was no mechanism to ensure that adverse conditions identified by the fabricator were made known to the appropriate licensee personnel. As a result, the potential for a similarly damaged tube to exist in the steam generators installed in the plant was not assessed, nor were actions taken to support detecting such a damaged tube during the pre-service examination by the licensee's eddy current examiners.

This finding is more than minor because it had actual safety consequences (i.e., a steam generator tube leak). This finding affects the barrier integrity cornerstone because of the potential to release radionuclides through the leaking tube. Reactor coolant system barrier performance was the affected attribute. This finding has cross-cutting implications in the problem identification and resolution area. That is, this finding was the direct result of the engineering staff's failure to properly address and correct a condition adverse to quality. The licensee entered this issue into its corrective action program as Condition Report/Discrepancy Request 2685303.

This finding was found to be of very low safety significance after a Phase 3 evaluation using the Manual Chapter 0609, Significance Determination Process.

Inspection Report# : 2004009*(pdf)*

Significance: G Mar 31, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
PRESSURIZER LEVEL TRANSIENT ABOVE TECHNICAL SPECIFICATION LIMIT
Green. The inspectors identified a noncited violation of Technical Specification 5.4.1.a because an inadequate work order was used to perform a pressurizer level control system data collection engineering action plan. The work order was inadequate in that it resulted in exceeding the maximum pressurizer level allowed by Technical Specification 3.4.9.

The finding is greater than minor since it is associated with the equipment performance attribute of the barrier integrity cornerstone and affects the cornerstone objective of protecting the reactor coolant system barrier from radionuclide releases caused by accidents or events. Using the Significance Determination Process Phase 1 Worksheet, the finding is determined to have very low safety significance because it only affects the barrier integrity cornerstone and was a deficiency that did not result in the actual degradation of the reactor coolant system barrier.

Inspection Report# : 2004002*(pdf)*

Significance: G Dec 31, 2003
Identified By: NRC
Item Type: FIN Finding
FAILURE TO USE A CONSERVATIVE METHOD TO CALCULATE REACTOR COOLANT SYSTEM HEAT LOSSES FOR POSTMODIFICATION TESTING
Green. Proposed postmodification testing to determine the new heat losses to ambient term used in reactor thermal power calculations was inappropriate because it would have resulted in a nonconservative bias. Changes to the reactor coolant system components and new insulation were expected to cause a change in heat lost from the reactor coolant system. The licensee's software for calculating reactor thermal power included a constant term used to account for the reactor power lost in this way. The licensee planned to determine the new heat loss term by measuring it with the plant shutdown at the no-load operating temperature, and then applying it to all power levels. The proposed test would measure a lower heat loss term than would be present at full load power and temperatures, introducing a nonconservative bias in the calculated reactor power. The licensee estimated that the bias was expected to be about 0.3 MWth (.01 percent power). Since the output of this calculation was used to calibrate nuclear instrument reactor power and turbine power instruments, this bias would have caused a similar effect in these instruments.

The safety significance of the proposed testing being nonconservative was very low, since the licensee planned to account for this condition prior to the implementation of the plant changes. This issue affected the Barrier Integrity Cornerstone objective for design control in maintaining fuel integrity. It was more than minor because if left uncorrected, it would be more significant because the licensee could inadvertently operate Unit 2 above its maximum licensed power level.

Inspection Report# : 2003009*(pdf)*

Emergency Preparedness

Significance: G Mar 31, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
IMPLEMENTATION OF A CHANGE TO TABLE 1 WHICH WAS A DECREASE IN EFFECTIVENESS OF THE EMERGENCY PLAN
Green. On February 16, 2003, and February 4, 2004, the licensee implemented an emergency plan change, which decreased the required number of onshift emergency responders. This change constituted a decrease in effectiveness of the emergency plan because it could have resulted in a dedicated onshift communicator being replaced by a shift technical advisor, with a loss of one onshift position. Implementation of changes to the emergency plan, which constitute a reduction in the effectiveness of the plan without prior NRC approval, was a noncited violation of 10 CFR 50.54(q).

The finding was evaluated using NUREG-1600, "General Statement of Policy and Procedure for NRC Enforcement Actions," Section IV, because licensee reductions in the effectiveness of its emergency plan impact the regulatory process. The finding had greater than minor significance because reducing the required number of onshift emergency responders had the potential to impact the ability to perform all necessary emergency functions. The finding was determined to be a noncited Severity Level IV violation because the emergency plan change constituted a failure to implement a regulatory requirement, but did not constitute a failure to meet an emergency planning standard as defined by 10 CFR 50.47(b) because actual staffing levels remained above the emergency plan minimum. This finding has been entered into the licensee's corrective action program as Condition Report Disposition Request 2670023.

Inspection Report# : 2004002*(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Significance: N/A May 21, 2004
Identified By: NRC
Item Type: FIN Finding
IDENTIFICATION AND RESOLUTION OF PROBLEMS
The team concluded that the licensee was generally effective at identifying problems and processing them through the corrective action program. The licensee effectively prioritized and evaluated issues with a few exceptions. The team identified examples where the licensee had not evaluated identified issues for proper compliance with 10 CFR 50.59 requirements. Additionally, in some cases, corrective actions were not timely or fully documented. Licensee audits and assessments were found to be effective except for one example involving maintenance rule application to radiation monitors. On the basis of interviews conducted during this inspection, workers at the site felt free to input safety findings into the corrective action program.
Inspection Report# : 2004006*(pdf)*

Last modified : September 08, 2004

Palo Verde 2
3Q/2004 Plant Inspection Findings

Initiating Events

Significance: G Sep 30, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
FAILURE TO REMOVE PIPE SUPPORT LEADS TO RCS PRESSURE BOUNDARY LEAK
Green. A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified for the failure to implement a modification. The modification should have removed a pipe support associated with a high pressure safety injection system drain line. The failure to remove the pipe support, combined with high vibrations, resulted in a reactor coolant system pressure boundary leak from a cracked socket weld upstream of high pressure safety injection header drain Valve 1-P-SIA-V056. The issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2669474.

The finding is greater than minor since it is associated with the equipment performance and design control attributes of the initiating events cornerstone and affects the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," this finding is determined to have very low safety significance because assuming worst case degradation, the leak would not have exceeded the Technical Specification limit for identified reactor coolant system leakage and mitigating systems were not affected.
Inspection Report# : 2004004*(pdf)*

Significance: G Aug 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW PROCEDURS FOR OPERATION OF THE SPENT FUEL HANDLING MACHINE
The inspectors identified a noncited violation of Technical Specification 5.4.1 associated with a failure to operate the spent fuel handling machine in accordance with Procedure 78OP-9FX03, "Spent Fuel Handling Machine," Revision 16. There were three instances of this: (1) On October 4, 2002, the spent fuel handling machine operator moved fuel assemblies of two differing weights and was not cognizant of design differences of the fuel assemblies and did not stop fuel movement when the load was greater than 50 lbs. different from expected; (2) On October 4, 2002, the spent fuel handling machine operator failed to verify that the hoist was in its full up position prior to moving a spent fuel assembly, and (3) later on October 4, 2002, another spent fuel handling operator failed to verify that the hoist was in its full up position prior to moving a spent fuel assembly. In both Examples (2) and (3), the operators failed to verify the "UP LIMIT" light was on and failed to verify the hoist indicator was at the "UPLIMIT." As a result, in Example (3), the one fuel assembly was damaged. These issues were contrary to Procedure 78OP-9FX03 and resulted in damage to the lower grid assembly of Fuel Assembly P1M316.

This finding is greater than minor because it had an actual impact of damage to an irradiated fuel assembly and, therefore, could be reasonably viewed as a precursor to a significant event. If the fuel cladding had failed, it could have caused a release of fission products to the environment. The finding is of very low safety significance because all mitigation systems were available during the fuel movement operations and should have prevented an unplanned release of radioactive material to the environment above the limits of 10 CFR Part 100. This finding also had crosscutting aspects in the area of human performance.

Inspection Report# : 2004011*(pdf)*

Significance: G Aug 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PRESCRIBE ADEQUATE INSTRUCTIONS FOR ENTRY INTO ABNORMAL OPERATING PROCEDURE, PVNGS PROCEDURE 40AO-9ZZ22, "FUEL DAMAGE," REVISION 2 THROUGH 6
The inspectors identified a noncited violation of Technical Specification 5.4.1 associated with an inadequate abnormal operating procedure. Specifically, the inspectors determined that Palo Verde Nuclear Generating Station Procedure 40AO-9ZZ22, "Fuel Damage," Revisions 1 through 6, were not adequate in that the entry conditions never required operations personnel to enter the procedure and take actions to mitigate the event. Step 1.1 states, in part, "Section 3.0, Irradiated Fuel Damage may be entered when any of the following conditions exist . . . when equipment or component failures result in any of the following: irradiated fuel assembly contacting a solid structure; bubbles emerging from a spent fuel assembly; bent, twisted, or warped spent fuel assembly; or visual damage to spent fuel pin cladding." Since this abnormal operating procedure was never entered, applicable actions were never considered during the Fuel Assembly P1M316 event.

This finding is greater than minor because actions taken in response to fuel handling errors could result in significant fuel cladding damage and

effect the barrier cornerstone. The finding is of very low safety significance because all mitigation systems were available and should have prevented an unplanned release of radioactive material to the environment above the limits of 10 CFR Part 100. This finding also had crosscutting aspects in the area of problem identification and resolution.
Inspection Report# : 2004011*(pdf)*

Significance: TBD Aug 30, 2004
Identified By: NRC
Item Type: AV Apparent Violation
FAILURE TO PROPERLY INFORM PLANT MANAGEMENT FOLLOWING FUEL HANDLING EVENT
The inspectors identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion XVI. Specifically, the licensee established measures to assure that conditions adverse to quality are promptly identified and corrected in Procedure 90DP-0IP10, "Condition Reporting." Procedure 90DP-0IP10, Revision 15, Step 3.1.2, required that the shift manager be promptly notified if a condition required immediate action to ensure the safety of plant personnel or equipment. Additionally, Procedure 90DP-0IP10, Appendix B, requires verbal notification to the leader and to the appropriate shift manager. The spent fuel handling machine operator failed to notify the shift manager and department leader for fuel operations that he took actions, which he felt were necessary to place the fuel assembly in a "safe" condition. Additionally, it appears that details regarding the seriousness of the incident and steps taken by the spent fuel handling machine operator immediately following the incident were not communicated to appropriate levels of plant management. The failure to notify the shift manager and department leader for fuel operations resulted in an inappropriate organizational response to the Fuel Assembly P1M316 event that did not involve station management in the decision-making process.

This apparent violation was greater than minor because it had an actual impact on management response for damage to an irradiated fuel assembly and, therefore, could be reasonably viewed as a precursor to a significant event. If the fuel cladding had failed, it could have caused a release of fission products. The safety significance of this finding will be determined pending the outcome of the predecisional enforcement conference.
Inspection Report# : 2004011*(pdf)*

Significance: G Jul 08, 2004
Identified By: NRC
Item Type: FIN Finding
POOR MATERIAL CONDITION OF THE SPENT FUEL HANDLING MACHINE
The inspectors identified a self-revealing finding of very low safety significance (green) associated with the material condition of the spent fuel handling machine. A number of issues related to material condition, which affected spent fuel handling machine operations, was identified. These included intermittent overload and underload conditions with no identified cause, upender limit switches that often failed or required adjustments during fuel movement, an unreliable hydraulic power unit for the upender machine which occasionally resulted in the upender drifting from the vertical position, and the spent fuel handling machine trolley occasionally stopped for no apparent reason.

This finding is greater than minor because it had an actual impact resulting in damage to an irradiated fuel assembly and, therefore, could be reasonably viewed as a precursor to a significant event. If the fuel cladding had failed, it could have caused a release of fission products. The finding is of very low safety significance because all mitigation systems were available and should have prevented an unplanned release of radioactive material to the environment above the limits of 10 CFR Part 100.
Inspection Report# : 2004011*(pdf)*

Significance: G Jul 08, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE CORRECTIVE ACTIONS CONTRIBUTED TO DAMAGE TO FUEL ASSEMBLY
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for failing to effectively correct conditions adverse to quality that contributed to the damage to irradiated Fuel Assembly P1M316. Specifically, Criterion XVI states, in part, that ". . . conditions adverse to quality, such as malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected." The licensee failed to effectively correct conditions adverse to quality, which included repeated violations of equipment operating procedures and conduct of operations procedures, as well as long-standing degraded material condition of the fuel handling equipment, that ultimately contributed to the damage of irradiated Fuel Assembly P1M316.

This finding is greater than minor because it had an actual impact of damage to an irradiated fuel assembly and, therefore, could be reasonably viewed as a precursor to a significant event. If the fuel cladding had failed, it could have caused a release of fission products. The finding is of very low safety significance because all mitigation systems were available and should have prevented an unplanned release of radioactive material to the environment above the limits of 10 CFR Part 100. This finding also had crosscutting aspects in the area of problem identification and resolution.
Inspection Report# : 2004011*(pdf)*

Significance: G Jun 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation

FAILURE TO PREVENT LOSS OF SPENT FUEL POOL INVENTORY EVENTS THROUGH TIMELY CORRECTIVE ACTIONS
A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to identify the root cause of spent fuel pool inventory loss events and implement corrective actions to preclude recurrence. Specifically, the improper positioning of a fuel pool cleanup suction valve and inadequate level monitoring resulted in three losses of spent fuel pool inventory events. This finding involves problem identification and resolution cross-cutting aspects associated with the failure to identify root causes and implement corrective actions. The issue also involved human performance cross-cutting aspects associated with mispositioned valves and awareness of plant conditions by operations personnel. This issue was entered into the corrective action program as CRDR 2599869.

The finding is greater than minor because it affected the configuration control and human performance attributes of the initiating events cornerstone objective. This finding cannot be evaluated by the significance determination process because Manual Chapter 0609, "Significance Determination Process," Appendix A, "Significance Determination of reactor Inspection Findings for At-Power Situations," and Appendix G, "Shutdown Operations Significance Determination Process," do not apply to the spent fuel pool. This finding is determined to be of very low safety significance by management review because radiation shielding was provided by the spent fuel pool water level, the spent fuel pool cooling and fuel building ventilation systems were available, and there were multiple sources of makeup water.
Inspection Report# : 2004003*(pdf)*

Significance: G Jun 30, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW HEAVY LOAD MOVEMENT PROCEDURE
A self-revealing noncited violation of Technical Specification 5.4.1.a was identified when personnel failed to follow a maintenance procedure preceding a 12 to 24 inch heavy load drop of a 7000 pound steam generator snubber level plate inside the Unit 2 containment. The drop was due to a series of errors between the engineering contractor and rigging crews. The snubber plate was dropped in the vicinity of reactor coolant and shutdown cooling piping. This issue was entered into the corrective action program as CRDR 2639721.

The finding was greater than minor because it affects the equipment performance and human performance attributes of the initiating events cornerstone objective to limit the likelihood of events that challenge safety functions during shutdown conditions. Using Manual Chapter 0609, "Significance Determination Process," Appendix G, "Shutdown Operations Significance Determination Process," the senior reactor analyst concluded that this finding did not significantly increase the likelihood of losing the residual heat removal function and did not significantly increase the likelihood that systems that could mitigate a loss of residual heat removal function would be degraded. Therefore, this finding is of very low safety significance.
Inspection Report# : 2004003*(pdf)*

Significance: G May 21, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
FAILURE TO ESTABLISH AN ADEQUATE PROCEDURE FOR PERFORMING PRESSURIZER SPRAY VALVE MAINTENANCE
NRC inspectors previously identified an unresolved item (URI 05000529/2003004-01) with pressurizer spray valve maintenance. This URI resulted from the NRC review of Licensee Event Report 05000529/2003001-00. Based upon further review during this inspection, the team identified a self-revealing non-cited violation of Technical Specification 5.4.1(a) for failure to establish an adequate procedure for performing pressurizer spray valve maintenance. The procedure was not adequate since the valve failed shortly after maintenance on the valve and valve positioner.

This finding was more than minor since it affected the likelihood of an initiating event to upset plant stability and challenge critical safety functions. Based on the results of an SDP Phase 1 analysis, this finding had very low safety significance (Green) since it did not inhibit the performance of a mitigating system, and did not increase the likelihood of a loss of coolant accident.
Inspection Report# : 2004006*(pdf)*

Mitigating Systems

Significance: G Sep 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
UNTIMELY LUBRICATION OF REACH RODS FOR SAFETY-RELATED MANUAL VALVES
Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to promptly correct degraded conditions associated with reach rods on safety-related manual valves. The issue involved problem identification and resolution cross-cutting aspects associated with untimely prioritization of work necessary to correct degraded equipment conditions. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2328588.

The finding was greater than minor safety significance because if left uncorrected, it could become a more significant safety concern in that the failure to perform maintenance on reach rod assemblies could result in an inability to operate safety-related manual valves. This finding is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone and there was not a loss of safety function.
Inspection Report# : 2004004*(pdf)*

Significance: G Sep 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
TURBINE DRIVEN AUXILIARY FEEDWATER PUMP GOVERNOR POWER SUPPLY RESISTOR FAILURES
Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to correct a significant condition adverse to quality. The adverse condition involved failed resistors in the power supply to the turbine driven auxiliary feedwater pump governor control circuits in Units 2 and 3 that had transportability to Unit 1. The finding involved problem identification and resolution cross-cutting aspects associated with engineering personnel not performing an adequate extent of condition review. The finding also involved human performance cross-cutting aspects associated with engineering and maintenance personnel not communicating correct technical information. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2746954.

The finding was greater than minor because if left uncorrected, it could have become a more significant safety concern in that the Unit 1 turbine driven auxiliary feedwater pump could have experienced an unnecessary failure. This finding is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone and did not result in an actual loss of safety function for the auxiliary feedwater system.
Inspection Report# : 2004004*(pdf)*

Significance: G Sep 30, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
REACTOR LEVEL ANOMALY WHILE IN REDUCED INVENTORY
Green. A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for an inadequate procedure which resulted in an unexpected reactor coolant system level anomaly during the Unit 1 reactor coolant system draindown to hot midloop conditions. Specifically, Procedure 40OP-9ZZ16, "RCS Drain Operations," did not provide reduced drain rates or increased hold points when only the reactor head vent was utilized to support draining evolutions. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2695262.

The finding was greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events. The inadequate procedure resulted in an actual unexpected level transient while the reactor coolant system was being drained in reduced inventory conditions. Using Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," this finding is determined to have very low safety significance because the event did not constitute a loss of control and did not represent a finding requiring quantitative assessment. The finding did not increase the likelihood of loss or cause a degradation in the ability to restore decay heat removal, reactor coolant system inventory, offsite power, alternate core cooling, or containment.
Inspection Report# : 2004004*(pdf)*

Significance: G Sep 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROMPTLY IDENTIFY AND CORRECT A CONDITION ADVERSE TO QUALITY
Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to assure that significant conditions adverse to quality were promptly identified and corrected. Specifically, maintenance personnel failed to promptly identify that retaining ring slots were not adequately sized to allow the use of the standard lock pins, contributing to the damage to the steam generator nozzle dam diaphragms. Subsequent to the identification, maintenance personnel failed to correct the condition by not implementing the actions recommended by plant engineers. The finding involved problem identification and resolution cross-cutting aspects associated with engineering personnel not performing an adequate extent of condition review. That is, this finding was the direct result of licensee personnel's failure to promptly identify and correct a condition adverse to quality. This issue was entered into the licensee's corrective action program as Condition Report/Discrepancy Requests 2686201 and 2686271.

This finding was greater than minor because it is associated with the mitigating systems cornerstone and affects reactor coolant system boundary performance. Specifically, the plant operated for an extended period in reduced inventory as a result of not correcting the incompatibility between the nozzle dams and the locking ring. Using Manual Chapter 0609, "Significance Determination Process," this finding is determined to have very low safety significance because the senior reactor analysts' Phase 2 and 3 analyses determined that the increase in

core damage frequency was approximately 3X10-7.
Inspection Report# : 2004004*(pdf)*

Significance: G Sep 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
INEFFECTIVE CORRECTIVE ACTIONS TO ADDRESS AN INADEQUATE SERVICE WATER PIPING INSPECTION PROGRAM
Green. The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to promptly correct the lack of an adequate routine inspection and maintenance program for essential spray pond system piping and components. The finding has been entered into the licensee's corrective action program as Condition Report/Disposition Request 2732683. The finding had problem identification and resolution crosscutting aspects associated with engineering personnel not entering deficiencies into their licensee commitment tracking system and not generating a condition report/disposition request.

This finding is greater than minor because it affected the reactor safety mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. If left uncorrected the finding could become a more significant safety concern in that inspections of spray pond piping was not performed as committed to in the licensee's Generic Letter 89-13 response. The finding is of very low safety significance because the issue constituted a qualification deficiency that did not result in a loss of function per Generic Letter 91-18, "Information to Licensees Regarding NRC Inspection Manual Section on Resolution of Degraded and Nonconforming Conditions," Revision 1.
Inspection Report# : 2004004*(pdf)*

Significance: SL-IV Jun 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM A COMPLETE SHUT DOWN COOLING HEAT EXCHANGER TEMPERATURE LOOP CHANNEL CALIBRATION
A Severity Level IV noncited violation of Technical Specification 3.3.11 was identified for the failure to include the resistance temperature detectors in the channel calibration for the shutdown cooling heat exchanger temperature instruments. Specifically, prior to the implementation of Improved Technical Specifications, the licensee did not perform testing of the resistance temperature detectors. Following the implementation of Improved Technical Specifications, the licensee did not perform an in-place qualitative assessment of the resistance temperature detectors' behavior. This issue was entered into the corrective action program as CRDR 280178.

The failure to perform a complete shutdown cooling heat exchanger temperature loop channel calibration is determined to have greater than minor significance because the licensee's failure to report the condition impacted the NRC's ability to perform it's regulatory function. Therefore, this finding was considered applicable to traditional enforcement. Although the significance determination process is not designed to assess the significance of violations that potentially impact or impede the regulatory process, the finding can be assessed using the significance determination process. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," this finding is determined to be of very low safety significance because it only affected the mitigating system cornerstone and the resistance temperature detectors were found to be within calibration.
Inspection Report# : 2004003*(pdf)*

Significance: G Jun 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM MONTHLY REVIEWS TO ENSURE EXCESS HOURS HAVE NOT BEEN ASSIGNED
The inspectors identified a noncited violation of Technical Specification 5.2.2.d for the failure of authorized individuals to review monthly overtime reports to ensure that excessive hours have not been assigned. Specifically, following the implementation of an electronic reporting system in 2001, the licensee did not ensure that all managers continued to receive and approve the Excess Hours Report.

The finding is greater than minor because if left uncorrected it could become a more significant safety concern in that exceeding the NRC Generic Letter 82-02, "Nuclear Power Plant Staff Working Hours," guidelines for overtime limits is a contributor to worker fatigue. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," this finding is determined to be of very low safety significance because there were no known actual adverse plant or equipment conditions that could be attributed to worker fatigue.
Inspection Report# : 2004003*(pdf)*

Significance: G Jun 18, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CORRECTLY TRANSLATE DESIGN INFORMATION INTO THE AS-BUILT CONFIGURATION
The team identified a noncited violation for the failure to comply with 10 CFR Part 50, Appendix B, Criterion III, "Design Control." The licensee failed to correctly translate design information into the as-built configuration of the auxiliary feedwater system, in that, 28 feet of exposed auxiliary feedwater minimum flow recirculation line was not protected from a tornado-generated missile for both trains as described in

Design Basis Manual, Table 2-1 and Section 10.4.9.1, "Design Basis," of the Final Safety Analysis Report. This issue was entered into the licensee's corrective action program as Condition Report/Deficiency Request 2721947.

In accordance with NRC Inspection Manual 0612, Appendix B, "Issue Screening," this finding is greater than minor because it is associated with the design control attribute of the mitigating systems cornerstone, and affected the cornerstone objective to ensure the capability of systems to respond to initiating events. The inspectors evaluated the issue using the Phase 1 Screening Worksheet for the Initiating Events, Mitigating Systems, and Barriers Cornerstones provided in Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." The finding was determined to be of very low safety significance because: the finding did not represent an actual loss of safety function and because the analyst determined that the system would continue to meet its risk-significant function following a postulated tornado initiating event.
Inspection Report# : 2004007*(pdf)*

Significance: G Apr 08, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CORRECTLY IMPLEMENT THE VENTING REQUIREMENTS OF PROCEDURE 40OP-9S101
A noncited violation of Technical Specification 5.4.1a. was identified for the failure to correctly implement the venting requirements of Procedure 40OP-9SI01, Appendix D. Specifically, when venting the shutdown cooling system while in reduced inventory, the operators failed to attain a steady stream of air free water from Valve V019 and vented from a location not specified in the procedure.

This finding was more than minor because the failure to properly vent the shutdown cooling system while in reduced inventory could, if left uncorrected, become a more significant safety concern. The inadequate venting was associated with the operability, availability, and function of the shutdown cooling system while in reduced inventory (i.e., potential loss of long term decay heat removal).

This performance issue was found to be of very low safety significance (GREEN), because none of the plant conditions met the threshold for performing a Phase 2 analysis. This finding has cross-cutting implications in the human performance area. That is, this violation was the direct result of operators not correctly implementing a procedure.

The licensee entered this issue into its corrective action program as Condition Report/Discrepancy Request 2686273.

Inspection Report# : 2004009*(pdf)*

Significance: G Mar 31, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IDENTIFY DEGRADATION OF POLYETHYLENE CHANNELS ON CLASS 1E BATTERIES
Green. The inspectors identified a noncited violation for the failure to comply with 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Actions. Specifically, the licensee did not identify the degradation of polyethylene insulating channels on Class 1E station batteries. Missing insulating channels could affect the seismic qualification of the batteries.

This finding is greater than minor because it affects the reactor safety mitigating system cornerstone objective to ensure the capability of systems that respond to initiating events. Using the Significance Determination Process Phase 1 Worksheet, the finding was determined to have a very low safety significance, since there was no case where enough insulating channels had slipped to affect the seismic analyses, and the batteries remained in their design configuration.

Inspection Report# : 2004002*(pdf)*

Significance: G Mar 31, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO ESTABLISH AFW PUMP OPERABILITY PRIOR TO MODE 3 ENTRY
Green. The inspectors identified a noncited violation for the failure to comply with Technical Specification 3.0.4 in that Mode 3 was entered on two occasions, once on December 8 and again on December 10, 2003, when compliance with Technical Specification 3.7.5, "Auxiliary Feedwater System," had not been established. Specifically, the acceptance criteria of Procedure 73ST-9XI38, "AFA-P01 Discharge Check Valve AFA-V015 - Inservice Test," was not met. Consequently, the required number of auxiliary feedwater trains were not available to support plant conditions in Mode 3.

The finding is greater than minor since it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of equipment availability. Using the Signifiance Determination Process Phase 1 and 2 worksheets, the finding was determined to effect the loss of a single train of a system for greater than its Technical Specification allowed outage time. The finding was very low safety significance because the exposure time for this condition was less than 24 hours and all mitigation capabilities described on the selected Significance Determination Process Phase 2 worksheets for the applicable core damage sequences were maintained.
Inspection Report# : 2004002*(pdf)*

Significance: G Dec 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Implement Surveillance Requirement 3.5.3.8
Green. The inspectors identified a noncited violation for the licensee's failure to implement Surveillance Requirement 3.5.3.8 for all three units. The licensee failed to identify and remove debris in Trains A and B emergency core cooling system sumps during their last performance of Procedure 31ST-SI01, "Cleaning/Inspection of ECCS Sumps," Revision 7. Specifically, the licensee failed to identify unqualified tie-wraps that were attached to the stem of the containment sump suction valves inside the emergency core cooling system sumps.

This finding is greater than minor, since it affected the mitigating system cornerstone objective of equipment reliability because the debris could have affected containment spray pump flow by clogging spray nozzles. The finding is of very low safety significance because the amount of debris would have only degraded containment spray pump flow during a potential large break loss of coolant accident, but the safety function would have been fulfilled based on the small amount of debris.

Inspection Report# : 2003005*(pdf)*

Significance: G Dec 31, 2003
Identified By: NRC
Item Type: NCV NonCited Violation
Improper Design Control Results in Unscreened 1-inch Hole in Emergency Core Cooling Sump Cover
Green. The inspectors identified a noncited violation related to 10 CFR Part 50, Criterion III, "Design Control." This violation is related to having an unscreened hole in each emergency core cooling system train's sump covers. These 1-inch holes were greater than the 1/8-inch gaps allowed by the emergency core cooling system sump design.

This finding is greater than minor because it affected the mitigating system cornerstone objective of equipment reliability by not assuring that the sump structure would filter out all debris greater than 3/16-inch diameter. The finding is of very low safety significance because the location of these holes were not in the design flowpath for water into the emergency core cooling system sump, which would have limited the amount of debris introduced into the system.

Inspection Report# : 2003005*(pdf)*

Barrier Integrity

Significance: SL-IV Jun 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
CONTAINMENT PURGE PENETRATION NONCONFORMANCE
A Severity Level IV noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to correct a nonconforming condition in a timely manner. Specifically, since June 2001, the licensee discontinued implementation of required Technical Specification surveillance testing for the containment purge valves by declaring the valves inoperable and installing blind flanges. This issue was entered into the corrective action program as CRDR 2711167.

The finding is greater than minor because the licensee's failure to submit a license amendment to correct the nonconforming condition impacted the NRC's ability to perform its regulatory function. Therefore, this finding was considered applicable to traditional enforcement. Although the significance determination process is not designed to assess the significance of violations that potentially impact or impede the regulatory process, the finding can be assessed using the significance determination process. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the barrier integrity cornerstone and the installation of blind flanges adequately maintained containment integrity.
Inspection Report# : 2004003*(pdf)*

Significance: G Jun 30, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
MISSING BOLTS ON SUPPORT FOR MAIN STEAM LINE WHIP RESTRAINT
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion V, was identified for the failure to secure a main steam line pipe whip restraint inside the Unit 2 containment in accordance with design drawings. Specifically, the pipe whip restraint was missing four ½-inch diameter nuts from the embedded anchor bolts. This issue was entered into the corrective action program as CRDR 2643347.

The finding is greater than minor since it is associated with the equipment performance attribute of the barrier integrity cornerstone and affects the cornerstone objective of protecting the containment barrier from radionuclide releases caused by accidents or events. Using the Phase 1

worksheet in Manual Chapter 0609, "Significance Determination Process," this finding is determined to have very low safety significance because it did not represent an actual open pathway in the physical integrity of the reactor containment and did not represent an actual reduction of the atmospheric pressure control function of the reactor containment.
Inspection Report# : 2004003*(pdf)*

Significance: SL-IV May 21, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROVIDE AN EVALUATION OF A CHANGE TO THE FACILITY AS DESCRIBED IN THE UFSAR, UNDER 10 CFR 50.59 REQUIREMENTS
The team identified a Severity Level IV violation of 10 CFR 50.59 requirements for failing to evaluate a modification to spent fuel storage in the spent fuel pools. The team reviewed CRDR 2524176, regarding the lack of a criticality analysis to support the use of rod capture tubes, which hold individual harvested fuel pins, in the spent fuel rack. The team reviewed the licensee's process of storing individual fuel pins, removed from a parent fuel assembly, and placed in rod capture tubes to be located in guide tubes of another host assembly. This resulted in a component that had nuclear fuel pins, of varying enrichment and depletion, stored as a regular fuel assembly in the spent fuel pools. The team noted that Section 9.1 of the UFSAR specifically described the storage of spent fuel in regions based upon fuel assembly initial enrichment, actual burnup, and actual decay time. The UFSAR does not describe the storage of individual pins in these regions. The licensee previously interpreted this as meaning the UFSAR did not prohibit such storage, and would not require consideration of enrichment, burnup, and decay of individual pins. The licensee failed to provide an evaluation of a change to the facility as described in the UFSAR, under 10 CFR 50.59 requirements. The licensee subsequently performed an evaluation of the criticality under station procedure 72DP-9NF01, "Control of SNM Transfer and Inventory," which was found acceptable.

The issue was determined to be more than minor, through Inspection Manual Chapter 0612, Appendix B, in that it affected the barrier integrity cornerstone attribute of human performance, and could have represented a more significant issue if left uncorrected. In accordance with the NRC Enforcement Manual, violations of 10 CFR 50.59 are not processed through the significance determination process. Therefore, this issue was considered applicable to traditional enforcement. Although the significance determination process is not designed to assess significance of violations that potentially impact or impede the regulatory process, the result of a 10 CFR 50.59 violation can be assessed significance through the significance determination process. The team leader and the Region IV senior reactor analyst discussed the significance of this finding. An SDP Phase 1 screening was performed and the finding was determined to have very low safety significance because there was no actual loss of the barrier integrity function. The licensee entered this issue into its corrective action program as CRDR 2711241.

Inspection Report# : 2004006*(pdf)*

Significance: G Apr 08, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO ENTER A NONCONFORMITY REPORT FROM THE STEAM GENERATOR FABRICATOR INTO THE PALO VERDE CORRECTIVE ACTION PROGRAM
A noncited violation of Criterion XVI, Corrective Action, of Appendix B to 10 CFR Part 50, was identified for the failure of the measures established to assure conditions adverse to quality are promptly identified and corrected. Specifically, although a fabricator informed licensee representatives of a tube with damage from a packing crate screw, the licensee representative did not enter the issue into the corrective action program to assure that the adverse condition (i.e., inadequate packing of tubes) was promptly corrected. Additionally, the corrective action program was deficient in that there was no mechanism to ensure that adverse conditions identified by the fabricator were made known to the appropriate licensee personnel. As a result, the potential for a similarly damaged tube to exist in the steam generators installed in the plant was not assessed, nor were actions taken to support detecting such a damaged tube during the pre-service examination by the licensee's eddy current examiners.

This finding is more than minor because it had actual safety consequences (i.e., a steam generator tube leak). This finding affects the barrier integrity cornerstone because of the potential to release radionuclides through the leaking tube. Reactor coolant system barrier performance was the affected attribute. This finding has cross-cutting implications in the problem identification and resolution area. That is, this finding was the direct result of the engineering staff's failure to properly address and correct a condition adverse to quality. The licensee entered this issue into its corrective action program as Condition Report/Discrepancy Request 2685303.

This finding was found to be of very low safety significance after a Phase 3 evaluation using the Manual Chapter 0609, Significance Determination Process.

Inspection Report# : 2004009*(pdf)*

Significance: G Mar 31, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
PRESSURIZER LEVEL TRANSIENT ABOVE TECHNICAL SPECIFICATION LIMIT
Green. The inspectors identified a noncited violation of Technical Specification 5.4.1.a because an inadequate work order was used to perform

a pressurizer level control system data collection engineering action plan. The work order was inadequate in that it resulted in exceeding the maximum pressurizer level allowed by Technical Specification 3.4.9.

The finding is greater than minor since it is associated with the equipment performance attribute of the barrier integrity cornerstone and affects the cornerstone objective of protecting the reactor coolant system barrier from radionuclide releases caused by accidents or events. Using the Significance Determination Process Phase 1 Worksheet, the finding is determined to have very low safety significance because it only affects the barrier integrity cornerstone and was a deficiency that did not result in the actual degradation of the reactor coolant system barrier.

Inspection Report# : 2004002*(pdf)*

Significance: G Dec 31, 2003
Identified By: NRC
Item Type: FIN Finding
FAILURE TO USE A CONSERVATIVE METHOD TO CALCULATE REACTOR COOLANT SYSTEM HEAT LOSSES FOR POSTMODIFICATION TESTING
Green. Proposed postmodification testing to determine the new heat losses to ambient term used in reactor thermal power calculations was inappropriate because it would have resulted in a nonconservative bias. Changes to the reactor coolant system components and new insulation were expected to cause a change in heat lost from the reactor coolant system. The licensee's software for calculating reactor thermal power included a constant term used to account for the reactor power lost in this way. The licensee planned to determine the new heat loss term by measuring it with the plant shutdown at the no-load operating temperature, and then applying it to all power levels. The proposed test would measure a lower heat loss term than would be present at full load power and temperatures, introducing a nonconservative bias in the calculated reactor power. The licensee estimated that the bias was expected to be about 0.3 MWth (.01 percent power). Since the output of this calculation was used to calibrate nuclear instrument reactor power and turbine power instruments, this bias would have caused a similar effect in these instruments.

The safety significance of the proposed testing being nonconservative was very low, since the licensee planned to account for this condition prior to the implementation of the plant changes. This issue affected the Barrier Integrity Cornerstone objective for design control in maintaining fuel integrity. It was more than minor because if left uncorrected, it would be more significant because the licensee could inadvertently operate Unit 2 above its maximum licensed power level.

Inspection Report# : 2003009*(pdf)*

Emergency Preparedness

Significance: G Mar 31, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
IMPLEMENTATION OF A CHANGE TO TABLE 1 WHICH WAS A DECREASE IN EFFECTIVENESS OF THE EMERGENCY PLAN
Green. On February 16, 2003, the licensee implemented an emergency plan change, which decreased the required number of onshift emergency responders. This change constituted a decrease in effectiveness of the emergency plan because it could have resulted in a dedicated onshift communicator being replaced by a shift technical advisor, with a loss of one onshift position. Implementation of changes to the emergency plan, which constitute a reduction in the effeciveness of the plan without prior NRC approval, was a noncited violation of 10 CFR 50.54(q).

The finding was evaluated using NUREG-1600, "General Statement of Policy and Procedure for NRC Enforcement Actions," Section IV, because licensee reductions in the effectiveness of its emergency plan impact the regulatory process. The finding had greater than minor significance because reducing the required number of onshift emergency responders had the potential to impact the ability to perform all necessary emergency functions. The finding was determined to be a noncited Severity Level IV violation because the emergency plan change constituted a failure to implement a regulatory requirement, but did not constitute a failure to meet an emergency planning standard as defined by 10 CFR 50.47(b) because actual staffing levels remained above the emergency plan minimum. This finding has been entered into the licensee's corrective action program as Condition Report Disposition Request 2670023.
Inspection Report# : 2004002*(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Significance: N/A May 21, 2004
Identified By: NRC
Item Type: FIN Finding
IDENTIFICATION AND RESOLUTION OF PROBLEMS
The team concluded that the licensee was generally effective at identifying problems and processing them through the corrective action program. The licensee effectively prioritized and evaluated issues with a few exceptions. The team identified examples where the licensee had not evaluated identified issues for proper compliance with 10 CFR 50.59 requirements. Additionally, in some cases, corrective actions were not timely or fully documented. Licensee audits and assessments were found to be effective except for one example involving maintenance rule application to radiation monitors. On the basis of interviews conducted during this inspection, workers at the site felt free to input safety findings into the corrective action program.
Inspection Report# : 2004006*(pdf)*

Last modified : December 29, 2004

Palo Verde 2
4Q/2004 Plant Inspection Findings

Initiating Events

Significance: G Nov 11, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow the Operability Determination Process
A noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for not following the timeliness requirements noted in Procedure 40DP-9OP26, "Operability Determination," following the identification of a nonconforming condition associated with a pressurizer heater sleeve modification tolerances. Procedure 40DP-9OP26 requires that the shift manager or shift technical advisor be immediately notified of indications of a potential non-conformances. A condition report/disposition request was initiated on November 9, 2004, but neither the shift manager, nor the shift technical advisor were notified until Wednesday, November 10, 2004. This issue also had problem identification and resolution crosscutting aspects associated with engineering personnel not informing the control room in a timely manner and is similar to issues noted in adverse Condition Report/Disposition Requests 2733983 and 2734037, issued on August 26, 2004. The issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2754848.

This finding is greater than minor since the failure to follow the operability determination process, if left uncorrected, would become a more significant safety concern. Using the Phase 1 Worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the initiating events cornerstone and did not result in actual degradation of the reactor coolant system boundary.

Inspection Report# : 2004005*(pdf)*

Significance: G Sep 30, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
FAILURE TO REMOVE PIPE SUPPORT LEADS TO RCS PRESSURE BOUNDARY LEAK
Green. A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified for the failure to implement a modification. The modification should have removed a pipe support associated with a high pressure safety injection system drain line. The failure to remove the pipe support, combined with high vibrations, resulted in a reactor coolant system pressure boundary leak from a cracked socket weld upstream of high pressure safety injection header drain Valve 1-P-SIA-V056. The issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2669474.

The finding is greater than minor since it is associated with the equipment performance and design control attributes of the initiating events cornerstone and affects the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," this finding is determined to have very low safety significance because assuming worst case degradation, the leak would not have exceeded the Technical Specification limit for identified reactor coolant system leakage and mitigating systems were not affected.
Inspection Report# : 2004004*(pdf)*

Significance: G Aug 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW PROCEDURS FOR OPERATION OF THE SPENT FUEL HANDLING MACHINE
The inspectors identified a noncited violation of Technical Specification 5.4.1 associated with a failure to operate the spent fuel handling machine in accordance with Procedure 78OP-9FX03, "Spent Fuel Handling Machine," Revision 16. There were three instances of this: (1) On October 4, 2002, the spent fuel handling machine operator moved fuel assemblies of two differing weights and was not cognizant of design differences of the fuel assemblies and did not stop fuel movement when the load was greater than 50 lbs. different from expected; (2) On October 4, 2002, the spent fuel handling machine operator failed to verify that the hoist was in its full up position prior to moving a spent fuel assembly, and (3) later on October 4, 2002, another spent fuel handling operator failed to verify that the hoist was in its full up position prior to moving a spent fuel assembly. In both Examples (2) and (3), the operators failed to verify the "UP LIMIT" light was on and failed to verify the hoist indicator was at the "UPLIMIT." As a result, in Example (3), the one fuel assembly was damaged. These issues were contrary to Procedure 78OP-9FX03 and resulted in damage to the lower grid assembly of Fuel Assembly P1M316.

This finding is greater than minor because it had an actual impact of damage to an irradiated fuel assembly and, therefore, could be reasonably viewed as a precursor to a significant event. If the fuel cladding had failed, it could have caused a release of fission products to the

environment. The finding is of very low safety significance because all mitigation systems were available during the fuel movement operations and should have prevented an unplanned release of radioactive material to the environment above the limits of 10 CFR Part 100. This finding also had crosscutting aspects in the area of human performance.

Inspection Report# : 2004011*(pdf)*

Significance: G Aug 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PRESCRIBE ADEQUATE INSTRUCTIONS FOR ENTRY INTO ABNORMAL OPERATING PROCEDURE, PVNGS PROCEDURE 40AO-9ZZ22, "FUEL DAMAGE," REVISION 2 THROUGH 6
The inspectors identified a noncited violation of Technical Specification 5.4.1 associated with an inadequate abnormal operating procedure. Specifically, the inspectors determined that Palo Verde Nuclear Generating Station Procedure 40AO-9ZZ22, "Fuel Damage," Revisions 1 through 6, were not adequate in that the entry conditions never required operations personnel to enter the procedure and take actions to mitigate the event. Step 1.1 states, in part, "Section 3.0, Irradiated Fuel Damage may be entered when any of the following conditions exist . . . when equipment or component failures result in any of the following: irradiated fuel assembly contacting a solid structure; bubbles emerging from a spent fuel assembly; bent, twisted, or warped spent fuel assembly; or visual damage to spent fuel pin cladding." Since this abnormal operating procedure was never entered, applicable actions were never considered during the Fuel Assembly P1M316 event.

This finding is greater than minor because actions taken in response to fuel handling errors could result in significant fuel cladding damage and effect the barrier cornerstone. The finding is of very low safety significance because all mitigation systems were available and should have prevented an unplanned release of radioactive material to the environment above the limits of 10 CFR Part 100. This finding also had crosscutting aspects in the area of problem identification and resolution.
Inspection Report# : 2004011*(pdf)*

Significance: G Jul 08, 2004
Identified By: NRC
Item Type: FIN Finding
POOR MATERIAL CONDITION OF THE SPENT FUEL HANDLING MACHINE
The inspectors identified a self-revealing finding of very low safety significance (green) associated with the material condition of the spent fuel handling machine. A number of issues related to material condition, which affected spent fuel handling machine operations, was identified. These included intermittent overload and underload conditions with no identified cause, upender limit switches that often failed or required adjustments during fuel movement, an unreliable hydraulic power unit for the upender machine which occasionally resulted in the upender drifting from the vertical position, and the spent fuel handling machine trolley occasionally stopped for no apparent reason.

This finding is greater than minor because it had an actual impact resulting in damage to an irradiated fuel assembly and, therefore, could be reasonably viewed as a precursor to a significant event. If the fuel cladding had failed, it could have caused a release of fission products. The finding is of very low safety significance because all mitigation systems were available and should have prevented an unplanned release of radioactive material to the environment above the limits of 10 CFR Part 100.
Inspection Report# : 2004011*(pdf)*

Significance: G Jul 08, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE CORRECTIVE ACTIONS CONTRIBUTED TO DAMAGE TO FUEL ASSEMBLY
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for failing to effectively correct conditions adverse to quality that contributed to the damage to irradiated Fuel Assembly P1M316. Specifically, Criterion XVI states, in part, that ". . . conditions adverse to quality, such as malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected." The licensee failed to effectively correct conditions adverse to quality, which included repeated violations of equipment operating procedures and conduct of operations procedures, as well as long-standing degraded material condition of the fuel handling equipment, that ultimately contributed to the damage of irradiated Fuel Assembly P1M316.

This finding is greater than minor because it had an actual impact of damage to an irradiated fuel assembly and, therefore, could be reasonably viewed as a precursor to a significant event. If the fuel cladding had failed, it could have caused a release of fission products. The finding is of very low safety significance because all mitigation systems were available and should have prevented an unplanned release of radioactive material to the environment above the limits of 10 CFR Part 100. This finding also had crosscutting aspects in the area of problem identification and resolution.
Inspection Report# : 2004011*(pdf)*

Significance: G Jun 30, 2004
Identified By: NRC

Item Type: NCV NonCited Violation
FAILURE TO PREVENT LOSS OF SPENT FUEL POOL INVENTORY EVENTS THROUGH TIMELY CORRECTIVE ACTIONS
A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to identify the root cause of spent fuel pool inventory loss events and implement corrective actions to preclude recurrence. Specifically, the improper positioning of a fuel pool cleanup suction valve and inadequate level monitoring resulted in three losses of spent fuel pool inventory events. This finding involves problem identification and resolution cross-cutting aspects associated with the failure to identify root causes and implement corrective actions. The issue also involved human performance cross-cutting aspects associated with mispositioned valves and awareness of plant conditions by operations personnel. This issue was entered into the corrective action program as CRDR 2599869.

The finding is greater than minor because it affected the configuration control and human performance attributes of the initiating events cornerstone objective. This finding cannot be evaluated by the significance determination process because Manual Chapter 0609, "Significance Determination Process," Appendix A, "Significance Determination of reactor Inspection Findings for At-Power Situations," and Appendix G, "Shutdown Operations Significance Determination Process," do not apply to the spent fuel pool. This finding is determined to be of very low safety significance by management review because radiation shielding was provided by the spent fuel pool water level, the spent fuel pool cooling and fuel building ventilation systems were available, and there were multiple sources of makeup water.
Inspection Report# : 2004003*(pdf)*

Significance: G Jun 30, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW HEAVY LOAD MOVEMENT PROCEDURE
A self-revealing noncited violation of Technical Specification 5.4.1.a was identified when personnel failed to follow a maintenance procedure preceding a 12 to 24 inch heavy load drop of a 7000 pound steam generator snubber level plate inside the Unit 2 containment. The drop was due to a series of errors between the engineering contractor and rigging crews. The snubber plate was dropped in the vicinity of reactor coolant and shutdown cooling piping. This issue was entered into the corrective action program as CRDR 2639721.

The finding was greater than minor because it affects the equipment performance and human performance attributes of the initiating events cornerstone objective to limit the likelihood of events that challenge safety functions during shutdown conditions. Using Manual Chapter 0609, "Significance Determination Process," Appendix G, "Shutdown Operations Significance Determination Process," the senior reactor analyst concluded that this finding did not significantly increase the likelihood of losing the residual heat removal function and did not significantly increase the likelihood that systems that could mitigate a loss of residual heat removal function would be degraded. Therefore, this finding is of very low safety significance.
Inspection Report# : 2004003*(pdf)*

Significance: G May 21, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
FAILURE TO ESTABLISH AN ADEQUATE PROCEDURE FOR PERFORMING PRESSURIZER SPRAY VALVE MAINTENANCE
NRC inspectors previously identified an unresolved item (URI 05000529/2003004-01) with pressurizer spray valve maintenance. This URI resulted from the NRC review of Licensee Event Report 05000529/2003001-00. Based upon further review during this inspection, the team identified a self-revealing non-cited violation of Technical Specification 5.4.1(a) for failure to establish an adequate procedure for performing pressurizer spray valve maintenance. The procedure was not adequate since the valve failed shortly after maintenance on the valve and valve positioner.

This finding was more than minor since it affected the likelihood of an initiating event to upset plant stability and challenge critical safety functions. Based on the results of an SDP Phase 1 analysis, this finding had very low safety significance (Green) since it did not inhibit the performance of a mitigating system, and did not increase the likelihood of a loss of coolant accident.
Inspection Report# : 2004006*(pdf)*

Mitigating Systems

Significance: TBD Dec 09, 2004
Identified By: NRC
Item Type: AV Apparent Violation
FAILURE TO MAINTAIN DESIGN CONTROL OF CONTAINMENT SUMP RECIRCULATION PIPING
The team identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to establish measures to assure design basis information was translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to maintain the safety injection sump suction piping full of water in accordance with the Updated Final Safety Analysis Report. This nonconformance had the potential to significantly affect the available net positive suction head described in the Updated Final Safety Analysis Report for the high pressure safety injection and containment spray pumps, since the analysis assumed the piping would be maintained full of

water.

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. The finding has a potential safety significance greater than very low significance (i.e., Greater than Green) based on the results of a Significance Determination Process, Phase 3 analysis.
Inspection Report# : 2004014*(pdf)*

Significance: G Dec 09, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW PROCEDURE
The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," involving the failure of engineering and operations personnel to implement requirements in the station's condition reporting and operability determination procedures following identification of a degraded condition. Specifically, engineering personnel did not promptly notify operations personnel of a condition that impacted the safety function of the high pressure safety injection and containment spray systems. In addition, operations personnel did not complete an immediate assessment of operability once they were informed of the degraded condition. This finding had crosscutting aspects associated with problem identification and resolution, since engineering personnel did not forward corrective action program documents regarding the degraded condition to the control room in a timely manner and operations personnel did not complete a prompt operability assessment. This finding also involved crosscutting aspects associated human performance, since engineering and operations personnel did not adequately communicate the status of the engineering department's efforts to review the degraded condition.

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. This finding has very low safety significance based on the results of a Significance Determination Process, Phase 3 analysis.

Inspection Report# : 2004014*(pdf)*

Significance: SL-IV Dec 09, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM WRITTEN SAFETY EVALUATION IN ACCORDANCE WITH 10 CFR 50.59 REQUIREMENTS
The team identified three examples of a noncited, Severity Level IV violation of 10 CFR 50.59 requirements involving the failure to perform written safety evaluations prior to implementing changes to the facility. The first example involved a change for using manual actions in lieu of automatic actions as compensatory measures to support the safety functions of the high pressure safety injection and containment spray systems during postulated design basis loss-of-coolant accident conditions following a recirculation actuation signal. The second example involved operation of emergency core cooling systems with a 10-20 cubic foot void in the suction piping. The third example involved the failure to perform a written safety evaluation for changes involving filling the containment sump with borated water to a level above the containment sump safety injection recirculation piping. These changes were implemented in response to identifying that the safety injection system was not being maintained full of water.

In accordance with Inspection Manual Chapter 0612, Appendix B, "Issue Disposition Screening," the team determined that traditional enforcement applied because this finding may have impacted the NRC's ability to perform its regulatory function. The severity level of this finding was assessed as having very low safety significance reflective of a Severity Level IV violation. This determination was based in part on use of the significance determination process.
Inspection Report# : 2004014*(pdf)*

Significance: TBD Dec 09, 2004
Identified By: NRC
Item Type: AV Apparent Violation
FAILURE TO OBTAIN PRIOR NRC APPROVAL FOR A CHANGE TO THE FACILITY INVOLVING MAINTAINING A SIGNIFICANT SEGMENT OF CONTAINMENT SUMP SAFETY INJECTION RECIRCULATION PIPING VOID OF WATER
The team identified an apparent violation of 10 CFR 50.59 requirements for the licensee's failure to perform a written safety evaluation and receive NRC approval prior to implementing changes to the facility in 1992 which involved draining, and maintaining drained, a significant segment of containment sump safety injection recirculation piping during normal plant operations. This change resulted in the failure to maintain the safety injection piping full of water in accordance with the Updated Final Safety Analysis Report. This represented an unreviewed safety question since it increased the probability of a malfunction of equipment important to safety previously evaluated in the safety analysis report.

In accordance with Inspection Manual Chapter 0612, Appendix B, "Issue Disposition Screening," the team determined that traditional enforcement applied because this finding may have impacted the NRC's ability to perform its regulatory function. This is an apparent violation pending the results of a predecisional enforcement conference.
Inspection Report# : 2004014*(pdf)*

Significance: G Sep 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
UNTIMELY LUBRICATION OF REACH RODS FOR SAFETY-RELATED MANUAL VALVES
Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to promptly correct degraded conditions associated with reach rods on safety-related manual valves. The issue involved problem identification and resolution cross-cutting aspects associated with untimely prioritization of work necessary to correct degraded equipment conditions. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2328588.

The finding was greater than minor safety significance because if left uncorrected, it could become a more significant safety concern in that the failure to perform maintenance on reach rod assemblies could result in an inability to operate safety-related manual valves. This finding is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone and there was not a loss of safety function.
Inspection Report# : 2004004*(pdf)*

Significance: G Sep 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
TURBINE DRIVEN AUXILIARY FEEDWATER PUMP GOVERNOR POWER SUPPLY RESISTOR FAILURES
Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to correct a significant condition adverse to quality. The adverse condition involved failed resistors in the power supply to the turbine driven auxiliary feedwater pump governor control circuits in Units 2 and 3 that had transportability to Unit 1. The finding involved problem identification and resolution cross-cutting aspects associated with engineering personnel not performing an adequate extent of condition review. The finding also involved human performance cross-cutting aspects associated with engineering and maintenance personnel not communicating correct technical information. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2746954.

The finding was greater than minor because if left uncorrected, it could have become a more significant safety concern in that the Unit 1 turbine driven auxiliary feedwater pump could have experienced an unnecessary failure. This finding is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone and did not result in an actual loss of safety function for the auxiliary feedwater system.
Inspection Report# : 2004004*(pdf)*

Significance: G Sep 30, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
REACTOR LEVEL ANOMALY WHILE IN REDUCED INVENTORY
Green. A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for an inadequate procedure which resulted in an unexpected reactor coolant system level anomaly during the Unit 1 reactor coolant system draindown to hot midloop conditions. Specifically, Procedure 40OP-9ZZ16, "RCS Drain Operations," did not provide reduced drain rates or increased hold points when only the reactor head vent was utilized to support draining evolutions. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2695262.

The finding was greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events. The inadequate procedure resulted in an actual unexpected level transient while the reactor coolant system was being drained in reduced inventory conditions. Using Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," this finding is determined to have very low safety significance because the event did not constitute a loss of control and did not represent a finding requiring quantitative assessment. The finding did not increase the likelihood of loss or cause a degradation in the ability to restore decay heat removal, reactor coolant system inventory, offsite power, alternate core cooling, or containment.
Inspection Report# : 2004004*(pdf)*

Significance: G Sep 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROMPTLY IDENTIFY AND CORRECT A CONDITION ADVERSE TO QUALITY
Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to assure that significant conditions adverse to quality were promptly identified and corrected. Specifically, maintenance personnel failed to promptly identify that retaining ring slots were not adequately sized to allow the use of the standard lock pins, contributing to the damage to the steam

generator nozzle dam diaphragms. Subsequent to the identification, maintenance personnel failed to correct the condition by not implementing the actions recommended by plant engineers. The finding involved problem identification and resolution cross-cutting aspects associated with engineering personnel not performing an adequate extent of condition review. That is, this finding was the direct result of licensee personnel's failure to promptly identify and correct a condition adverse to quality. This issue was entered into the licensee's corrective action program as Condition Report/Discrepancy Requests 2686201 and 2686271.

This finding was greater than minor because it is associated with the mitigating systems cornerstone and affects reactor coolant system boundary performance. Specifically, the plant operated for an extended period in reduced inventory as a result of not correcting the incompatibility between the nozzle dams and the locking ring. Using Manual Chapter 0609, "Significance Determination Process," this finding is determined to have very low safety significance because the senior reactor analysts' Phase 2 and 3 analyses determined that the increase in core damage frequency was approximately 3X10-7.
Inspection Report# : 2004004*(pdf)*

Significance: G Sep 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
INEFFECTIVE CORRECTIVE ACTIONS TO ADDRESS AN INADEQUATE SERVICE WATER PIPING INSPECTION PROGRAM
Green. The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to promptly correct the lack of an adequate routine inspection and maintenance program for essential spray pond system piping and components. The finding has been entered into the licensee's corrective action program as Condition Report/Disposition Request 2732683. The finding had problem identification and resolution crosscutting aspects associated with engineering personnel not entering deficiencies into their licensee commitment tracking system and not generating a condition report/disposition request.

This finding is greater than minor because it affected the reactor safety mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. If left uncorrected the finding could become a more significant safety concern in that inspections of spray pond piping was not performed as committed to in the licensee's Generic Letter 89-13 response. The finding is of very low safety significance because the issue constituted a qualification deficiency that did not result in a loss of function per Generic Letter 91-18, "Information to Licensees Regarding NRC Inspection Manual Section on Resolution of Degraded and Nonconforming Conditions," Revision 1.
Inspection Report# : 2004004*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO ADDRESS EMERGENCY DIESEL GENERATOR CIRCUIT FAILURE
A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified because the licensee failed to implement their corrective action program when an emergency diesel-generator excitation circuit failed. The failure precluded the emergency diesel generator from achieving rated voltage within the required time.

The finding was greater than minor because it was associated with the equipment performance attributes of the mitigating systems cornerstone and affected the associated cornerstone objective of equipment availability. The finding had very low significance because it only affected the mitigating systems cornerstone and did not result in the actual loss of a safety function at the time.
Inspection Report# : 2004013*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW INADEQUATE EMERGENCY OPERATING PROCEDURE
A noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Procedures," with two examples, was identified because the licensee failed to implement contingency actions when two circuit breakers failed to operate during recovery operations in Units 1 and 3. Specifically, operators deviated from the Emergency Operating Procedure for Loss of Offsite Power/Loss of Forced Circulation when they initiated maintenance on the two failed breakers instead of performing the contingency actions prescribed by the procedure. In addition, for Unit 1, the procedure was inadequate because it did not list all available contingency actions available to operators for restoring power to the electrical bus.

The finding was greater than minor because it was associated with the equipment performance attributes of the mitigating systems cornerstone and affected the associated cornerstone objective of equipment availability. The finding had very low significance because it only affected the mitigating systems cornerstone and redundancy existed in other electrical buses.
Inspection Report# : 2004013*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IMPLEMENT CORRECTIVE ACTIONS FOR AUXILIARY FEEDWATER
A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified by the team because the licensee failed to implement timely corrective actions to ensure that the feedwater system was operated in a manner that would minimize the possibility of thermally induced vibration that could affect auxiliary feedwater system operability.

The finding was greater than minor because it was associated with the equipment performance attributes of the mitigating systems cornerstone and affected the associated cornerstone objective of equipment availability. The finding had very low significance because it only affected the mitigating systems cornerstone and because no transient occurred that necessitated implementation of the needed corrective actions.
Inspection Report# : 2004013*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE EMERGENCY OPERATING PROCEDURE FOR AUXILIARY FEEDWATER OPERATION
A noncited violation of Technical Specification 5.4.1 was identified because the licensee implemented an inadequate Emergency Operating Procedure. Specifically, the procedure failed to provide direction to maintain turbine-driven auxiliary feedwater pumps operable following a main steam isolation signal.

The finding was greater than minor because it was associated with the equipment performance attributes of the mitigating systems cornerstone and affected the associated cornerstone objective of equipment availability. The finding had very low significance because it only affected the mitigating systems cornerstone and because the turbine-driven auxiliary feedwater pumps did not become inoperable.
Inspection Report# : 2004013*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO MANAGE STATION RISK
A noncited violation of 10 CFR 50.65, "Maintenance Rule," was identified because the licensee failed to perform a risk assessment. Specifically, the licensee inappropriately decided to begin draining the Unit 1 turbine-driven auxiliary feedwater pump steam traps first, without addressing the higher risk profile in Unit 2 which resulted from having an inoperable emergency diesel generator.

The finding was greater than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and affected the cornerstone objective of equipment availability. The finding had very low significance because it only affected the mitigating systems cornerstone and because the turbine-driven auxiliary feedwater pumps were not needed.
Inspection Report# : 2004013*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROPERLY IMPLEMENT LOOP EMERGENCY OPEARTING PROCEDRE
A noncited violation of Technical Specification 5.4.1 was identified because the licensee failed to follow emergency operating procedures. Specifically, the control room operator and an auxiliary operator performed the incorrect steps in Emergency Operating Procedure 40EP-9EO07, "Loss of Offsite Power/Loss of Forced Circulation," Revision 10. The Unit 2, Positive Displacement Charging Pump "E" was temporarily lost due to these human performance errors and resulted in a total loss of Unit 2 charging flow for a short period.

The finding was greater than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and affected the cornerstone objective of equipment availability. The finding had very low significance because it only affected the mitigating systems cornerstone and did not result in the actual loss of a safety function and no significant delays occurred that adversely impacted operator response to the event.
Inspection Report# : 2004013*(pdf)*

Significance: SL-IV Jun 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM A COMPLETE SHUT DOWN COOLING HEAT EXCHANGER TEMPERATURE LOOP CHANNEL CALIBRATION
A Severity Level IV noncited violation of Technical Specification 3.3.11 was identified for the failure to include the resistance temperature detectors in the channel calibration for the shutdown cooling heat exchanger temperature instruments. Specifically, prior to the implementation

of Improved Technical Specifications, the licensee did not perform testing of the resistance temperature detectors. Following the implementation of Improved Technical Specifications, the licensee did not perform an in-place qualitative assessment of the resistance temperature detectors' behavior. This issue was entered into the corrective action program as CRDR 280178.

The failure to perform a complete shutdown cooling heat exchanger temperature loop channel calibration is determined to have greater than minor significance because the licensee's failure to report the condition impacted the NRC's ability to perform it's regulatory function. Therefore, this finding was considered applicable to traditional enforcement. Although the significance determination process is not designed to assess the significance of violations that potentially impact or impede the regulatory process, the finding can be assessed using the significance determination process. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," this finding is determined to be of very low safety significance because it only affected the mitigating system cornerstone and the resistance temperature detectors were found to be within calibration.
Inspection Report# : 2004003*(pdf)*

Significance: G Jun 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM MONTHLY REVIEWS TO ENSURE EXCESS HOURS HAVE NOT BEEN ASSIGNED
The inspectors identified a noncited violation of Technical Specification 5.2.2.d for the failure of authorized individuals to review monthly overtime reports to ensure that excessive hours have not been assigned. Specifically, following the implementation of an electronic reporting system in 2001, the licensee did not ensure that all managers continued to receive and approve the Excess Hours Report.

The finding is greater than minor because if left uncorrected it could become a more significant safety concern in that exceeding the NRC Generic Letter 82-02, "Nuclear Power Plant Staff Working Hours," guidelines for overtime limits is a contributor to worker fatigue. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," this finding is determined to be of very low safety significance because there were no known actual adverse plant or equipment conditions that could be attributed to worker fatigue.
Inspection Report# : 2004003*(pdf)*

Significance: G Jun 18, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CORRECTLY TRANSLATE DESIGN INFORMATION INTO THE AS-BUILT CONFIGURATION
The team identified a noncited violation for the failure to comply with 10 CFR Part 50, Appendix B, Criterion III, "Design Control." The licensee failed to correctly translate design information into the as-built configuration of the auxiliary feedwater system, in that, 28 feet of exposed auxiliary feedwater minimum flow recirculation line was not protected from a tornado-generated missile for both trains as described in Design Basis Manual, Table 2-1 and Section 10.4.9.1, "Design Basis," of the Final Safety Analysis Report. This issue was entered into the licensee's corrective action program as Condition Report/Deficiency Request 2721947.

In accordance with NRC Inspection Manual 0612, Appendix B, "Issue Screening," this finding is greater than minor because it is associated with the design control attribute of the mitigating systems cornerstone, and affected the cornerstone objective to ensure the capability of systems to respond to initiating events. The inspectors evaluated the issue using the Phase 1 Screening Worksheet for the Initiating Events, Mitigating Systems, and Barriers Cornerstones provided in Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." The finding was determined to be of very low safety significance because: the finding did not represent an actual loss of safety function and because the analyst determined that the system would continue to meet its risk-significant function following a postulated tornado initiating event.
Inspection Report# : 2004007*(pdf)*

Significance: G Apr 08, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CORRECTLY IMPLEMENT THE VENTING REQUIREMENTS OF PROCEDURE 40OP-9S101
A noncited violation of Technical Specification 5.4.1a. was identified for the failure to correctly implement the venting requirements of Procedure 40OP-9SI01, Appendix D. Specifically, when venting the shutdown cooling system while in reduced inventory, the operators failed to attain a steady stream of air free water from Valve V019 and vented from a location not specified in the procedure.

This finding was more than minor because the failure to properly vent the shutdown cooling system while in reduced inventory could, if left uncorrected, become a more significant safety concern. The inadequate venting was associated with the operability, availability, and function of the shutdown cooling system while in reduced inventory (i.e., potential loss of long term decay heat removal).

This performance issue was found to be of very low safety significance (GREEN), because none of the plant conditions met the threshold for performing a Phase 2 analysis. This finding has cross-cutting implications in the human performance area. That is, this violation was the direct result of operators not correctly implementing a procedure.

The licensee entered this issue into its corrective action program as Condition Report/Discrepancy Request 2686273.

Inspection Report# : 2004009*(pdf)*

Significance: G Mar 31, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IDENTIFY DEGRADATION OF POLYETHYLENE CHANNELS ON CLASS 1E BATTERIES
Green. The inspectors identified a noncited violation for the failure to comply with 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Actions. Specifically, the licensee did not identify the degradation of polyethylene insulating channels on Class 1E station batteries. Missing insulating channels could affect the seismic qualification of the batteries.

This finding is greater than minor because it affects the reactor safety mitigating system cornerstone objective to ensure the capability of systems that respond to initiating events. Using the Significance Determination Process Phase 1 Worksheet, the finding was determined to have a very low safety significance, since there was no case where enough insulating channels had slipped to affect the seismic analyses, and the batteries remained in their design configuration.

Inspection Report# : 2004002*(pdf)*

Significance: G Mar 31, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO ESTABLISH AFW PUMP OPERABILITY PRIOR TO MODE 3 ENTRY
Green. The inspectors identified a noncited violation for the failure to comply with Technical Specification 3.0.4 in that Mode 3 was entered on two occasions, once on December 8 and again on December 10, 2003, when compliance with Technical Specification 3.7.5, "Auxiliary Feedwater System," had not been established. Specifically, the acceptance criteria of Procedure 73ST-9XI38, "AFA-P01 Discharge Check Valve AFA-V015 - Inservice Test," was not met. Consequently, the required number of auxiliary feedwater trains were not available to support plant conditions in Mode 3.

The finding is greater than minor since it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of equipment availability. Using the Signifiance Determination Process Phase 1 and 2 worksheets, the finding was determined to effect the loss of a single train of a system for greater than its Technical Specification allowed outage time. The finding was very low safety significance because the exposure time for this condition was less than 24 hours and all mitigation capabilities described on the selected Significance Determination Process Phase 2 worksheets for the applicable core damage sequences were maintained.
Inspection Report# : 2004002*(pdf)*

Barrier Integrity

Significance: G Nov 23, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
CORE ALTERATIONS WITH LESS THAN TWO OPERABLE SRMs
A self-revealing violation of Technical Specification 3.9.2 was identified for performing core alterations with less than the required number of startup range monitors. The licensee did not identify that startup monitor Channel 2 was failed low through troubleshooting activities prior to commencing core reload. The licensee only determined that startup monitor Channel 2 was inoperable after core alterations had commenced. The issue was entered into the licensee's corrective action program as Condition Report/Disposition Requests 2654704 and 2654642.

The finding is greater than minor because it is associated with the configuration control attribute of the barrier integrity cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radio nuclide releases caused by accidents or events. Using Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," this finding is determined to have very low safety significance because the event did not constitute a loss of control and did not represent a finding requiring quantitative assessment. The finding did not increase the likelihood of loss or cause a degradation in the ability to restore decay heat removal, reactor coolant system inventory, offsite power, alternate core cooling, or containment.
Inspection Report# : 2004005*(pdf)*

Significance: G Nov 09, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO INCLUDE VENTS AND DRAINS INTO LOCKED VALVE PROGRAM

A noncited violation of Technical Specification Surveillance Requirement 3.6.3.3 was identified for failure to perform the required position verification for vent and drain valves associated with eight safety injection system penetrations per unit. The issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2753335.

This finding is greater than minor since it is associated with the configuration control attribute of the barrier integrity cornerstone and affects the cornerstone objective to provide reasonable assurance that the containment physical design barrier is preserved to protect the public from radio nuclide releases caused by accidents or events. Using the Phase 1 Worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the barrier integrity cornerstone, all the valves were found closed, and did not result in an actual open pathway out of the reactor containment.
Inspection Report# : 2004005*(pdf)*

Significance:  Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO EVALUATE MAIN GENERATOR EXCITATION LIMITER CIRCUIT PROBLEMS
A noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Procedures," was identified because the licensee failed to follow the procedure for dispositioning a degraded condition for continued use. Specifically, the licensee failed to place a degraded main generator excitation limiter circuit into the work control process via the appropriate procedure to ensure that it was appropriately evaluated and processed.

The finding was greater than minor because it was associated with the human performance attribute of the barrier integrity cornerstone and impacted the cornerstone objective to provide reasonable assurance that physical design barriers, in this case the fuel cladding, protect the public from radio nuclide releases caused by accidents or events.
Inspection Report# : 2004013*(pdf)*

Significance: SL-IV Jun 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
CONTAINMENT PURGE PENETRATION NONCONFORMANCE
A Severity Level IV noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to correct a nonconforming condition in a timely manner. Specifically, since June 2001, the licensee discontinued implementation of required Technical Specification surveillance testing for the containment purge valves by declaring the valves inoperable and installing blind flanges. This issue was entered into the corrective action program as CRDR 2711167.

The finding is greater than minor because the licensee's failure to submit a license amendment to correct the nonconforming condition impacted the NRC's ability to perform its regulatory function. Therefore, this finding was considered applicable to traditional enforcement. Although the significance determination process is not designed to assess the significance of violations that potentially impact or impede the regulatory process, the finding can be assessed using the significance determination process. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the barrier integrity cornerstone and the installation of blind flanges adequately maintained containment integrity.
Inspection Report# : 2004003*(pdf)*

Significance:  Jun 30, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
MISSING BOLTS ON SUPPORT FOR MAIN STEAM LINE WHIP RESTRAINT
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion V, was identified for the failure to secure a main steam line pipe whip restraint inside the Unit 2 containment in accordance with design drawings. Specifically, the pipe whip restraint was missing four ½-inch diameter nuts from the embedded anchor bolts. This issue was entered into the corrective action program as CRDR 2643347.

The finding is greater than minor since it is associated with the equipment performance attribute of the barrier integrity cornerstone and affects the cornerstone objective of protecting the containment barrier from radionuclide releases caused by accidents or events. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," this finding is determined to have very low safety significance because it did not represent an actual open pathway in the physical integrity of the reactor containment and did not represent an actual reduction of the atmospheric pressure control function of the reactor containment.
Inspection Report# : 2004003*(pdf)*

Significance: SL-IV May 21, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROVIDE AN EVALUATION OF A CHANGE TO THE FACILITY AS DESCRIBED IN THE UFSAR, UNDER 10 CFR 50.59 REQUIREMENTS
The team identified a Severity Level IV violation of 10 CFR 50.59 requirements for failing to evaluate a modification to spent fuel storage in the spent fuel pools. The team reviewed CRDR 2524176, regarding the lack of a criticality analysis to support the use of rod capture tubes,

which hold individual harvested fuel pins, in the spent fuel rack. The team reviewed the licensee's process of storing individual fuel pins, removed from a parent fuel assembly, and placed in rod capture tubes to be located in guide tubes of another host assembly. This resulted in a component that had nuclear fuel pins, of varying enrichment and depletion, stored as a regular fuel assembly in the spent fuel pools. The team noted that Section 9.1 of the UFSAR specifically described the storage of spent fuel in regions based upon fuel assembly initial enrichment, actual burnup, and actual decay time. The UFSAR does not describe the storage of individual pins in these regions. The licensee previously interpreted this as meaning the UFSAR did not prohibit such storage, and would not require consideration of enrichment, burnup, and decay of individual pins. The licensee failed to provide an evaluation of a change to the facility as described in the UFSAR, under 10 CFR 50.59 requirements. The licensee subsequently performed an evaluation of the criticality under station procedure 72DP-9NF01, "Control of SNM Transfer and Inventory," which was found acceptable.

The issue was determined to be more than minor, through Inspection Manual Chapter 0612, Appendix B, in that it affected the barrier integrity cornerstone attribute of human performance, and could have represented a more significant issue if left uncorrected. In accordance with the NRC Enforcement Manual, violations of 10 CFR 50.59 are not processed through the significance determination process. Therefore, this issue was considered applicable to traditional enforcement. Although the significance determination process is not designed to assess significance of violations that potentially impact or impede the regulatory process, the result of a 10 CFR 50.59 violation can be assessed significance through the significance determination process. The team leader and the Region IV senior reactor analyst discussed the significance of this finding. An SDP Phase 1 screening was performed and the finding was determined to have very low safety significance because there was no actual loss of the barrier integrity function. The licensee entered this issue into its corrective action program as CRDR 2711241.

Inspection Report# : 2004006*(pdf)*

Significance: G Apr 08, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO ENTER A NONCONFORMITY REPORT FROM THE STEAM GENERATOR FABRICATOR INTO THE PALO VERDE CORRECTIVE ACTION PROGRAM
A noncited violation of Criterion XVI, Corrective Action, of Appendix B to 10 CFR Part 50, was identified for the failure of the measures established to assure conditions adverse to quality are promptly identified and corrected. Specifically, although a fabricator informed licensee representatives of a tube with damage from a packing crate screw, the licensee representative did not enter the issue into the corrective action program to assure that the adverse condition (i.e., inadequate packing of tubes) was promptly corrected. Additionally, the corrective action program was deficient in that there was no mechanism to ensure that adverse conditions identified by the fabricator were made known to the appropriate licensee personnel. As a result, the potential for a similarly damaged tube to exist in the steam generators installed in the plant was not assessed, nor were actions taken to support detecting such a damaged tube during the pre-service examination by the licensee's eddy current examiners.

This finding is more than minor because it had actual safety consequences (i.e., a steam generator tube leak). This finding affects the barrier integrity cornerstone because of the potential to release radionuclides through the leaking tube. Reactor coolant system barrier performance was the affected attribute. This finding has cross-cutting implications in the problem identification and resolution area. That is, this finding was the direct result of the engineering staff's failure to properly address and correct a condition adverse to quality. The licensee entered this issue into its corrective action program as Condition Report/Discrepancy Request 2685303.

This finding was found to be of very low safety significance after a Phase 3 evaluation using the Manual Chapter 0609, Significance Determination Process.

Inspection Report# : 2004009*(pdf)*

Significance: G Mar 31, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
PRESSURIZER LEVEL TRANSIENT ABOVE TECHNICAL SPECIFICATION LIMIT
Green. The inspectors identified a noncited violation of Technical Specification 5.4.1.a because an inadequate work order was used to perform a pressurizer level control system data collection engineering action plan. The work order was inadequate in that it resulted in exceeding the maximum pressurizer level allowed by Technical Specification 3.4.9.

The finding is greater than minor since it is associated with the equipment performance attribute of the barrier integrity cornerstone and affects the cornerstone objective of protecting the reactor coolant system barrier from radionuclide releases caused by accidents or events. Using the Significance Determination Process Phase 1 Worksheet, the finding is determined to have very low safety significance because it only affects the barrier integrity cornerstone and was a deficiency that did not result in the actual degradation of the reactor coolant system barrier.

Inspection Report# : 2004002*(pdf)*

Emergency Preparedness

Significance: G Dec 15, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE PROCEDURES FOR IMPLEMENTATION OF AN EMERGENCY ACTION LEVEL
The examiners identified a noncited violation of 10 CFR Part 50, Appendix E, IV.B, for inadequate procedures for implementation of an emergency action level. Emergency Action Level 3-13 requires that an Alert be declared if "major damage to irradiated fuel" is accompanied by a "valid high radiation alarm on the associated radiation monitor." However, the phrase "major damage to irradiated fuel" is not defined in any site procedure, nor is it defined, clarified, or addressed through operator training such that operators would know when conditions meet the threshold for declaring an Alert as a result of damage to irradiated fuel. This deficiency was evidenced during the examination by the fact that the examination authors, examination reviewers, and five of the seven license applicants taking the examination did not recognize conditions that warranted declaring an Alert using Emergency Action Level 3-13. The licensee was evaluating a clarifying change to Emergency Action Level 3-13 and its bases documents and has documented this issue in Condition Report/Disposition Request 2761670.

The finding is a performance deficiency in that the licensee failed to identify that Emergency Action Level 3-13 would not be properly implemented without objectively defining the phrase "major damage to irradiated fuel" in either plant procedures or operator training. The finding is more than minor because it affects the Emergency Preparedness Cornerstone of procedural quality in that it could result in a failure to declare an Alert emergency classification when conditions warrant. The finding is of very low safety significance since it was a failure to comply with a regulatory requirement associated with a Risk-Significant Planning Standard that did not result in the loss or degradation of that Risk-Significant Planning Standard function.
Inspection Report# : 2004301*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
TECHNICAL SUPPORT CENTER UNAVAILABLE
A noncited violation of 10 CFR 50.49(q) was identified because the licensee failed to follow the emergency plan when they did not adequately maintain facilities required for emergency response. Specifically, the Technical Support Center (TSC) EDG failed because a test switch was not returned to its proper position following maintenance 6 days prior to the event. As a result, the emergency response organization assembled in the alternate TSC. This resulted in some confusion and posed some unique challenges to the emergency response organization.

The finding was evaluated using Inspection Manual Chapter 0609, "Significance Determination Process," Appendix B, Sheet 2 - Actual Event Implementation Problem. Failure to implement the requirements of the Emergency plan associated with emergency planning standard 8 is considered a failure to comply with planning standard 8 during an actual event implementation. The event was a declared Alert, but was not a failure to implement a risk significant planning standard, as defined in Inspection Manual Chapter MC 0609 Appendix B, §2.0. Therefore, the finding is of very low safety significance.
Inspection Report# : 2004013*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROPERLY IMPLEMENT EMERGENCY PLAN
A noncited violation of 10 CFR 50.49(q) was identified because the licensee failed to follow the emergency plan when they did not ensure that adequate command and control was established during the event. Specifically, the licensee did not follow Emergency Plan Implementing Procedure 1, "Satellite Technical Support Center Actions," which requires that for multiple unit events, the Unit 1 shift manager is responsible for initially classifying and declaring the emergency and assuming the position of the on-shift emergency coordinator. As a result, each of the units' respective shift managers initially assumed the role of emergency coordinator and resulted in notification irregularities to state and local officials.

The finding is more than minor because it is related to the emergency preparedness cornerstone attribute of Response organization performance, and affects the cornerstone objective in that command and control challenges resulting in inaccurate communications to the offsite officials could potentially affect the ability to ensure that adequate measures would be taken to protect the public health and safety.
Inspection Report# : 2004013*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
UNTILMELY AUGMENTATION OF ERGENCY PERSONNEL
A noncited violation of 10 CFR 50.54(q) was identified because the licensee failed to follow the emergency plan. Specifically, the licensee failed to meet minimum staffing goals of Table 1, "Minimum Staffing Requirements for PVNGS for Nuclear Power Plant Emergencies"

following the Alert declaration on June 14, 2004.

This finding was evaluated using Inspection Manual Chapter 0609, "Significance Determination Process," Appendix B, Sheet 2 - Actual Event Implementation Problem. Failure to implement the requirements of the Emergency plan associated with emergency planning standard 2 is considered a failure to comply with planning standard 2 during an actual event implementation. The event was a declared Alert, but was not a failure to implement a risk significant planning standard, as defined in Inspection Manual Chapter MC 0609 Appendix B, §2.0. Therefore, the finding is of very low safety significance.
Inspection Report# : 2004013*(pdf)*

Significance: G Mar 31, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
IMPLEMENTATION OF A CHANGE TO TABLE 1 WHICH WAS A DECREASE IN EFFECTIVENESS OF THE EMERGENCY PLAN
Green. On February 16, 2003, the licensee implemented an emergency plan change, which decreased the required number of onshift emergency responders. This change constituted a decrease in effectiveness of the emergency plan because it could have resulted in a dedicated onshift communicator being replaced by a shift technical advisor, with a loss of one onshift position. Implementation of changes to the emergency plan, which constitute a reduction in the effeciveness of the plan without prior NRC approval, was a noncited violation of 10 CFR 50.54(q).

The finding was evaluated using NUREG-1600, "General Statement of Policy and Procedure for NRC Enforcement Actions," Section IV, because licensee reductions in the effectiveness of its emergency plan impact the regulatory process. The finding had greater than minor significance because reducing the required number of onshift emergency responders had the potential to impact the ability to perform all necessary emergency functions. The finding was determined to be a noncited Severity Level IV violation because the emergency plan change constituted a failure to implement a regulatory requirement, but did not constitute a failure to meet an emergency planning standard as defined by 10 CFR 50.47(b) because actual staffing levels remained above the emergency plan minimum. This finding has been entered into the licensee's corrective action program as Condition Report Disposition Request 2670023.
Inspection Report# : 2004002*(pdf)*

Occupational Radiation Safety

Significance: G Oct 05, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
FAILURE TO COMPLY WITH HIGH RADIATION AREA TECHNICAL SPECIFICATION REQUIREMENT
The inspector reviewed a self revealing non-cited violation of Technical Specification 5.7.1.b because a radiation worker could not hear the electronic dosimeter alarm. Specifically, on September 30, 2003, a radiation worker, in a high radiation area, could not hear the electronic dosimeter alarm for approximately thirty minutes. The individual did not respond to the alarm until after entering another area with lower ambient noise. The licensee determined that the individual had a hearing deficiency. This occurrence was entered into the licensee's Corrective Action Program as Condition Report/Disposition Request 2689876.

The failure to provide an effective alarming dosimeter to a worker entering a high radiation area is a performance deficiency. This finding is greater than minor because it is associated with the Occupational Radiation Safety Program and Process attribute and affected the cornerstone objective because the failure to hear an electronic dosimeter alarm could increase personnel dose. Using the Occupational Radiation Safety Significance Determination Process, the inspector determined that the finding was of very low safety significance because it did not involve: (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose .

Inspection Report# : 2004005*(pdf)*

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Significance: N/A May 21, 2004
Identified By: NRC
Item Type: FIN Finding
IDENTIFICATION AND RESOLUTION OF PROBLEMS
The team concluded that the licensee was generally effective at identifying problems and processing them through the corrective action program. The licensee effectively prioritized and evaluated issues with a few exceptions. The team identified examples where the licensee had not evaluated identified issues for proper compliance with 10 CFR 50.59 requirements. Additionally, in some cases, corrective actions were not timely or fully documented. Licensee audits and assessments were found to be effective except for one example involving maintenance rule application to radiation monitors. On the basis of interviews conducted during this inspection, workers at the site felt free to input safety findings into the corrective action program.
Inspection Report# : 2004006*(pdf)*

Last modified : March 09, 2005

Palo Verde 2
1Q/2005 Plant Inspection Findings

Initiating Events

Significance: G Nov 11, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow the Operability Determination Process
A noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for not following the timeliness requirements noted in Procedure 40DP-9OP26, "Operability Determination," following the identification of a nonconforming condition associated with a pressurizer heater sleeve modification tolerances. Procedure 40DP-9OP26 requires that the shift manager or shift technical advisor be immediately notified of indications of a potential non-conformances. A condition report/disposition request was initiated on November 9, 2004, but neither the shift manager, nor the shift technical advisor were notified until Wednesday, November 10, 2004. This issue also had problem identification and resolution crosscutting aspects associated with engineering personnel not informing the control room in a timely manner and is similar to issues noted in adverse Condition Report/Disposition Requests 2733983 and 2734037, issued on August 26, 2004. The issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2754848.

This finding is greater than minor since the failure to follow the operability determination process, if left uncorrected, would become a more significant safety concern. Using the Phase 1 Worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the initiating events cornerstone and did not result in actual degradation of the reactor coolant system boundary.

Inspection Report# : 2004005*(pdf)*

Significance: G Aug 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW PROCEDURS FOR OPERATION OF THE SPENT FUEL HANDLING MACHINE
The inspectors identified a noncited violation of Technical Specification 5.4.1 associated with a failure to operate the spent fuel handling machine in accordance with Procedure 78OP-9FX03, "Spent Fuel Handling Machine," Revision 16. There were three instances of this: (1) On October 4, 2002, the spent fuel handling machine operator moved fuel assemblies of two differing weights and was not cognizant of design differences of the fuel assemblies and did not stop fuel movement when the load was greater than 50 lbs. different from expected; (2) On October 4, 2002, the spent fuel handling machine operator failed to verify that the hoist was in its full up position prior to moving a spent fuel assembly, and (3) later on October 4, 2002, another spent fuel handling operator failed to verify that the hoist was in its full up position prior to moving a spent fuel assembly. In both Examples (2) and (3), the operators failed to verify the "UP LIMIT" light was on and failed to verify the hoist indicator was at the "UPLIMIT." As a result, in Example (3), the one fuel assembly was damaged. These issues were contrary to Procedure 78OP-9FX03 and resulted in damage to the lower grid assembly of Fuel Assembly P1M316.

This finding is greater than minor because it had an actual impact of damage to an irradiated fuel assembly and, therefore, could be reasonably viewed as a precursor to a significant event. If the fuel cladding had failed, it could have caused a release of fission products to the environment. The finding is of very low safety significance because all mitigation systems were available during the fuel movement operations and should have prevented an unplanned release of radioactive material to the environment above the limits of 10 CFR Part 100. This finding also had crosscutting aspects in the area of human performance.

Inspection Report# : 2004011*(pdf)*

Significance: G Aug 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PRESCRIBE ADEQUATE INSTRUCTIONS FOR ENTRY INTO ABNORMAL OPERATING PROCEDURE, PVNGS PROCEDURE 40AO-9ZZ22, "FUEL DAMAGE," REVISION 2 THROUGH 6
The inspectors identified a noncited violation of Technical Specification 5.4.1 associated with an inadequate abnormal operating procedure. Specifically, the inspectors determined that Palo Verde Nuclear Generating Station Procedure 40AO-9ZZ22, "Fuel Damage," Revisions 1 through 6, were not adequate in that the entry conditions never required operations personnel to enter the procedure and take actions to mitigate the event. Step 1.1 states, in part, "Section 3.0, Irradiated Fuel Damage may be entered when any of the following conditions exist . . . when equipment or component failures result in any of the following: irradiated fuel assembly contacting a solid structure; bubbles emerging from a spent fuel assembly; bent, twisted, or warped spent fuel assembly; or visual damage to spent fuel pin cladding." Since this abnormal operating

procedure was never entered, applicable actions were never considered during the Fuel Assembly P1M316 event.

This finding is greater than minor because actions taken in response to fuel handling errors could result in significant fuel cladding damage and effect the barrier cornerstone. The finding is of very low safety significance because all mitigation systems were available and should have prevented an unplanned release of radioactive material to the environment above the limits of 10 CFR Part 100. This finding also had crosscutting aspects in the area of problem identification and resolution.
Inspection Report# : 2004011*(pdf)*

Significance: G Jul 08, 2004
Identified By: NRC
Item Type: FIN Finding
POOR MATERIAL CONDITION OF THE SPENT FUEL HANDLING MACHINE
The inspectors identified a self-revealing finding of very low safety significance (green) associated with the material condition of the spent fuel handling machine. A number of issues related to material condition, which affected spent fuel handling machine operations, was identified. These included intermittent overload and underload conditions with no identified cause, upender limit switches that often failed or required adjustments during fuel movement, an unreliable hydraulic power unit for the upender machine which occasionally resulted in the upender drifting from the vertical position, and the spent fuel handling machine trolley occasionally stopped for no apparent reason.

This finding is greater than minor because it had an actual impact resulting in damage to an irradiated fuel assembly and, therefore, could be reasonably viewed as a precursor to a significant event. If the fuel cladding had failed, it could have caused a release of fission products. The finding is of very low safety significance because all mitigation systems were available and should have prevented an unplanned release of radioactive material to the environment above the limits of 10 CFR Part 100.
Inspection Report# : 2004011*(pdf)*

Significance: G Jul 08, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE CORRECTIVE ACTIONS CONTRIBUTED TO DAMAGE TO FUEL ASSEMBLY
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for failing to effectively correct conditions adverse to quality that contributed to the damage to irradiated Fuel Assembly P1M316. Specifically, Criterion XVI states, in part, that ". . . conditions adverse to quality, such as malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected." The licensee failed to effectively correct conditions adverse to quality, which included repeated violations of equipment operating procedures and conduct of operations procedures, as well as long-standing degraded material condition of the fuel handling equipment, that ultimately contributed to the damage of irradiated Fuel Assembly P1M316.

This finding is greater than minor because it had an actual impact of damage to an irradiated fuel assembly and, therefore, could be reasonably viewed as a precursor to a significant event. If the fuel cladding had failed, it could have caused a release of fission products. The finding is of very low safety significance because all mitigation systems were available and should have prevented an unplanned release of radioactive material to the environment above the limits of 10 CFR Part 100. This finding also had crosscutting aspects in the area of problem identification and resolution.
Inspection Report# : 2004011*(pdf)*

Significance: G Jun 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PREVENT LOSS OF SPENT FUEL POOL INVENTORY EVENTS THROUGH TIMELY CORRECTIVE ACTIONS
A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to identify the root cause of spent fuel pool inventory loss events and implement corrective actions to preclude recurrence. Specifically, the improper positioning of a fuel pool cleanup suction valve and inadequate level monitoring resulted in three losses of spent fuel pool inventory events. This finding involves problem identification and resolution cross-cutting aspects associated with the failure to identify root causes and implement corrective actions. The issue also involved human performance cross-cutting aspects associated with mispositioned valves and awareness of plant conditions by operations personnel. This issue was entered into the corrective action program as CRDR 2599869.

The finding is greater than minor because it affected the configuration control and human performance attributes of the initiating events cornerstone objective. This finding cannot be evaluated by the significance determination process because Manual Chapter 0609, "Significance Determination Process," Appendix A, "Significance Determination of reactor Inspection Findings for At-Power Situations," and Appendix G, "Shutdown Operations Significance Determination Process," do not apply to the spent fuel pool. This finding is determined to be of very low safety significance by management review because radiation shielding was provided by the spent fuel pool water level, the spent fuel pool cooling and fuel building ventilation systems were available, and there were multiple sources of makeup water.
Inspection Report# : 2004003*(pdf)*

Significance: G Jun 30, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW HEAVY LOAD MOVEMENT PROCEDURE
A self-revealing noncited violation of Technical Specification 5.4.1.a was identified when personnel failed to follow a maintenance procedure preceding a 12 to 24 inch heavy load drop of a 7000 pound steam generator snubber level plate inside the Unit 2 containment. The drop was due to a series of errors between the engineering contractor and rigging crews. The snubber plate was dropped in the vicinity of reactor coolant and shutdown cooling piping. This issue was entered into the corrective action program as CRDR 2639721.

The finding was greater than minor because it affects the equipment performance and human performance attributes of the initiating events cornerstone objective to limit the likelihood of events that challenge safety functions during shutdown conditions. Using Manual Chapter 0609, "Significance Determination Process," Appendix G, "Shutdown Operations Significance Determination Process," the senior reactor analyst concluded that this finding did not significantly increase the likelihood of losing the residual heat removal function and did not significantly increase the likelihood that systems that could mitigate a loss of residual heat removal function would be degraded. Therefore, this finding is of very low safety significance.
Inspection Report# : 2004003*(pdf)*

Significance: G May 21, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
FAILURE TO ESTABLISH AN ADEQUATE PROCEDURE FOR PERFORMING PRESSURIZER SPRAY VALVE MAINTENANCE
NRC inspectors previously identified an unresolved item (URI 05000529/2003004-01) with pressurizer spray valve maintenance. This URI resulted from the NRC review of Licensee Event Report 05000529/2003001-00. Based upon further review during this inspection, the team identified a self-revealing non-cited violation of Technical Specification 5.4.1(a) for failure to establish an adequate procedure for performing pressurizer spray valve maintenance. The procedure was not adequate since the valve failed shortly after maintenance on the valve and valve positioner.

This finding was more than minor since it affected the likelihood of an initiating event to upset plant stability and challenge critical safety functions. Based on the results of an SDP Phase 1 analysis, this finding had very low safety significance (Green) since it did not inhibit the performance of a mitigating system, and did not increase the likelihood of a loss of coolant accident.
Inspection Report# : 2004006*(pdf)*

Mitigating Systems

Significance: SL-IV Mar 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO OBTAIN PRIOR NRC APPROVAL FOR A DESIGN CHANGE TO THE FACILITY
A Severity Level IV non-cited violation of 10 CFR 50.59 requirements was identified for the failure to obtain a license amendment for a permanent modification to all six station emergency diesel generators. The inspectors determined that there were two modifications performed on the jacket water system of each emergency diesel generator. Condition Report/Disposition Request (CRDR) 130208, in 1993, directed the abandonment of the jacket water surge tank makeup valves on both emergency diesel generators of all three units. A recent modification, Design Modification Work Order 220055 in 2003, removed the surge tank low level alarm on both emergency diesel generators of all three units. The licensee replaced these two automatic actions (automatic makeup and low level alarm) with a manual operator action to fill, as necessary, every 12 hours during rounds. The inspectors reviewed the updated final safety analysis report (UFSAR) and design basis documents, and found that the automatic jacket water surge tank makeup, and the low level alarm, were both shown in UFSAR descriptions, drawings, and design value tables.

The issue was determined to be more than minor, through Inspection Manual Chapter 0612, Appendix B, in that it affected the mitigating systems cornerstone attribute of equipment performance, and was repeated for all of the station emergency diesel generators. The issue was determined to result in more than a minimal increase in the consequences of a malfunction of an structure, system, or component important to safety evaluated in the UFSAR, since jacket water leakage could go undetected for up to 12 hours and affect diesel operability. Thus, a license amendment was required. In accordance with the NRC Enforcement Manual, violations of 10 CFR 50.59 are not processed through the significance determination process. Therefore, this issue was considered applicable to traditional enforcement. Although the significance determination process is not designed to assess significance of violations that potentially impact or impede the regulatory process, the result of a 10 CFR 50.59 violation can be assessed significance through the significance determination process. The lead inspector and the Region IV senior reactor analyst discussed the significance of this finding. An SDP Phase 1 screening was performed and the finding was determined to have very low safety significance because there was no actual loss of the mitigating system safety function. The licensee entered this issue into its corrective action program as CRDR 2711244.
Inspection Report# : 2005002*(pdf)*

Significance: TBD Mar 16, 2005
Identified By: NRC
Item Type: FIN Finding
FAILURE TO TRACK CONTROL ROOM DISCREPANCIES
The inspectors identified a finding for the failure to follow administrative guidelines provided to operations personnel for identifying, documenting, and tracking main control room deficiencies. Specifically, approximately 75 control room instrument and control room meter face plates in Units 1, 2, and 3 were degraded and were not individually tracked in the control room discrepancy log. Furthermore, discrepancy labels containing the control room discrepancy log number and description of the discrepancy were not placed adjacent to or as close as possible to each affected device. This issue was entered into the corrective action program as Condition Report/Disposition Request 2782501.

The finding is determined to be greater than minor because if left uncorrected, it could become a more significant safety concern in that the condition could cause an operator to take an inappropriate action based on expected plant response or conversely cause an operator not to take action when action is required. The senior reactor analyst determined that this finding was not appropriate to be evaluated using the significance determination process since this finding was associated with multiple human performance actions. Based on management review, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and there was no adverse impact to plant equipment.

Inspection Report# : 2005002*(pdf)*

Significance: G Feb 25, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
SCAFFOLDING ERECTED WITH INADEQUATE CLEARANCES AND NO ENGINEERING EVALUATION
The inspectors identified a noncited violation of Technical Specification 5.4.1.a for failing to follow a maintenance procedure and associated engineering specification governing scaffold erection near safety-related components. Specifically, the licensee built approximately 85 scaffolds within the 2-inch clearance requirement and did not obtain engineering approval for the scaffolding installed in close proximity to safety-related equipment, as specified in Engineering Design Change 2000-00463. This issue involved human performance crosscutting aspects (personnel) associated with not following work instructions. This issue was entered into the corrective action program as Condition Report/Disposition Request 2779469.

The finding is determined to be greater than minor because if left uncorrected, the finding would become a more significant safety concern in that improperly installed scaffolding could impact the availability of mitigating equipment. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and all subsequent engineering evaluations determined that there was no adverse affect to the mitigating equipment.

Inspection Report# : 2005002*(pdf)*

Significance: Y Dec 09, 2004
Identified By: NRC
Item Type: VIO Violation
FAILURE TO MAINTAIN DESIGN CONTROL OF CONTAINMENT SUMP RECIRCULATION PIPING
The team identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to establish measures to assure design basis information was translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to maintain the safety injection sump suction piping full of water in accordance with the Updated Final Safety Analysis Report. This nonconformance had the potential to significantly affect the available net positive suction head described in the Updated Final Safety Analysis Report for the high pressure safety injection and containment spray pumps, since the analysis assumed the piping would be maintained full of water.

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. The finding has a potential safety significance greater than very low significance (i.e., Greater than Green) based on the results of a Significance Determination Process, Phase 3 analysis.
Inspection Report# : 2004014*(pdf)*

Significance: G Dec 09, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW PROCEDURE
The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," involving the failure of engineering and operations personnel to implement requirements in the station's condition reporting and operability determination procedures following identification of a degraded condition. Specifically, engineering personnel did not promptly notify operations personnel of a condition that impacted the safety function of the high pressure safety injection and containment spray systems. In addition, operations

personnel did not complete an immediate assessment of operability once they were informed of the degraded condition. This finding had crosscutting aspects associated with problem identification and resolution, since engineering personnel did not forward corrective action program documents regarding the degraded condition to the control room in a timely manner and operations personnel did not complete a prompt operability assessment. This finding also involved crosscutting aspects associated human performance, since engineering and operations personnel did not adequately communicate the status of the engineering department's efforts to review the degraded condition.

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. This finding has very low safety significance based on the results of a Significance Determination Process, Phase 3 analysis.

Inspection Report# : 2004014*(pdf)*

Significance: SL-III Dec 09, 2004
Identified By: NRC
Item Type: VIO Violation
FAILURE TO OBTAIN PRIOR NRC APPROVAL FOR A CHANGE TO THE FACILITY INVOLVING MAINTAINING A SIGNIFICANT SEGMENT OF CONTAINMENT SUMP SAFETY INJECTION RECIRCULATION PIPING VOID OF WATER
The team identified an apparent violation of 10 CFR 50.59 requirements for the licensee's failure to perform a written safety evaluation and receive NRC approval prior to implementing changes to the facility in 1992 which involved draining, and maintaining drained, a significant segment of containment sump safety injection recirculation piping during normal plant operations. This change resulted in the failure to maintain the safety injection piping full of water in accordance with the Updated Final Safety Analysis Report. This represented an unreviewed safety question since it increased the probability of a malfunction of equipment important to safety previously evaluated in the safety analysis report.

In accordance with Inspection Manual Chapter 0612, Appendix B, "Issue Disposition Screening," the team determined that traditional enforcement applied because this finding may have impacted the NRC's ability to perform its regulatory function. This is an apparent violation pending the results of a predecisional enforcement conference.
Inspection Report# : 2004014*(pdf)*

Significance: G Sep 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
UNTIMELY LUBRICATION OF REACH RODS FOR SAFETY-RELATED MANUAL VALVES
Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to promptly correct degraded conditions associated with reach rods on safety-related manual valves. The issue involved problem identification and resolution cross-cutting aspects associated with untimely prioritization of work necessary to correct degraded equipment conditions. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2328588.

The finding was greater than minor safety significance because if left uncorrected, it could become a more significant safety concern in that the failure to perform maintenance on reach rod assemblies could result in an inability to operate safety-related manual valves. This finding is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone and there was not a loss of safety function.
Inspection Report# : 2004004*(pdf)*

Significance: G Sep 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
TURBINE DRIVEN AUXILIARY FEEDWATER PUMP GOVERNOR POWER SUPPLY RESISTOR FAILURES
Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to correct a significant condition adverse to quality. The adverse condition involved failed resistors in the power supply to the turbine driven auxiliary feedwater pump governor control circuits in Units 2 and 3 that had transportability to Unit 1. The finding involved problem identification and resolution cross-cutting aspects associated with engineering personnel not performing an adequate extent of condition review. The finding also involved human performance cross-cutting aspects associated with engineering and maintenance personnel not communicating correct technical information. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2746954.

The finding was greater than minor because if left uncorrected, it could have become a more significant safety concern in that the Unit 1 turbine driven auxiliary feedwater pump could have experienced an unnecessary failure. This finding is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone and did not result in an actual loss of safety function for the auxiliary feedwater system.
Inspection Report# : 2004004*(pdf)*

Significance: G Sep 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROMPTLY IDENTIFY AND CORRECT A CONDITION ADVERSE TO QUALITY
Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to assure that significant conditions adverse to quality were promptly identified and corrected. Specifically, maintenance personnel failed to promptly identify that retaining ring slots were not adequately sized to allow the use of the standard lock pins, contributing to the damage to the steam generator nozzle dam diaphragms. Subsequent to the identification, maintenance personnel failed to correct the condition by not implementing the actions recommended by plant engineers. The finding involved problem identification and resolution cross-cutting aspects associated with engineering personnel not performing an adequate extent of condition review. That is, this finding was the direct result of licensee personnel's failure to promptly identify and correct a condition adverse to quality. This issue was entered into the licensee's corrective action program as Condition Report/Discrepancy Requests 2686201 and 2686271.

This finding was greater than minor because it is associated with the mitigating systems cornerstone and affects reactor coolant system boundary performance. Specifically, the plant operated for an extended period in reduced inventory as a result of not correcting the incompatibility between the nozzle dams and the locking ring. Using Manual Chapter 0609, "Significance Determination Process," this finding is determined to have very low safety significance because the senior reactor analysts' Phase 2 and 3 analyses determined that the increase in core damage frequency was approximately 3X10-7.
Inspection Report# : 2004004*(pdf)*

Significance: G Sep 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
INEFFECTIVE CORRECTIVE ACTIONS TO ADDRESS AN INADEQUATE SERVICE WATER PIPING INSPECTION PROGRAM
Green. The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to promptly correct the lack of an adequate routine inspection and maintenance program for essential spray pond system piping and components. The finding has been entered into the licensee's corrective action program as Condition Report/Disposition Request 2732683. The finding had problem identification and resolution crosscutting aspects associated with engineering personnel not entering deficiencies into their licensee commitment tracking system and not generating a condition report/disposition request.

This finding is greater than minor because it affected the reactor safety mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. If left uncorrected the finding could become a more significant safety concern in that inspections of spray pond piping was not performed as committed to in the licensee's Generic Letter 89-13 response. The finding is of very low safety significance because the issue constituted a qualification deficiency that did not result in a loss of function per Generic Letter 91-18, "Information to Licensees Regarding NRC Inspection Manual Section on Resolution of Degraded and Nonconforming Conditions," Revision 1.
Inspection Report# : 2004004*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO ADDRESS EMERGENCY DIESEL GENERATOR CIRCUIT FAILURE
A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified because the licensee failed to implement their corrective action program when an emergency diesel-generator excitation circuit failed. The failure precluded the emergency diesel generator from achieving rated voltage within the required time.

The finding was greater than minor because it was associated with the equipment performance attributes of the mitigating systems cornerstone and affected the associated cornerstone objective of equipment availability. The finding had very low significance because it only affected the mitigating systems cornerstone and did not result in the actual loss of a safety function at the time.
Inspection Report# : 2004013*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW INADEQUATE EMERGENCY OPERATING PROCEDURE
A noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Procedures," with two examples, was identified because the licensee failed to implement contingency actions when two circuit breakers failed to operate during recovery operations in Units 1 and 3. Specifically, operators deviated from the Emergency Operating Procedure for Loss of Offsite Power/Loss of Forced Circulation when they initiated maintenance on the two failed breakers instead of performing the contingency actions prescribed by the procedure. In addition, for Unit 1, the procedure was inadequate because it did not list all available contingency actions available to operators for restoring power to the electrical bus.

The finding was greater than minor because it was associated with the equipment performance attributes of the mitigating systems cornerstone and affected the associated cornerstone objective of equipment availability. The finding had very low significance because it only affected the mitigating systems cornerstone and redundancy existed in other electrical buses.
Inspection Report# : 2004013*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IMPLEMENT CORRECTIVE ACTIONS FOR AUXILIARY FEEDWATER
A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified by the team because the licensee failed to implement timely corrective actions to ensure that the feedwater system was operated in a manner that would minimize the possibility of thermally induced vibration that could affect auxiliary feedwater system operability.

The finding was greater than minor because it was associated with the equipment performance attributes of the mitigating systems cornerstone and affected the associated cornerstone objective of equipment availability. The finding had very low significance because it only affected the mitigating systems cornerstone and because no transient occurred that necessitated implementation of the needed corrective actions.
Inspection Report# : 2004013*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE EMERGENCY OPERATING PROCEDURE FOR AUXILIARY FEEDWATER OPERATION
A noncited violation of Technical Specification 5.4.1 was identified because the licensee implemented an inadequate Emergency Operating Procedure. Specifically, the procedure failed to provide direction to maintain turbine-driven auxiliary feedwater pumps operable following a main steam isolation signal.

The finding was greater than minor because it was associated with the equipment performance attributes of the mitigating systems cornerstone and affected the associated cornerstone objective of equipment availability. The finding had very low significance because it only affected the mitigating systems cornerstone and because the turbine-driven auxiliary feedwater pumps did not become inoperable.
Inspection Report# : 2004013*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO MANAGE STATION RISK
A noncited violation of 10 CFR 50.65, "Maintenance Rule," was identified because the licensee failed to perform a risk assessment. Specifically, the licensee inappropriately decided to begin draining the Unit 1 turbine-driven auxiliary feedwater pump steam traps first, without addressing the higher risk profile in Unit 2 which resulted from having an inoperable emergency diesel generator.

The finding was greater than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and affected the cornerstone objective of equipment availability. The finding had very low significance because it only affected the mitigating systems cornerstone and because the turbine-driven auxiliary feedwater pumps were not needed.
Inspection Report# : 2004013*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROPERLY IMPLEMENT LOOP EMERGENCY OPEARTING PROCEDRE
A noncited violation of Technical Specification 5.4.1 was identified because the licensee failed to follow emergency operating procedures. Specifically, the control room operator and an auxiliary operator performed the incorrect steps in Emergency Operating Procedure 40EP-9EO07, "Loss of Offsite Power/Loss of Forced Circulation," Revision 10. The Unit 2, Positive Displacement Charging Pump "E" was temporarily lost due to these human performance errors and resulted in a total loss of Unit 2 charging flow for a short period.

The finding was greater than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and affected the cornerstone objective of equipment availability. The finding had very low significance because it only affected the mitigating systems cornerstone and did not result in the actual loss of a safety function and no significant delays occurred that adversely impacted operator response to the event.
Inspection Report# : 2004013*(pdf)*

Significance: SL-IV Jun 30, 2004

Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM A COMPLETE SHUT DOWN COOLING HEAT EXCHANGER TEMPERATURE LOOP CHANNEL CALIBRATION
A Severity Level IV noncited violation of Technical Specification 3.3.11 was identified for the failure to include the resistance temperature detectors in the channel calibration for the shutdown cooling heat exchanger temperature instruments. Specifically, prior to the implementation of Improved Technical Specifications, the licensee did not perform testing of the resistance temperature detectors. Following the implementation of Improved Technical Specifications, the licensee did not perform an in-place qualitative assessment of the resistance temperature detectors' behavior. This issue was entered into the corrective action program as CRDR 280178.

The failure to perform a complete shutdown cooling heat exchanger temperature loop channel calibration is determined to have greater than minor significance because the licensee's failure to report the condition impacted the NRC's ability to perform it's regulatory function. Therefore, this finding was considered applicable to traditional enforcement. Although the significance determination process is not designed to assess the significance of violations that potentially impact or impede the regulatory process, the finding can be assessed using the significance determination process. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," this finding is determined to be of very low safety significance because it only affected the mitigating system cornerstone and the resistance temperature detectors were found to be within calibration.
Inspection Report# : 2004003*(pdf)*

Significance: G Jun 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM MONTHLY REVIEWS TO ENSURE EXCESS HOURS HAVE NOT BEEN ASSIGNED
The inspectors identified a noncited violation of Technical Specification 5.2.2.d for the failure of authorized individuals to review monthly overtime reports to ensure that excessive hours have not been assigned. Specifically, following the implementation of an electronic reporting system in 2001, the licensee did not ensure that all managers continued to receive and approve the Excess Hours Report.

The finding is greater than minor because if left uncorrected it could become a more significant safety concern in that exceeding the NRC Generic Letter 82-02, "Nuclear Power Plant Staff Working Hours," guidelines for overtime limits is a contributor to worker fatigue. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," this finding is determined to be of very low safety significance because there were no known actual adverse plant or equipment conditions that could be attributed to worker fatigue.
Inspection Report# : 2004003*(pdf)*

Significance: G Jun 18, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CORRECTLY TRANSLATE DESIGN INFORMATION INTO THE AS-BUILT CONFIGURATION
The team identified a noncited violation for the failure to comply with 10 CFR Part 50, Appendix B, Criterion III, "Design Control." The licensee failed to correctly translate design information into the as-built configuration of the auxiliary feedwater system, in that, 28 feet of exposed auxiliary feedwater minimum flow recirculation line was not protected from a tornado-generated missile for both trains as described in Design Basis Manual, Table 2-1 and Section 10.4.9.1, "Design Basis," of the Final Safety Analysis Report. This issue was entered into the licensee's corrective action program as Condition Report/Deficiency Request 2721947.

In accordance with NRC Inspection Manual 0612, Appendix B, "Issue Screening," this finding is greater than minor because it is associated with the design control attribute of the mitigating systems cornerstone, and affected the cornerstone objective to ensure the capability of systems to respond to initiating events. The inspectors evaluated the issue using the Phase 1 Screening Worksheet for the Initiating Events, Mitigating Systems, and Barriers Cornerstones provided in Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." The finding was determined to be of very low safety significance because: the finding did not represent an actual loss of safety function and because the analyst determined that the system would continue to meet its risk-significant function following a postulated tornado initiating event.
Inspection Report# : 2004007*(pdf)*

Significance: G Apr 08, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CORRECTLY IMPLEMENT THE VENTING REQUIREMENTS OF PROCEDURE 40OP-9S101
A noncited violation of Technical Specification 5.4.1a. was identified for the failure to correctly implement the venting requirements of Procedure 40OP-9SI01, Appendix D. Specifically, when venting the shutdown cooling system while in reduced inventory, the operators failed to attain a steady stream of air free water from Valve V019 and vented from a location not specified in the procedure.

This finding was more than minor because the failure to properly vent the shutdown cooling system while in reduced inventory could, if left uncorrected, become a more significant safety concern. The inadequate venting was associated with the operability, availability, and function of the shutdown cooling system while in reduced inventory (i.e., potential loss of long term decay heat removal).

This performance issue was found to be of very low safety significance (GREEN), because none of the plant conditions met the threshold for performing a Phase 2 analysis. This finding has cross-cutting implications in the human performance area. That is, this violation was the direct result of operators not correctly implementing a procedure.

The licensee entered this issue into its corrective action program as Condition Report/Discrepancy Request 2686273.

Inspection Report# : 2004009*(pdf)*

Barrier Integrity

Significance: G Nov 23, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
CORE ALTERATIONS WITH LESS THAN TWO OPERABLE SRMs
A self-revealing violation of Technical Specification 3.9.2 was identified for performing core alterations with less than the required number of startup range monitors. The licensee did not identify that startup monitor Channel 2 was failed low through troubleshooting activities prior to commencing core reload. The licensee only determined that startup monitor Channel 2 was inoperable after core alterations had commenced. The issue was entered into the licensee's corrective action program as Condition Report/Disposition Requests 2654704 and 2654642.

The finding is greater than minor because it is associated with the configuration control attribute of the barrier integrity cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radio nuclide releases caused by accidents or events. Using Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," this finding is determined to have very low safety significance because the event did not constitute a loss of control and did not represent a finding requiring quantitative assessment. The finding did not increase the likelihood of loss or cause a degradation in the ability to restore decay heat removal, reactor coolant system inventory, offsite power, alternate core cooling, or containment.
Inspection Report# : 2004005*(pdf)*

Significance: G Nov 09, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO INCLUDE VENTS AND DRAINS INTO LOCKED VALVE PROGRAM
A noncited violation of Technical Specification Surveillance Requirement 3.6.3.3 was identified for failure to perform the required position verification for vent and drain valves associated with eight safety injection system penetrations per unit. The issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2753335.

This finding is greater than minor since it is associated with the configuration control attribute of the barrier integrity cornerstone and affects the cornerstone objective to provide reasonable assurance that the containment physical design barrier is preserved to protect the public from radio nuclide releases caused by accidents or events. Using the Phase 1 Worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the barrier integrity cornerstone, all the valves were found closed, and did not result in an actual open pathway out of the reactor containment.
Inspection Report# : 2004005*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO EVALUATE MAIN GENERATOR EXCITATION LIMITER CIRCUIT PROBLEMS
A noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Procedures," was identified because the licensee failed to follow the procedure for dispositioning a degraded condition for continued use. Specifically, the licensee failed to place a degraded main generator excitation limiter circuit into the work control process via the appropriate procedure to ensure that it was appropriately evaluated and processed.

The finding was greater than minor because it was associated with the human performance attribute of the barrier integrity cornerstone and impacted the cornerstone objective to provide reasonable assurance that physical design barriers, in this case the fuel cladding, protect the public from radio nuclide releases caused by accidents or events.
Inspection Report# : 2004013*(pdf)*

Significance: SL-IV Jun 30, 2004
Identified By: NRC

Item Type: NCV NonCited Violation
CONTAINMENT PURGE PENETRATION NONCONFORMANCE
A Severity Level IV noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to correct a nonconforming condition in a timely manner. Specifically, since June 2001, the licensee discontinued implementation of required Technical Specification surveillance testing for the containment purge valves by declaring the valves inoperable and installing blind flanges. This issue was entered into the corrective action program as CRDR 2711167.

The finding is greater than minor because the licensee's failure to submit a license amendment to correct the nonconforming condition impacted the NRC's ability to perform its regulatory function. Therefore, this finding was considered applicable to traditional enforcement. Although the significance determination process is not designed to assess the significance of violations that potentially impact or impede the regulatory process, the finding can be assessed using the significance determination process. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the barrier integrity cornerstone and the installation of blind flanges adequately maintained containment integrity.
Inspection Report# : 2004003*(pdf)*

Significance: G Jun 30, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
MISSING BOLTS ON SUPPORT FOR MAIN STEAM LINE WHIP RESTRAINT
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion V, was identified for the failure to secure a main steam line pipe whip restraint inside the Unit 2 containment in accordance with design drawings. Specifically, the pipe whip restraint was missing four ½-inch diameter nuts from the embedded anchor bolts. This issue was entered into the corrective action program as CRDR 2643347.

The finding is greater than minor since it is associated with the equipment performance attribute of the barrier integrity cornerstone and affects the cornerstone objective of protecting the containment barrier from radionuclide releases caused by accidents or events. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," this finding is determined to have very low safety significance because it did not represent an actual open pathway in the physical integrity of the reactor containment and did not represent an actual reduction of the atmospheric pressure control function of the reactor containment.
Inspection Report# : 2004003*(pdf)*

Significance: SL-IV May 21, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROVIDE AN EVALUATION OF A CHANGE TO THE FACILITY AS DESCRIBED IN THE UFSAR, UNDER 10 CFR 50.59 REQUIREMENTS
The team identified a Severity Level IV violation of 10 CFR 50.59 requirements for failing to evaluate a modification to spent fuel storage in the spent fuel pools. The team reviewed CRDR 2524176, regarding the lack of a criticality analysis to support the use of rod capture tubes, which hold individual harvested fuel pins, in the spent fuel rack. The team reviewed the licensee's process of storing individual fuel pins, removed from a parent fuel assembly, and placed in rod capture tubes to be located in guide tubes of another host assembly. This resulted in a component that had nuclear fuel pins, of varying enrichment and depletion, stored as a regular fuel assembly in the spent fuel pools. The team noted that Section 9.1 of the UFSAR specifically described the storage of spent fuel in regions based upon fuel assembly initial enrichment, actual burnup, and actual decay time. The UFSAR does not describe the storage of individual pins in these regions. The licensee previously interpreted this as meaning the UFSAR did not prohibit such storage, and would not require consideration of enrichment, burnup, and decay of individual pins. The licensee failed to provide an evaluation of a change to the facility as described in the UFSAR, under 10 CFR 50.59 requirements. The licensee subsequently performed an evaluation of the criticality under station procedure 72DP-9NF01, "Control of SNM Transfer and Inventory," which was found acceptable.

The issue was determined to be more than minor, through Inspection Manual Chapter 0612, Appendix B, in that it affected the barrier integrity cornerstone attribute of human performance, and could have represented a more significant issue if left uncorrected. In accordance with the NRC Enforcement Manual, violations of 10 CFR 50.59 are not processed through the significance determination process. Therefore, this issue was considered applicable to traditional enforcement. Although the significance determination process is not designed to assess significance of violations that potentially impact or impede the regulatory process, the result of a 10 CFR 50.59 violation can be assessed significance through the significance determination process. The team leader and the Region IV senior reactor analyst discussed the significance of this finding. An SDP Phase 1 screening was performed and the finding was determined to have very low safety significance because there was no actual loss of the barrier integrity function. The licensee entered this issue into its corrective action program as CRDR 2711241.

Inspection Report# : 2004006*(pdf)*

Significance: G Apr 08, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO ENTER A NONCONFORMITY REPORT FROM THE STEAM GENERATOR FABRICATOR INTO THE PALO VERDE CORRECTIVE ACTION PROGRAM
A noncited violation of Criterion XVI, Corrective Action, of Appendix B to 10 CFR Part 50, was identified for the failure of the measures

established to assure conditions adverse to quality are promptly identified and corrected. Specifically, although a fabricator informed licensee representatives of a tube with damage from a packing crate screw, the licensee representative did not enter the issue into the corrective action program to assure that the adverse condition (i.e., inadequate packing of tubes) was promptly corrected. Additionally, the corrective action program was deficient in that there was no mechanism to ensure that adverse conditions identified by the fabricator were made known to the appropriate licensee personnel. As a result, the potential for a similarly damaged tube to exist in the steam generators installed in the plant was not assessed, nor were actions taken to support detecting such a damaged tube during the pre-service examination by the licensee's eddy current examiners.

This finding is more than minor because it had actual safety consequences (i.e., a steam generator tube leak). This finding affects the barrier integrity cornerstone because of the potential to release radionuclides through the leaking tube. Reactor coolant system barrier performance was the affected attribute. This finding has cross-cutting implications in the problem identification and resolution area. That is, this finding was the direct result of the engineering staff's failure to properly address and correct a condition adverse to quality. The licensee entered this issue into its corrective action program as Condition Report/Discrepancy Request 2685303.

This finding was found to be of very low safety significance after a Phase 3 evaluation using the Manual Chapter 0609, Significance Determination Process.

Inspection Report# : 2004009*(pdf)*

Emergency Preparedness

Significance: TBD Mar 20, 2005
Identified By: NRC
Item Type: AV Apparent Violation
CHANGE TO RADIOLOGICAL EMERGENCY ACTION LEVELS WHICH DECREASED THE EFFECTIVENESS OF THE EMERGENCY PLAN
The inspector identified an apparent violation of 10 CFR 50.54(q) for implementing a change to emergency action levels, which decreased the effectiveness of the emergency plan. Emergency Plan Implementing Procedure 99, "EPIP Standard Appendices," Revision 2, removed from two emergency action levels site boundary exposure rate as measured in the environment as a classifiable condition.

Implementation of changes to emergency action levels, which decreased the effectiveness of the emergency plan was a performance deficiency. The finding is more than minor because removal of a classifiable condition from licensee emergency action levels has the potential to impact safety, and licensee implementation of a change to their emergency plan, which decreases the effectiveness of the plan without prior NRC approval, impacts the regulatory process. This finding is an apparent violation of 10 CFR 50.54(q). The licensee has entered this issue into their corrective action system as Condition Report/Disposition Request 2774185.
Inspection Report# : 2005011*(pdf)*

Significance: G Mar 18, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CORRECT THE DEVELOPMENT OF PROTECTIVE ACTION RECOMENDATIONS NOT IN ACCORDANCE WITH FEDERAL GUIDANCE
The inspectors identified a noncited violation of 10 CFR 50.54(q). The licensee failed to correct a practice which could result in an evacuation protective action recommendation for segments of the population that would not benefit from evacuation, contrary to federal guidance.

This finding is more than minor because it was associated with a cornerstone attribute and affected the emergency preparedness cornerstone objective to ensure the adequate protection of the public health and safety. This finding is of very low safety significance because this practice could result in an increased dose to the evacuating public by evacuating some areas unnecessarily, but would not prevent the notification of appropriate protective action recommendations to those members of the public who did require evacuation.

Inspection Report# : 2005002*(pdf)*

Significance: G Dec 15, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE PROCEDURES FOR IMPLEMENTATION OF AN EMERGENCY ACTION LEVEL
The examiners identified a noncited violation of 10 CFR Part 50, Appendix E, IV.B, for inadequate procedures for implementation of an emergency action level. Emergency Action Level 3-13 requires that an Alert be declared if "major damage to irradiated fuel" is accompanied by a "valid high radiation alarm on the associated radiation monitor." However, the phrase "major damage to irradiated fuel" is not defined in any site procedure, nor is it defined, clarified, or addressed through operator training such that operators would know when conditions meet the

threshold for declaring an Alert as a result of damage to irradiated fuel. This deficiency was evidenced during the examination by the fact that the examination authors, examination reviewers, and five of the seven license applicants taking the examination did not recognize conditions that warranted declaring an Alert using Emergency Action Level 3-13. The licensee was evaluating a clarifying change to Emergency Action Level 3-13 and its bases documents and has documented this issue in Condition Report/Disposition Request 2761670.

The finding is a performance deficiency in that the licensee failed to identify that Emergency Action Level 3-13 would not be properly implemented without objectively defining the phrase "major damage to irradiated fuel" in either plant procedures or operator training. The finding is more than minor because it affects the Emergency Preparedness Cornerstone of procedural quality in that it could result in a failure to declare an Alert emergency classification when conditions warrant. The finding is of very low safety significance since it was a failure to comply with a regulatory requirement associated with a Risk-Significant Planning Standard that did not result in the loss or degradation of that Risk-Significant Planning Standard function.
Inspection Report# : 2004301*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
TECHNICAL SUPPORT CENTER UNAVAILABLE
A noncited violation of 10 CFR 50.49(q) was identified because the licensee failed to follow the emergency plan when they did not adequately maintain facilities required for emergency response. Specifically, the Technical Support Center (TSC) EDG failed because a test switch was not returned to its proper position following maintenance 6 days prior to the event. As a result, the emergency response organization assembled in the alternate TSC. This resulted in some confusion and posed some unique challenges to the emergency response organization.

The finding was evaluated using Inspection Manual Chapter 0609, "Significance Determination Process," Appendix B, Sheet 2 - Actual Event Implementation Problem. Failure to implement the requirements of the Emergency plan associated with emergency planning standard 8 is considered a failure to comply with planning standard 8 during an actual event implementation. The event was a declared Alert, but was not a failure to implement a risk significant planning standard, as defined in Inspection Manual Chapter MC 0609 Appendix B, §2.0. Therefore, the finding is of very low safety significance.
Inspection Report# : 2004013*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROPERLY IMPLEMENT EMERGENCY PLAN
A noncited violation of 10 CFR 50.49(q) was identified because the licensee failed to follow the emergency plan when they did not ensure that adequate command and control was established during the event. Specifically, the licensee did not follow Emergency Plan Implementing Procedure 1, "Satellite Technical Support Center Actions," which requires that for multiple unit events, the Unit 1 shift manager is responsible for initially classifying and declaring the emergency and assuming the position of the on-shift emergency coordinator. As a result, each of the units' respective shift managers initially assumed the role of emergency coordinator and resulted in notification irregularities to state and local officials.

The finding is more than minor because it is related to the emergency preparedness cornerstone attribute of Response organization performance, and affects the cornerstone objective in that command and control challenges resulting in inaccurate communications to the offsite officials could potentially affect the ability to ensure that adequate measures would be taken to protect the public health and safety.
Inspection Report# : 2004013*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
UNTILMELY AUGMENTATION OF ERGENCY PERSONNEL
A noncited violation of 10 CFR 50.54(q) was identified because the licensee failed to follow the emergency plan. Specifically, the licensee failed to meet minimum staffing goals of Table 1, "Minimum Staffing Requirements for PVNGS for Nuclear Power Plant Emergencies" following the Alert declaration on June 14, 2004.

This finding was evaluated using Inspection Manual Chapter 0609, "Significance Determination Process," Appendix B, Sheet 2 - Actual Event Implementation Problem. Failure to implement the requirements of the Emergency plan associated with emergency planning standard 2 is considered a failure to comply with planning standard 2 during an actual event implementation. The event was a declared Alert, but was not a failure to implement a risk significant planning standard, as defined in Inspection Manual Chapter MC 0609 Appendix B, §2.0. Therefore, the finding is of very low safety significance.
Inspection Report# : 2004013*(pdf)*

Occupational Radiation Safety

Significance: G Oct 05, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
FAILURE TO COMPLY WITH HIGH RADIATION AREA TECHNICAL SPECIFICATION REQUIREMENT
The inspector reviewed a self revealing non-cited violation of Technical Specification 5.7.1.b because a radiation worker could not hear the electronic dosimeter alarm. Specifically, on September 30, 2003, a radiation worker, in a high radiation area, could not hear the electronic dosimeter alarm for approximately thirty minutes. The individual did not respond to the alarm until after entering another area with lower ambient noise. The licensee determined that the individual had a hearing deficiency. This occurrence was entered into the licensee's Corrective Action Program as Condition Report/Disposition Request 2689876.

The failure to provide an effective alarming dosimeter to a worker entering a high radiation area is a performance deficiency. This finding is greater than minor because it is associated with the Occupational Radiation Safety Program and Process attribute and affected the cornerstone objective because the failure to hear an electronic dosimeter alarm could increase personnel dose. Using the Occupational Radiation Safety Significance Determination Process, the inspector determined that the finding was of very low safety significance because it did not involve: (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose .

Inspection Report# : 2004005*(pdf)*

Public Radiation Safety

Significance: G Feb 04, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO SHIP RADIOACTIVE MATERIAL CORRECTLY
The team reviewed a self-revealing, non-cited violation of 10 CFR 71.5, which occurred when the licensee failed to ship radioactive material correctly. A radioactive shipment classified as an "excepted package-limited quantity" exceeded the external dose rate limitation of 0.5 millirem per hour because licensee personnel failed to ensure that the package contents could not shift during transportation. The package recipient identified dose rates of 0.8 millirems per hour on the exterior surface of the package and notified the licensee of the problem.

The finding is greater than minor because it was associated with a Public Radiation Safety cornerstone attribute (human performance) and it affected the associated cornerstone objective because the failure to correctly ship radioactive material decreases the licensee's assurance that the public will not receive unnecessary dose. However, this finding cannot be evaluated by the Public Radiation Safety Significance Determination Process because it does not involve radioactive shipments classified as Schedule 5 through 11, as described in NUREG-1660, and it does not fit traditional enforcement. Therefore, the finding was reviewed by NRC management and determined to be of very low safety significance. Additionally, this finding had cross-cutting aspects associated with human performance (personnel). The individual directly contributed to the finding when the licensee's shipper failed to ensure that the package contents could not shift. The finding was placed into the licensee's corrective action program.
Inspection Report# : 2005009*(pdf)*

Significance: G Feb 04, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CONTROL RADIOACTIVE MATERIAL
The team reviewed a self-revealing, non-cited violation of Technical Specification 5.4.1, which occurred when the licensee failed to prevent radioactive material from leaving the radiological controlled area and the protected area. A tape measure worn on the lanyard of a radiation protection technician was not evaluated for the presence of radioactive material before its release from the radiological controlled area. The licensee discovered the radioactive material when the individual was whole body counted; however, the discovery was fortuitous because the licensee's procedural guidance did not specify that items, such as the lanyard, be worn consistently during the whole body counting process. The quantity of radioactive material on the tape measure would have been identified by the licensee's cabinet radiation detectors had the radiation protection technician used one as required.

The finding is greater than minor because it was associated with a Public Radiation Safety cornerstone attribute (human performance) and it affected the associated cornerstone objective because the failure to control radioactive material decreases the licensee's assurance that the public will not receive unnecessary dose. Using the Public Radiation Safety Significance Determination Process, the team determined that the finding had very low safety significance because: (1) it was was a radioactive material control finding, (2) it was not a transportation finding, (3) it did not result in public dose greater than 0.005 rem, and (4) the number of occurrences was not greater than five. Additionally, this finding had cross-cutting aspects associated with human performance (personnel). The individual directly contributed to the finding when the

radiation protection technician failed to use the established process to evaluate the tool for radioactive contamination. The finding was placed into the licensee's corrective action program.
Inspection Report# : 2005009*(pdf)*

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Significance: N/A May 21, 2004
Identified By: NRC
Item Type: FIN Finding
IDENTIFICATION AND RESOLUTION OF PROBLEMS
The team concluded that the licensee was generally effective at identifying problems and processing them through the corrective action program. The licensee effectively prioritized and evaluated issues with a few exceptions. The team identified examples where the licensee had not evaluated identified issues for proper compliance with 10 CFR 50.59 requirements. Additionally, in some cases, corrective actions were not timely or fully documented. Licensee audits and assessments were found to be effective except for one example involving maintenance rule application to radiation monitors. On the basis of interviews conducted during this inspection, workers at the site felt free to input safety findings into the corrective action program.
Inspection Report# : 2004006*(pdf)*

Last modified : June 17, 2005

Palo Verde 2
2Q/2005 Plant Inspection Findings

Initiating Events

Significance: G Apr 03, 2005
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
INADVERTENT SAFETY INJECTION DURING INTEGRATED SAFEGUARDS TESTING
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for an inadequate surveillance procedure which resulted in an inadvertent safety injection and subsequent reactor coolant system level transient. Specifically, an integrated safeguards test procedure cautioned operations personnel to evaluate the pressure difference between the reactor coolant system and safety injection tanks prior to any actuation that opened the safety injection tank outlet isolation valves. The procedure was inadequate in that it failed to caution the operator to consider level differences which could potentially impact the total pressure head of the system. This issue involved human performance crosscutting aspects associated with inadequate operations procedures. This issue was entered into the corrective action program as Condition Report/Disposition Request 2786378.

The finding is determined to be greater than minor because it affected the procedure quality attribute of the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. Using Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," this finding is determined to have very low safety significance because the event did not constitute a loss of level control and did not represent a finding requiring quantitative assessment. The finding did not increase the likelihood of loss or cause a degradation in the ability to restore decay heat removal, reactor coolant system inventory, offsite power, alternate core cooling, or containment
Inspection Report# : 2005003*(pdf)*

Significance: G Nov 11, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow the Operability Determination Process
A noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for not following the timeliness requirements noted in Procedure 40DP-9OP26, "Operability Determination," following the identification of a nonconforming condition associated with a pressurizer heater sleeve modification tolerances. Procedure 40DP-9OP26 requires that the shift manager or shift technical advisor be immediately notified of indications of a potential non-conformances. A condition report/disposition request was initiated on November 9, 2004, but neither the shift manager, nor the shift technical advisor were notified until Wednesday, November 10, 2004. This issue also had problem identification and resolution crosscutting aspects associated with engineering personnel not informing the control room in a timely manner and is similar to issues noted in adverse Condition Report/Disposition Requests 2733983 and 2734037, issued on August 26, 2004. The issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2754848.

This finding is greater than minor since the failure to follow the operability determination process, if left uncorrected, would become a more significant safety concern. Using the Phase 1 Worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the initiating events cornerstone and did not result in actual degradation of the reactor coolant system boundary.

Inspection Report# : 2004005*(pdf)*

Mitigating Systems

Significance: G May 17, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CORRECT A CONDITION ADVERSE TO QUALITY
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to identify and correct a deficiency in the method of testing the auxiliary feedwater pump discharge check valves. Specifically, in 1998 the licensee identified the need to test the auxiliary feedwater pump Train B discharge check valve for leak tightness, but failed to implement the appropriate corrective actions to incorporate testing into Procedure 73ST-9XI38, "AF Pumps Discharge Check Valves - Inservice Test." This

issue involved problem identification and resolution crosscutting aspects associated with the failure to implement timely corrective actions. This issue was entered into the corrective action program as Condition Report/Disposition Request 2800972.

The finding is greater than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because there was no actual loss of safety function
Inspection Report# : 2005003*(pdf)*

Significance: G Apr 29, 2005
Identified By: Self Disclosing
Item Type: FIN Finding
INADVERTENT ESFAS ACTUATION
A self-revealing finding was identified for the failure to properly sequence work to maintain power to engineered safety features system cabinet Train B. Specifically, operations personnel prematurely implemented a tagout permit prior to restoring the redundant power supply following maintenance. The work sequencing performance deficiency resulted in the loss of vital power to the cabinet; thereby, initiating an inadvertent engineered safety features actuation. This issue involved human performance crosscutting aspects associated with inadequate communications between work control groups and a poor awareness of the plant configuration. This issue was entered into the corrective action program as Condition Report/Disposition Request 2796508.

The finding is greater than minor since it was associated with the configuration control attribute of the mitigating systems cornerstone and affects the cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. This finding cannot be evaluated by the significance determination process because Manual Chapter 0609, "Significance Determination Process," Appendix G, "Shutdown Operations Significance Determination Process," do not apply when the reactor is defueled. This finding is determined to be of very low safety significance by NRC management review because it was a deficiency that did not result in actual safety consequences since the reactor was defueled and a majority of the Train B equipment was tagged out for maintenance.
Inspection Report# : 2005003*(pdf)*

Significance: G Apr 19, 2005
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
FAILURE TO TAKE ADEQUATE CORRECTIVE ACTIONS TO PREVENT BOLT FAILURES
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to implement corrective actions to preclude repetition of a significant condition adverse to quality. Specifically, in 1988 the licensee identified that the gasket retaining bolts on several 16 inch butterfly valves were susceptible to stress corrosion cracking. The licensee only replaced bolts on the 16 inch valves with the identified failures and did not consider the need to replace bolts on similarly designed 10 inch and 24 inch valves. Consequently, in April 2005, the safety injection inboard and outboard containment sump isolation valves were discovered to have missing or degraded bolts and the 10 inch containment spray to shut down cooling heat exchanger valves were determined to have suspect bolts. This issue involved problem identification and resolution crosscutting aspects associated with the failure to perform an adequate transportability review. This issue was entered into the corrective action program as Condition Report/Disposition Request 2791716.

The finding is greater than minor since it affects the equipment performance attribute of the mitigating systems cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because there was no actual loss of safety function
Inspection Report# : 2005003*(pdf)*

Significance: SL-IV Mar 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO OBTAIN PRIOR NRC APPROVAL FOR A DESIGN CHANGE TO THE FACILITY
A Severity Level IV non-cited violation of 10 CFR 50.59 requirements was identified for the failure to obtain a license amendment for a permanent modification to all six station emergency diesel generators. The inspectors determined that there were two modifications performed on the jacket water system of each emergency diesel generator. Condition Report/Disposition Request (CRDR) 130208, in 1993, directed the abandonment of the jacket water surge tank makeup valves on both emergency diesel generators of all three units. A recent modification, Design Modification Work Order 220055 in 2003, removed the surge tank low level alarm on both emergency diesel generators of all three units. The licensee replaced these two automatic actions (automatic makeup and low level alarm) with a manual operator action to fill, as necessary, every 12 hours during rounds. The inspectors reviewed the updated final safety analysis report (UFSAR) and design basis documents, and found that the automatic jacket water surge tank makeup, and the low level alarm, were both shown in UFSAR descriptions, drawings, and design value tables.

The issue was determined to be more than minor, through Inspection Manual Chapter 0612, Appendix B, in that it affected the mitigating systems cornerstone attribute of equipment performance, and was repeated for all of the station emergency diesel generators. The issue was determined to result in more than a minimal increase in the consequences of a malfunction of an structure, system, or component important to safety evaluated in the UFSAR, since jacket water leakage could go undetected for up to 12 hours and affect diesel operability. Thus, a license

amendment was required. In accordance with the NRC Enforcement Manual, violations of 10 CFR 50.59 are not processed through the significance determination process. Therefore, this issue was considered applicable to traditional enforcement. Although the significance determination process is not designed to assess significance of violations that potentially impact or impede the regulatory process, the result of a 10 CFR 50.59 violation can be assessed significance through the significance determination process. The lead inspector and the Region IV senior reactor analyst discussed the significance of this finding. An SDP Phase 1 screening was performed and the finding was determined to have very low safety significance because there was no actual loss of the mitigating system safety function. The licensee entered this issue into its corrective action program as CRDR 2711244.
Inspection Report# : 2005002*(pdf)*

Significance: G Mar 17, 2005
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
FAILURE TO IDENTIFY AN OPERATOR CHALLENGE FOR A BROKEN SWITCH
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to follow procedures to implement compensatory measures and properly track an operator work around for a breaker handswitch with a broken operating knob. When questioned by the inspectors, operations personnel were not able to immediately locate the tools needed to operate the defective handswitch. This issue was entered into the corrective action program as Condition Report/Disposition Request 2807501.

The finding is determined to be greater than minor because if left uncorrected, it could become a more significant safety concern in that operators may not be able to operate equipment necessary to respond to initiating events. Using the Phase 1 Worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affects the mitigating systems cornerstone and did not result in the actual loss of a safety function
Inspection Report# : 2005003*(pdf)*

Significance: G Mar 16, 2005
Identified By: NRC
Item Type: FIN Finding
FAILURE TO TRACK CONTROL ROOM DISCREPANCIES
The inspectors identified a finding for the failure to follow administrative guidelines provided to operations personnel for identifying, documenting, and tracking main control room deficiencies. Specifically, approximately 75 control room instrument and control room meter face plates in Units 1, 2, and 3 were degraded and were not individually tracked in the control room discrepancy log. Furthermore, discrepancy labels containing the control room discrepancy log number and description of the discrepancy were not placed adjacent to or as close as possible to each affected device. This issue was entered into the corrective action program as Condition Report/Disposition Request 2782501.

The finding is determined to be greater than minor because if left uncorrected, it could become a more significant safety concern in that the condition could cause an operator to take an inappropriate action based on expected plant response or conversely cause an operator not to take action when action is required. The senior reactor analyst determined that this finding was not appropriate to be evaluated using the significance determination process since this finding was associated with multiple human performance actions. Based on management review, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and there was no adverse impact to plant equipment.

Inspection Report# : 2005002*(pdf)*

Significance: G Feb 25, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
SCAFFOLDING ERECTED WITH INADEQUATE CLEARANCES AND NO ENGINEERING EVALUATION
The inspectors identified a noncited violation of Technical Specification 5.4.1.a for failing to follow a maintenance procedure and associated engineering specification governing scaffold erection near safety-related components. Specifically, the licensee built approximately 85 scaffolds within the 2-inch clearance requirement and did not obtain engineering approval for the scaffolding installed in close proximity to safety-related equipment, as specified in Engineering Design Change 2000-00463. This issue involved human performance crosscutting aspects (personnel) associated with not following work instructions. This issue was entered into the corrective action program as Condition Report/Disposition Request 2779469.

The finding is determined to be greater than minor because if left uncorrected, the finding would become a more significant safety concern in that improperly installed scaffolding could impact the availability of mitigating equipment. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and all subsequent engineering evaluations determined that there was no adverse affect to the mitigating equipment.

Inspection Report# : 2005002*(pdf)*

Significance: Y Dec 09, 2004
Identified By: NRC
Item Type: VIO Violation
FAILURE TO MAINTAIN DESIGN CONTROL OF CONTAINMENT SUMP RECIRCULATION PIPING
The team identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to establish measures to assure design basis information was translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to maintain the safety injection sump suction piping full of water in accordance with the Updated Final Safety Analysis Report. This nonconformance had the potential to significantly affect the available net positive suction head described in the Updated Final Safety Analysis Report for the high pressure safety injection and containment spray pumps, since the analysis assumed the piping would be maintained full of water.

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that the issue had substantial safety significance (Yellow). After considering the information developed during the inspection and the results of testing sponsored by the licensee, the NRC has concluded that this inspection finding is appropriately characterized as Yellow. The final Significance Determination Process letter was issued on April 8, 2005. This issue will be inspected within the scope of a supplemental 95002 inspection in August - September, 2005.
Inspection Report# : 2004014*(pdf)*

Significance: G Dec 09, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW PROCEDURE
The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," involving the failure of engineering and operations personnel to implement requirements in the station's condition reporting and operability determination procedures following identification of a degraded condition. Specifically, engineering personnel did not promptly notify operations personnel of a condition that impacted the safety function of the high pressure safety injection and containment spray systems. In addition, operations personnel did not complete an immediate assessment of operability once they were informed of the degraded condition. This finding had crosscutting aspects associated with problem identification and resolution, since engineering personnel did not forward corrective action program documents regarding the degraded condition to the control room in a timely manner and operations personnel did not complete a prompt operability assessment. This finding also involved crosscutting aspects associated human performance, since engineering and operations personnel did not adequately communicate the status of the engineering department's efforts to review the degraded condition.

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. This finding has very low safety significance based on the results of a Significance Determination Process, Phase 3 analysis.

Inspection Report# : 2004014*(pdf)*

Significance: SL-III Dec 09, 2004
Identified By: NRC
Item Type: VIO Violation
FAILURE TO OBTAIN PRIOR NRC APPROVAL FOR A CHANGE TO THE FACILITY INVOLVING MAINTAINING A SIGNIFICANT SEGMENT OF CONTAINMENT SUMP SAFETY INJECTION RECIRCULATION PIPING VOID OF WATER
The team identified an apparent violation of 10 CFR 50.59 requirements for the licensee's failure to perform a written safety evaluation and receive NRC approval prior to implementing changes to the facility in 1992 which involved draining, and maintaining drained, a significant segment of containment sump safety injection recirculation piping during normal plant operations. This change resulted in the failure to maintain the safety injection piping full of water in accordance with the Updated Final Safety Analysis Report. This represented an unreviewed safety question since it increased the probability of a malfunction of equipment important to safety previously evaluated in the safety analysis report.

In accordance with Inspection Manual Chapter 0612, Appendix B, "Issue Disposition Screening," the team determined that traditional enforcement applied because this finding may have impacted the NRC's ability to perform its regulatory function. This is an apparent violation pending the results of a predecisional enforcement conference.
Inspection Report# : 2004014*(pdf)*

Significance: G Sep 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
UNTIMELY LUBRICATION OF REACH RODS FOR SAFETY-RELATED MANUAL VALVES
Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to promptly correct degraded conditions associated with reach rods on safety-related manual valves. The issue involved problem identification and

resolution cross-cutting aspects associated with untimely prioritization of work necessary to correct degraded equipment conditions. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2328588.

The finding was greater than minor safety significance because if left uncorrected, it could become a more significant safety concern in that the failure to perform maintenance on reach rod assemblies could result in an inability to operate safety-related manual valves. This finding is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone and there was not a loss of safety function.
Inspection Report# : 2004004*(pdf)*

Significance: G Sep 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
TURBINE DRIVEN AUXILIARY FEEDWATER PUMP GOVERNOR POWER SUPPLY RESISTOR FAILURES
Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to correct a significant condition adverse to quality. The adverse condition involved failed resistors in the power supply to the turbine driven auxiliary feedwater pump governor control circuits in Units 2 and 3 that had transportability to Unit 1. The finding involved problem identification and resolution cross-cutting aspects associated with engineering personnel not performing an adequate extent of condition review. The finding also involved human performance cross-cutting aspects associated with engineering and maintenance personnel not communicating correct technical information. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2746954.

The finding was greater than minor because if left uncorrected, it could have become a more significant safety concern in that the Unit 1 turbine driven auxiliary feedwater pump could have experienced an unnecessary failure. This finding is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events. Using the Phase 1 worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone and did not result in an actual loss of safety function for the auxiliary feedwater system.
Inspection Report# : 2004004*(pdf)*

Significance: G Sep 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROMPTLY IDENTIFY AND CORRECT A CONDITION ADVERSE TO QUALITY
Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to assure that significant conditions adverse to quality were promptly identified and corrected. Specifically, maintenance personnel failed to promptly identify that retaining ring slots were not adequately sized to allow the use of the standard lock pins, contributing to the damage to the steam generator nozzle dam diaphragms. Subsequent to the identification, maintenance personnel failed to correct the condition by not implementing the actions recommended by plant engineers. The finding involved problem identification and resolution cross-cutting aspects associated with engineering personnel not performing an adequate extent of condition review. That is, this finding was the direct result of licensee personnel's failure to promptly identify and correct a condition adverse to quality. This issue was entered into the licensee's corrective action program as Condition Report/Discrepancy Requests 2686201 and 2686271.

This finding was greater than minor because it is associated with the mitigating systems cornerstone and affects reactor coolant system boundary performance. Specifically, the plant operated for an extended period in reduced inventory as a result of not correcting the incompatibility between the nozzle dams and the locking ring. Using Manual Chapter 0609, "Significance Determination Process," this finding is determined to have very low safety significance because the senior reactor analysts' Phase 2 and 3 analyses determined that the increase in core damage frequency was approximately 3X10-7.
Inspection Report# : 2004004*(pdf)*

Significance: G Sep 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
INEFFECTIVE CORRECTIVE ACTIONS TO ADDRESS AN INADEQUATE SERVICE WATER PIPING INSPECTION PROGRAM
Green. The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to promptly correct the lack of an adequate routine inspection and maintenance program for essential spray pond system piping and components. The finding has been entered into the licensee's corrective action program as Condition Report/Disposition Request 2732683. The finding had problem identification and resolution crosscutting aspects associated with engineering personnel not entering deficiencies into their licensee commitment tracking system and not generating a condition report/disposition request.

This finding is greater than minor because it affected the reactor safety mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. If left uncorrected the finding could

become a more significant safety concern in that inspections of spray pond piping was not performed as committed to in the licensee's Generic Letter 89-13 response. The finding is of very low safety significance because the issue constituted a qualification deficiency that did not result in a loss of function per Generic Letter 91-18, "Information to Licensees Regarding NRC Inspection Manual Section on Resolution of Degraded and Nonconforming Conditions," Revision 1.
Inspection Report# : 2004004*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO ADDRESS EMERGENCY DIESEL GENERATOR CIRCUIT FAILURE
A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified because the licensee failed to implement their corrective action program when an emergency diesel-generator excitation circuit failed. The failure precluded the emergency diesel generator from achieving rated voltage within the required time.

The finding was greater than minor because it was associated with the equipment performance attributes of the mitigating systems cornerstone and affected the associated cornerstone objective of equipment availability. The finding had very low significance because it only affected the mitigating systems cornerstone and did not result in the actual loss of a safety function at the time.
Inspection Report# : 2004013*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW INADEQUATE EMERGENCY OPERATING PROCEDURE
A noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Procedures," with two examples, was identified because the licensee failed to implement contingency actions when two circuit breakers failed to operate during recovery operations in Units 1 and 3. Specifically, operators deviated from the Emergency Operating Procedure for Loss of Offsite Power/Loss of Forced Circulation when they initiated maintenance on the two failed breakers instead of performing the contingency actions prescribed by the procedure. In addition, for Unit 1, the procedure was inadequate because it did not list all available contingency actions available to operators for restoring power to the electrical bus.

The finding was greater than minor because it was associated with the equipment performance attributes of the mitigating systems cornerstone and affected the associated cornerstone objective of equipment availability. The finding had very low significance because it only affected the mitigating systems cornerstone and redundancy existed in other electrical buses.
Inspection Report# : 2004013*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IMPLEMENT CORRECTIVE ACTIONS FOR AUXILIARY FEEDWATER
A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified by the team because the licensee failed to implement timely corrective actions to ensure that the feedwater system was operated in a manner that would minimize the possibility of thermally induced vibration that could affect auxiliary feedwater system operability.

The finding was greater than minor because it was associated with the equipment performance attributes of the mitigating systems cornerstone and affected the associated cornerstone objective of equipment availability. The finding had very low significance because it only affected the mitigating systems cornerstone and because no transient occurred that necessitated implementation of the needed corrective actions.
Inspection Report# : 2004013*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE EMERGENCY OPERATING PROCEDURE FOR AUXILIARY FEEDWATER OPERATION
A noncited violation of Technical Specification 5.4.1 was identified because the licensee implemented an inadequate Emergency Operating Procedure. Specifically, the procedure failed to provide direction to maintain turbine-driven auxiliary feedwater pumps operable following a main steam isolation signal.

The finding was greater than minor because it was associated with the equipment performance attributes of the mitigating systems cornerstone and affected the associated cornerstone objective of equipment availability. The finding had very low significance because it only affected the mitigating systems cornerstone and because the turbine-driven auxiliary feedwater pumps did not become inoperable.
Inspection Report# : 2004013*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO MANAGE STATION RISK
A noncited violation of 10 CFR 50.65, "Maintenance Rule," was identified because the licensee failed to perform a risk assessment. Specifically, the licensee inappropriately decided to begin draining the Unit 1 turbine-driven auxiliary feedwater pump steam traps first, without addressing the higher risk profile in Unit 2 which resulted from having an inoperable emergency diesel generator.

The finding was greater than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and affected the cornerstone objective of equipment availability. The finding had very low significance because it only affected the mitigating systems cornerstone and because the turbine-driven auxiliary feedwater pumps were not needed.
Inspection Report# : 2004013*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROPERLY IMPLEMENT LOOP EMERGENCY OPEARTING PROCEDRE
A noncited violation of Technical Specification 5.4.1 was identified because the licensee failed to follow emergency operating procedures. Specifically, the control room operator and an auxiliary operator performed the incorrect steps in Emergency Operating Procedure 40EP-9EO07, "Loss of Offsite Power/Loss of Forced Circulation," Revision 10. The Unit 2, Positive Displacement Charging Pump "E" was temporarily lost due to these human performance errors and resulted in a total loss of Unit 2 charging flow for a short period.

The finding was greater than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and affected the cornerstone objective of equipment availability. The finding had very low significance because it only affected the mitigating systems cornerstone and did not result in the actual loss of a safety function and no significant delays occurred that adversely impacted operator response to the event.
Inspection Report# : 2004013*(pdf)*

Barrier Integrity

Significance: G Jun 30, 2005
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
FAILURE TO IMPLEMENT PROCEDURES FOR HANDLING SPENT FUEL
Three examples of a self-revealing noncited violation of 10 CFR Part 50, Criterion V, "Instructions Procedures, and Drawings," was identified for failing to properly implement procedures for refueling equipment. Specifically, refueling personnel did not: (1) complete a functional retest following maintenance on the spent fuel handling machine as required by Work Order 2781146, (2) ensure that spent fuel was in a safe condition, stop fuel handling operations, or contact the shift manager to determine the need to complete an event recovery checklist when a deficiency was identified with fuel handling equipment as required by Procedure 40DP-9OP02, "Conduct of Shift Operations," and (3) ensure the material balance area short form was present on the spent fuel handling machine to perform proper independent verification or verify that the bridge and trolley were over the correct fuel assembly as required by Procedure 78OP-9FX03, "Spent Fuel Handling Machine." This issue involved human performance crosscutting aspects associated with operator decision making and not following procedures. This issue also involved problem identification and resolution crosscutting aspects associated with the failure to correct a condition adverse to quality since there have been similar occurrences where operators failed to recognize the need to perform the event recovery checklist. This issue was entered into the corrective action program as Condition Report/Disposition Requests 2791974 and 2792326.

The finding is greater than minor since it could become a more significant safety concern if left uncorrected in that handling spent fuel with degraded equipment impacts the ability to safely handle spent fuel and increases the likelihood of a fuel handling accident. This finding cannot be evaluated by the significance determination process because Manual Chapter 0609, "Significance Determination Process," Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," and Appendix G, "Shutdown Operations Significance Determination Process," do not apply to the spent fuel pool. This finding affects the barrier integrity cornerstone and is determined to be of very low safety significance by NRC management review because it was a deficiency that did not result in the actual degradation of spent fuel
Inspection Report# : 2005003*(pdf)*

Significance: G Nov 23, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
CORE ALTERATIONS WITH LESS THAN TWO OPERABLE SRMs

A self-revealing violation of Technical Specification 3.9.2 was identified for performing core alterations with less than the required number of startup range monitors. The licensee did not identify that startup monitor Channel 2 was failed low through troubleshooting activities prior to commencing core reload. The licensee only determined that startup monitor Channel 2 was inoperable after core alterations had commenced. The issue was entered into the licensee's corrective action program as Condition Report/Disposition Requests 2654704 and 2654642.

The finding is greater than minor because it is associated with the configuration control attribute of the barrier integrity cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radio nuclide releases caused by accidents or events. Using Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," this finding is determined to have very low safety significance because the event did not constitute a loss of control and did not represent a finding requiring quantitative assessment. The finding did not increase the likelihood of loss or cause a degradation in the ability to restore decay heat removal, reactor coolant system inventory, offsite power, alternate core cooling, or containment.
Inspection Report# : 2004005*(pdf)*

Significance: G Nov 09, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO INCLUDE VENTS AND DRAINS INTO LOCKED VALVE PROGRAM
A noncited violation of Technical Specification Surveillance Requirement 3.6.3.3 was identified for failure to perform the required position verification for vent and drain valves associated with eight safety injection system penetrations per unit. The issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2753335.

This finding is greater than minor since it is associated with the configuration control attribute of the barrier integrity cornerstone and affects the cornerstone objective to provide reasonable assurance that the containment physical design barrier is preserved to protect the public from radio nuclide releases caused by accidents or events. Using the Phase 1 Worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the barrier integrity cornerstone, all the valves were found closed, and did not result in an actual open pathway out of the reactor containment.
Inspection Report# : 2004005*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO EVALUATE MAIN GENERATOR EXCITATION LIMITER CIRCUIT PROBLEMS
A noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Procedures," was identified because the licensee failed to follow the procedure for dispositioning a degraded condition for continued use. Specifically, the licensee failed to place a degraded main generator excitation limiter circuit into the work control process via the appropriate procedure to ensure that it was appropriately evaluated and processed.

The finding was greater than minor because it was associated with the human performance attribute of the barrier integrity cornerstone and impacted the cornerstone objective to provide reasonable assurance that physical design barriers, in this case the fuel cladding, protect the public from radio nuclide releases caused by accidents or events.
Inspection Report# : 2004013*(pdf)*

Significance: G Aug 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW PROCEDURS FOR OPERATION OF THE SPENT FUEL HANDLING MACHINE
The inspectors identified a noncited violation of Technical Specification 5.4.1 associated with a failure to operate the spent fuel handling machine in accordance with Procedure 78OP-9FX03, "Spent Fuel Handling Machine," Revision 16. There were three instances of this: (1) On October 4, 2002, the spent fuel handling machine operator moved fuel assemblies of two differing weights and was not cognizant of design differences of the fuel assemblies and did not stop fuel movement when the load was greater than 50 lbs. different from expected; (2) On October 4, 2002, the spent fuel handling machine operator failed to verify that the hoist was in its full up position prior to moving a spent fuel assembly, and (3) later on October 4, 2002, another spent fuel handling operator failed to verify that the hoist was in its full up position prior to moving a spent fuel assembly. In both Examples (2) and (3), the operators failed to verify the "UP LIMIT" light was on and failed to verify the hoist indicator was at the "UPLIMIT." As a result, in Example (3), the one fuel assembly was damaged. These issues were contrary to Procedure 78OP-9FX03 and resulted in damage to the lower grid assembly of Fuel Assembly P1M316.

This finding is greater than minor because it had an actual impact of damage to an irradiated fuel assembly and, therefore, could be reasonably viewed as a precursor to a significant event. If the fuel cladding had failed, it could have caused a release of fission products to the environment. The finding is of very low safety significance because all mitigation systems were available during the fuel movement operations and should have prevented an unplanned release of radioactive material to the environment above the limits of 10 CFR Part 100. This finding also had crosscutting aspects in the area of human performance.

Inspection Report# : 2004011*(pdf)*

Significance: G Aug 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PRESCRIBE ADEQUATE INSTRUCTIONS FOR ENTRY INTO ABNORMAL OPERATING PROCEDURE, PVNGS PROCEDURE 40AO-9ZZ22, "FUEL DAMAGE," REVISION 2 THROUGH 6
The inspectors identified a noncited violation of Technical Specification 5.4.1 associated with an inadequate abnormal operating procedure. Specifically, the inspectors determined that Palo Verde Nuclear Generating Station Procedure 40AO-9ZZ22, "Fuel Damage," Revisions 1 through 6, were not adequate in that the entry conditions never required operations personnel to enter the procedure and take actions to mitigate the event. Step 1.1 states, in part, "Section 3.0, Irradiated Fuel Damage may be entered when any of the following conditions exist . . . when equipment or component failures result in any of the following: irradiated fuel assembly contacting a solid structure; bubbles emerging from a spent fuel assembly; bent, twisted, or warped spent fuel assembly; or visual damage to spent fuel pin cladding." Since this abnormal operating procedure was never entered, applicable actions were never considered during the Fuel Assembly P1M316 event.

This finding is greater than minor because actions taken in response to fuel handling errors could result in significant fuel cladding damage and effect the barrier cornerstone. The finding is of very low safety significance because all mitigation systems were available and should have prevented an unplanned release of radioactive material to the environment above the limits of 10 CFR Part 100. This finding also had crosscutting aspects in the area of problem identification and resolution.
Inspection Report# : 2004011*(pdf)*

Significance: G Jul 08, 2004
Identified By: NRC
Item Type: FIN Finding
POOR MATERIAL CONDITION OF THE SPENT FUEL HANDLING MACHINE
The inspectors identified a self-revealing finding of very low safety significance (green) associated with the material condition of the spent fuel handling machine. A number of issues related to material condition, which affected spent fuel handling machine operations, was identified. These included intermittent overload and underload conditions with no identified cause, upender limit switches that often failed or required adjustments during fuel movement, an unreliable hydraulic power unit for the upender machine which occasionally resulted in the upender drifting from the vertical position, and the spent fuel handling machine trolley occasionally stopped for no apparent reason.

This finding is greater than minor because it had an actual impact resulting in damage to an irradiated fuel assembly and, therefore, could be reasonably viewed as a precursor to a significant event. If the fuel cladding had failed, it could have caused a release of fission products. The finding is of very low safety significance because all mitigation systems were available and should have prevented an unplanned release of radioactive material to the environment above the limits of 10 CFR Part 100.
Inspection Report# : 2004011*(pdf)*

Significance: G Jul 08, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE CORRECTIVE ACTIONS CONTRIBUTED TO DAMAGE TO FUEL ASSEMBLY
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for failing to effectively correct conditions adverse to quality that contributed to the damage to irradiated Fuel Assembly P1M316. Specifically, Criterion XVI states, in part, that ". . . conditions adverse to quality, such as malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected." The licensee failed to effectively correct conditions adverse to quality, which included repeated violations of equipment operating procedures and conduct of operations procedures, as well as long-standing degraded material condition of the fuel handling equipment, that ultimately contributed to the damage of irradiated Fuel Assembly P1M316.

This finding is greater than minor because it had an actual impact of damage to an irradiated fuel assembly and, therefore, could be reasonably viewed as a precursor to a significant event. If the fuel cladding had failed, it could have caused a release of fission products. The finding is of very low safety significance because all mitigation systems were available and should have prevented an unplanned release of radioactive material to the environment above the limits of 10 CFR Part 100. This finding also had crosscutting aspects in the area of problem identification and resolution.
Inspection Report# : 2004011*(pdf)*

Emergency Preparedness

Significance: SL-III Mar 20, 2005
Identified By: NRC
Item Type: AV Apparent Violation
CHANGE TO RADIOLOGICAL EMERGENCY ACTION LEVELS WHICH DECREASED THE EFFECTIVENESS OF THE EMERGENCY PLAN

The inspector identified an apparent violation of 10 CFR 50.54(q) for implementing a change to emergency action levels, which decreased the effectiveness of the emergency plan. Emergency Plan Implementing Procedure 99, "EPIP Standard Appendices," Revision 2, removed from two emergency action levels site boundary exposure rate as measured in the environment as a classifiable condition.

Implementation of changes to emergency action levels, which decreased the effectiveness of the emergency plan was a performance deficiency. The finding is more than minor because removal of a classifiable condition from licensee emergency action levels has the potential to impact safety, and licensee implementation of a change to their emergency plan, which decreases the effectiveness of the plan without prior NRC approval, impacts the regulatory process. This finding is an apparent violation of 10 CFR 50.54(q). The licensee has entered this issue into their corrective action system as Condition Report/Disposition Request 2774185.
Inspection Report# : 2005011*(pdf)*

Significance: G Mar 18, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CORRECT THE DEVELOPMENT OF PROTECTIVE ACTION RECOMENDATIONS NOT IN ACCORDANCE WITH FEDERAL GUIDANCE
The inspectors identified a noncited violation of 10 CFR 50.54(q). The licensee failed to correct a practice which could result in an evacuation protective action recommendation for segments of the population that would not benefit from evacuation, contrary to federal guidance.

This finding is more than minor because it was associated with a cornerstone attribute and affected the emergency preparedness cornerstone objective to ensure the adequate protection of the public health and safety. This finding is of very low safety significance because this practice could result in an increased dose to the evacuating public by evacuating some areas unnecessarily, but would not prevent the notification of appropriate protective action recommendations to those members of the public who did require evacuation.

Inspection Report# : 2005002*(pdf)*

Significance: G Dec 15, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE PROCEDURES FOR IMPLEMENTATION OF AN EMERGENCY ACTION LEVEL
The examiners identified a noncited violation of 10 CFR Part 50, Appendix E, IV.B, for inadequate procedures for implementation of an emergency action level. Emergency Action Level 3-13 requires that an Alert be declared if "major damage to irradiated fuel" is accompanied by a "valid high radiation alarm on the associated radiation monitor." However, the phrase "major damage to irradiated fuel" is not defined in any site procedure, nor is it defined, clarified, or addressed through operator training such that operators would know when conditions meet the threshold for declaring an Alert as a result of damage to irradiated fuel. This deficiency was evidenced during the examination by the fact that the examination authors, examination reviewers, and five of the seven license applicants taking the examination did not recognize conditions that warranted declaring an Alert using Emergency Action Level 3-13. The licensee was evaluating a clarifying change to Emergency Action Level 3-13 and its bases documents and has documented this issue in Condition Report/Disposition Request 2761670.

The finding is a performance deficiency in that the licensee failed to identify that Emergency Action Level 3-13 would not be properly implemented without objectively defining the phrase "major damage to irradiated fuel" in either plant procedures or operator training. The finding is more than minor because it affects the Emergency Preparedness Cornerstone of procedural quality in that it could result in a failure to declare an Alert emergency classification when conditions warrant. The finding is of very low safety significance since it was a failure to comply with a regulatory requirement associated with a Risk-Significant Planning Standard that did not result in the loss or degradation of that Risk-Significant Planning Standard function.
Inspection Report# : 2004301*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
TECHNICAL SUPPORT CENTER UNAVAILABLE
A noncited violation of 10 CFR 50.54(q) was identified because the licensee failed to follow the emergency plan when they did not adequately maintain facilities required for emergency response. Specifically, the Technical Support Center (TSC) EDG failed because a test switch was not returned to its proper position following maintenance 6 days prior to the event. As a result, the emergency response organization assembled in the alternate TSC. This resulted in some confusion and posed some unique challenges to the emergency response organization.

The finding was evaluated using Inspection Manual Chapter 0609, "Significance Determination Process," Appendix B, Sheet 2 - Actual Event Implementation Problem. Failure to implement the requirements of the Emergency plan associated with emergency planning standard 8 is considered a failure to comply with planning standard 8 during an actual event implementation. The event was a declared Alert, but was not a failure to implement a risk significant planning standard, as defined in Inspection Manual Chapter MC 0609 Appendix B, §2.0. Therefore, the finding is of very low safety significance.
Inspection Report# : 2004013*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROPERLY IMPLEMENT EMERGENCY PLAN
A noncited violation of 10 CFR 50.54(q) was identified because the licensee failed to follow the emergency plan when they did not ensure that adequate command and control was established during the event. Specifically, the licensee did not follow Emergency Plan Implementing Procedure 1, "Satellite Technical Support Center Actions," which requires that for multiple unit events, the Unit 1 shift manager is responsible for initially classifying and declaring the emergency and assuming the position of the on-shift emergency coordinator. As a result, each of the units' respective shift managers initially assumed the role of emergency coordinator and resulted in notification irregularities to state and local officials.

The finding is more than minor because it is related to the emergency preparedness cornerstone attribute of Response organization performance, and affects the cornerstone objective in that command and control challenges resulting in inaccurate communications to the offsite officials could potentially affect the ability to ensure that adequate measures would be taken to protect the public health and safety.
Inspection Report# : 2004013*(pdf)*

Significance: G Sep 24, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
UNTILMELY AUGMENTATION OF ERGENCY PERSONNEL
A noncited violation of 10 CFR 50.54(q) was identified because the licensee failed to follow the emergency plan. Specifically, the licensee failed to meet minimum staffing goals of Table 1, "Minimum Staffing Requirements for PVNGS for Nuclear Power Plant Emergencies" following the Alert declaration on June 14, 2004.

This finding was evaluated using Inspection Manual Chapter 0609, "Significance Determination Process," Appendix B, Sheet 2 - Actual Event Implementation Problem. Failure to implement the requirements of the Emergency plan associated with emergency planning standard 2 is considered a failure to comply with planning standard 2 during an actual event implementation. The event was a declared Alert, but was not a failure to implement a risk significant planning standard, as defined in Inspection Manual Chapter MC 0609 Appendix B, §2.0. Therefore, the finding is of very low safety significance.
Inspection Report# : 2004013*(pdf)*

Occupational Radiation Safety

Significance: G Oct 05, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
FAILURE TO COMPLY WITH HIGH RADIATION AREA TECHNICAL SPECIFICATION REQUIREMENT
The inspector reviewed a self revealing non-cited violation of Technical Specification 5.7.1.b because a radiation worker could not hear the electronic dosimeter alarm. Specifically, on September 30, 2003, a radiation worker, in a high radiation area, could not hear the electronic dosimeter alarm for approximately thirty minutes. The individual did not respond to the alarm until after entering another area with lower ambient noise. The licensee determined that the individual had a hearing deficiency. This occurrence was entered into the licensee's Corrective Action Program as Condition Report/Disposition Request 2689876.

The failure to provide an effective alarming dosimeter to a worker entering a high radiation area is a performance deficiency. This finding is greater than minor because it is associated with the Occupational Radiation Safety Program and Process attribute and affected the cornerstone objective because the failure to hear an electronic dosimeter alarm could increase personnel dose. Using the Occupational Radiation Safety Significance Determination Process, the inspector determined that the finding was of very low safety significance because it did not involve: (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose .

Inspection Report# : 2004005*(pdf)*

Public Radiation Safety

Significance: G Feb 04, 2005
Identified By: NRC

Item Type: NCV NonCited Violation
FAILURE TO SHIP RADIOACTIVE MATERIAL CORRECTLY
The team reviewed a self-revealing, non-cited violation of 10 CFR 71.5, which occurred when the licensee failed to ship radioactive material correctly. A radioactive shipment classified as an "excepted package-limited quantity" exceeded the external dose rate limitation of 0.5 millirem per hour because licensee personnel failed to ensure that the package contents could not shift during transportation. The package recipient identified dose rates of 0.8 millirems per hour on the exterior surface of the package and notified the licensee of the problem.

The finding is greater than minor because it was associated with a Public Radiation Safety cornerstone attribute (human performance) and it affected the associated cornerstone objective because the failure to correctly ship radioactive material decreases the licensee's assurance that the public will not receive unnecessary dose. However, this finding cannot be evaluated by the Public Radiation Safety Significance Determination Process because it does not involve radioactive shipments classified as Schedule 5 through 11, as described in NUREG-1660, and it does not fit traditional enforcement. Therefore, the finding was reviewed by NRC management and determined to be of very low safety significance. Additionally, this finding had cross-cutting aspects associated with human performance (personnel). The individual directly contributed to the finding when the licensee's shipper failed to ensure that the package contents could not shift. The finding was placed into the licensee's corrective action program.
Inspection Report# : 2005009*(pdf)*

Significance: G Feb 04, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CONTROL RADIOACTIVE MATERIAL
The team reviewed a self-revealing, non-cited violation of Technical Specification 5.4.1, which occurred when the licensee failed to prevent radioactive material from leaving the radiological controlled area and the protected area. A tape measure worn on the lanyard of a radiation protection technician was not evaluated for the presence of radioactive material before its release from the radiological controlled area. The licensee discovered the radioactive material when the individual was whole body counted; however, the discovery was fortuitous because the licensee's procedural guidance did not specify that items, such as the lanyard, be worn consistently during the whole body counting process. The quantity of radioactive material on the tape measure would have been identified by the licensee's cabinet radiation detectors had the radiation protection technician used one as required.

The finding is greater than minor because it was associated with a Public Radiation Safety cornerstone attribute (human performance) and it affected the associated cornerstone objective because the failure to control radioactive material decreases the licensee's assurance that the public will not receive unnecessary dose. Using the Public Radiation Safety Significance Determination Process, the team determined that the finding had very low safety significance because: (1) it was was a radioactive material control finding, (2) it was not a transportation finding, (3) it did not result in public dose greater than 0.005 rem, and (4) the number of occurrences was not greater than five. Additionally, this finding had cross-cutting aspects associated with human performance (personnel). The individual directly contributed to the finding when the radiation protection technician failed to use the established process to evaluate the tool for radioactive contamination. The finding was placed into the licensee's corrective action program.
Inspection Report# : 2005009*(pdf)*

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Last modified : August 24, 2005

Palo Verde 2
3Q/2005 Plant Inspection Findings

Initiating Events

Significance: G Apr 03, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
INADVERTENT SAFETY INJECTION DURING INTEGRATED SAFEGUARDS TESTING
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for an inadequate surveillance procedure which resulted in an inadvertent safety injection and subsequent reactor coolant system level transient. Specifically, an integrated safeguards test procedure cautioned operations personnel to evaluate the pressure difference between the reactor coolant system and safety injection tanks prior to any actuation that opened the safety injection tank outlet isolation valves. The procedure was inadequate in that it failed to caution the operator to consider level differences which could potentially impact the total pressure head of the system. This issue involved human performance crosscutting aspects associated with inadequate operations procedures. This issue was entered into the corrective action program as Condition Report/Disposition Request 2786378.

The finding is determined to be greater than minor because it affected the procedure quality attribute of the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. Using Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," this finding is determined to have very low safety significance because the event did not constitute a loss of level control and did not represent a finding requiring quantitative assessment. The finding did not increase the likelihood of loss or cause a degradation in the ability to restore decay heat removal, reactor coolant system inventory, offsite power, alternate core cooling, or containment
Inspection Report# : 2005003*(pdf)*

Significance: G Nov 11, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow the Operability Determination Process
A noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for not following the timeliness requirements noted in Procedure 40DP-9OP26, "Operability Determination," following the identification of a nonconforming condition associated with a pressurizer heater sleeve modification tolerances. Procedure 40DP-9OP26 requires that the shift manager or shift technical advisor be immediately notified of indications of a potential non-conformances. A condition report/disposition request was initiated on November 9, 2004, but neither the shift manager, nor the shift technical advisor were notified until Wednesday, November 10, 2004. This issue also had problem identification and resolution crosscutting aspects associated with engineering personnel not informing the control room in a timely manner and is similar to issues noted in adverse Condition Report/Disposition Requests 2733983 and 2734037, issued on August 26, 2004. The issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2754848.

This finding is greater than minor since the failure to follow the operability determination process, if left uncorrected, would become a more significant safety concern. Using the Phase 1 Worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the initiating events cornerstone and did not result in actual degradation of the reactor coolant system boundary.

Inspection Report# : 2004005*(pdf)*

Mitigating Systems

Significance: G Sep 30, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
IMPROPER VISUAL ANALYSIS OF BEARING OIL SAMPLE
The inspectors identified a noncited violation of Technical Specification 5.4.1.a for the failure of maintenance personnel to follow Procedure 31DP-9ZZ01, "Lubricant Sampling," and Work Order 2724849. Specifically, a maintenance technician incorrectly determined that the oil sample taken from the Unit 2 high pressure safety injection (HPSI) pump was satisfactory, when the oil sample did not meet the acceptance criteria. Consequently, immediate actions to address potential equipment deficiencies were not taken until the samples were analyzed by a

lubrication engineer approximately two weeks later. This finding involved human performance crosscutting aspects associated with maintenance personnel following procedures and attention to details. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2828545.

The finding is greater than minor since the failure to follow the lubricant sampling process, if left uncorrected, would become a more significant safety concern in that degraded equipment conditions may not be identified and corrected in a timely manner. A Phase 2 analysis was required because the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, determined that there was a loss of the long term cooling safety function of a single train of HPSI for greater than the Technical Specification allowed outage time. A senior reactor analyst determined that the HPSI pump was only required to operate for 24 hours to meet the assumptions necessary in the risk model to preclude sequences that result in core damage. Consequently, this finding is determined to have very low safety significance (Section1R19)
Inspection Report# : 2005004*(pdf)*

Significance: G Sep 30, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW PROCEDURES DURING CORE PROTECTION CALCULATOR SOFTWARE INSTALLATION AND TESTING
The inspectors identified two examples of a noncited violation of Technical Specification 5.4.1.a for the failure to follow Procedure 77ST-9SB19, "CPCS Channel Functional Test," and Work Order 2824743 during core protection calculator software installation. Specifically, maintenance technicians: (1) failed to change the software loading instructions of Work Order2824743 prior to proceeding with the core protection calculator software installation when it could not be used as written, and (2) failed to follow the surveillance test procedure used to perform a core protection calculator functional test. This finding involved human performance crosscutting aspects associated with instrumentation and controls personnel following procedures. This finding also involved problem identification and resolution crosscutting aspects associated with instrumentation and controls personnel identifying degraded or nonconforming conditions. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2825189.

The finding is greater than minor since it could become a more significant safety concern in that the failure to follow procedures when performing maintenance and testing on safety related equipment could result in an unintentional actuation or impact the ability of the equipment to perform it's required function. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone and did not result in the loss of safety function of a single train or system for greater than the Technical Specification allowed outage time (Section 1R19).
Inspection Report# : 2005004*(pdf)*

Significance: G Sep 30, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM LICENSING DOCUMENT CHANGE REQUET AND 10 CFR 50.59 SCREENING FOR ABANDONMENT OF THE BORONOMETER
The inspectors identified a noncited violation of 10 CFR Part50, AppendixB, CriterionXVI, "Corrective Action," for the failure to correct a discrepancy between the current condition of the boronometer and the required configuration described in the Updated Final Safety Analysis Report. Specifically, in April 2003 the licensee identified the need to perform a Licensing Document Change Request and a corresponding 10 CFR 50.59 screening due to the abandonment of the Updated Final Safety Analysis Report required boronometer, but failed to implement corrective actions to ensure that the Licensing Document Change Request and 10CFR 50.59 screening were performed. This issue involved problem identification and resolution crosscutting aspects associated with engineering personnel implementing timely corrective actions. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2823704.

The finding is greater than minor because it was associated with the design control performance attribute of the mitigating systems cornerstone and affects the cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using the Manual Chapter0609, "Significance Determination Process," Phase1 Worksheet, the finding is determined to have very low safety significance because there was no actual loss of safety function (Section 4OA2).
Inspection Report# : 2005004*(pdf)*

Significance: G May 17, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CORRECT A CONDITION ADVERSE TO QUALITY
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to identify and correct a deficiency in the method of testing the auxiliary feedwater pump discharge check valves. Specifically, in 1998 the licensee identified the need to test the auxiliary feedwater pump Train B discharge check valve for leak tightness, but failed to implement the appropriate corrective actions to incorporate testing into Procedure 73ST-9XI38, "AF Pumps Discharge Check Valves - Inservice Test." This issue involved problem identification and resolution crosscutting aspects associated with the failure to implement timely corrective actions. This issue was entered into the corrective action program as Condition Report/Disposition Request 2800972.

The finding is greater than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because there was no actual loss of safety function
Inspection Report# : 2005003*(pdf)*

Significance: G Apr 29, 2005
Identified By: Self-Revealing
Item Type: FIN Finding
INADVERTENT ESFAS ACTUATION
A self-revealing finding was identified for the failure to properly sequence work to maintain power to engineered safety features system cabinet Train B. Specifically, operations personnel prematurely implemented a tagout permit prior to restoring the redundant power supply following maintenance. The work sequencing performance deficiency resulted in the loss of vital power to the cabinet; thereby, initiating an inadvertent engineered safety features actuation. This issue involved human performance crosscutting aspects associated with inadequate communications between work control groups and a poor awareness of the plant configuration. This issue was entered into the corrective action program as Condition Report/Disposition Request 2796508.

The finding is greater than minor since it was associated with the configuration control attribute of the mitigating systems cornerstone and affects the cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. This finding cannot be evaluated by the significance determination process because Manual Chapter 0609, "Significance Determination Process," Appendix G, "Shutdown Operations Significance Determination Process," do not apply when the reactor is defueled. This finding is determined to be of very low safety significance by NRC management review because it was a deficiency that did not result in actual safety consequences since the reactor was defueled and a majority of the Train B equipment was tagged out for maintenance.
Inspection Report# : 2005003*(pdf)*

Significance: G Apr 19, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
FAILURE TO TAKE ADEQUATE CORRECTIVE ACTIONS TO PREVENT BOLT FAILURES
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to implement corrective actions to preclude repetition of a significant condition adverse to quality. Specifically, in 1988 the licensee identified that the gasket retaining bolts on several 16 inch butterfly valves were susceptible to stress corrosion cracking. The licensee only replaced bolts on the 16 inch valves with the identified failures and did not consider the need to replace bolts on similarly designed 10 inch and 24 inch valves. Consequently, in April 2005, the safety injection inboard and outboard containment sump isolation valves were discovered to have missing or degraded bolts and the 10 inch containment spray to shut down cooling heat exchanger valves were determined to have suspect bolts. This issue involved problem identification and resolution crosscutting aspects associated with the failure to perform an adequate transportability review. This issue was entered into the corrective action program as Condition Report/Disposition Request 2791716.

The finding is greater than minor since it affects the equipment performance attribute of the mitigating systems cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because there was no actual loss of safety function
Inspection Report# : 2005003*(pdf)*

Significance: SL-IV Mar 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO OBTAIN PRIOR NRC APPROVAL FOR A DESIGN CHANGE TO THE FACILITY
A Severity Level IV non-cited violation of 10 CFR 50.59 requirements was identified for the failure to obtain a license amendment for a permanent modification to all six station emergency diesel generators. The inspectors determined that there were two modifications performed on the jacket water system of each emergency diesel generator. Condition Report/Disposition Request (CRDR) 130208, in 1993, directed the abandonment of the jacket water surge tank makeup valves on both emergency diesel generators of all three units. A recent modification, Design Modification Work Order 220055 in 2003, removed the surge tank low level alarm on both emergency diesel generators of all three units. The licensee replaced these two automatic actions (automatic makeup and low level alarm) with a manual operator action to fill, as necessary, every 12 hours during rounds. The inspectors reviewed the updated final safety analysis report (UFSAR) and design basis documents, and found that the automatic jacket water surge tank makeup, and the low level alarm, were both shown in UFSAR descriptions, drawings, and design value tables.

The issue was determined to be more than minor, through Inspection Manual Chapter 0612, Appendix B, in that it affected the mitigating systems cornerstone attribute of equipment performance, and was repeated for all of the station emergency diesel generators. The issue was determined to result in more than a minimal increase in the consequences of a malfunction of an structure, system, or component important to safety evaluated in the UFSAR, since jacket water leakage could go undetected for up to 12 hours and affect diesel operability. Thus, a license amendment was required. In accordance with the NRC Enforcement Manual, violations of 10 CFR 50.59 are not processed through the significance determination process. Therefore, this issue was considered applicable to traditional enforcement. Although the significance determination process is not designed to assess significance of violations that potentially impact or impede the regulatory process, the result of

a 10 CFR 50.59 violation can be assessed significance through the significance determination process. The lead inspector and the Region IV senior reactor analyst discussed the significance of this finding. An SDP Phase 1 screening was performed and the finding was determined to have very low safety significance because there was no actual loss of the mitigating system safety function. The licensee entered this issue into its corrective action program as CRDR 2711244.
Inspection Report# : 2005002*(pdf)*

Significance: G Mar 17, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
FAILURE TO IDENTIFY AN OPERATOR CHALLENGE FOR A BROKEN SWITCH
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to follow procedures to implement compensatory measures and properly track an operator work around for a breaker handswitch with a broken operating knob. When questioned by the inspectors, operations personnel were not able to immediately locate the tools needed to operate the defective handswitch. This issue was entered into the corrective action program as Condition Report/Disposition Request 2807501.

The finding is determined to be greater than minor because if left uncorrected, it could become a more significant safety concern in that operators may not be able to operate equipment necessary to respond to initiating events. Using the Phase 1 Worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affects the mitigating systems cornerstone and did not result in the actual loss of a safety function
Inspection Report# : 2005003*(pdf)*

Significance: G Mar 16, 2005
Identified By: NRC
Item Type: FIN Finding
FAILURE TO TRACK CONTROL ROOM DISCREPANCIES
The inspectors identified a finding for the failure to follow administrative guidelines provided to operations personnel for identifying, documenting, and tracking main control room deficiencies. Specifically, approximately 75 control room instrument and control room meter face plates in Units 1, 2, and 3 were degraded and were not individually tracked in the control room discrepancy log. Furthermore, discrepancy labels containing the control room discrepancy log number and description of the discrepancy were not placed adjacent to or as close as possible to each affected device. This issue was entered into the corrective action program as Condition Report/Disposition Request 2782501.

The finding is determined to be greater than minor because if left uncorrected, it could become a more significant safety concern in that the condition could cause an operator to take an inappropriate action based on expected plant response or conversely cause an operator not to take action when action is required. The senior reactor analyst determined that this finding was not appropriate to be evaluated using the significance determination process since this finding was associated with multiple human performance actions. Based on management review, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and there was no adverse impact to plant equipment.

Inspection Report# : 2005002*(pdf)*

Significance: G Feb 25, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
SCAFFOLDING ERECTED WITH INADEQUATE CLEARANCES AND NO ENGINEERING EVALUATION
The inspectors identified a noncited violation of Technical Specification 5.4.1.a for failing to follow a maintenance procedure and associated engineering specification governing scaffold erection near safety-related components. Specifically, the licensee built approximately 85 scaffolds within the 2-inch clearance requirement and did not obtain engineering approval for the scaffolding installed in close proximity to safety-related equipment, as specified in Engineering Design Change 2000-00463. This issue involved human performance crosscutting aspects (personnel) associated with not following work instructions. This issue was entered into the corrective action program as Condition Report/Disposition Request 2779469.

The finding is determined to be greater than minor because if left uncorrected, the finding would become a more significant safety concern in that improperly installed scaffolding could impact the availability of mitigating equipment. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and all subsequent engineering evaluations determined that there was no adverse affect to the mitigating equipment.

Inspection Report# : 2005002*(pdf)*

Significance: Y Dec 09, 2004
Identified By: NRC

Item Type: VIO Violation
FAILURE TO MAINTAIN DESIGN CONTROL OF CONTAINMENT SUMP RECIRCULATION PIPING
The team identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to establish measures to assure design basis information was translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to maintain the safety injection sump suction piping full of water in accordance with the Updated Final Safety Analysis Report. This nonconformance had the potential to significantly affect the available net positive suction head described in the Updated Final Safety Analysis Report for the high pressure safety injection and containment spray pumps, since the analysis assumed the piping would be maintained full of water.

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that the issue had substantial safety significance (Yellow). After considering the information developed during the inspection and the results of testing sponsored by the licensee, the NRC has concluded that this inspection finding is appropriately characterized as Yellow. The final Significance Determination Process letter was issued on April 8, 2005. This issue will be inspected within the scope of a supplemental 95002 inspection in August - September, 2005.
Inspection Report# : 2004014*(pdf)*

Significance: G Dec 09, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW PROCEDURE
The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," involving the failure of engineering and operations personnel to implement requirements in the station's condition reporting and operability determination procedures following identification of a degraded condition. Specifically, engineering personnel did not promptly notify operations personnel of a condition that impacted the safety function of the high pressure safety injection and containment spray systems. In addition, operations personnel did not complete an immediate assessment of operability once they were informed of the degraded condition. This finding had crosscutting aspects associated with problem identification and resolution, since engineering personnel did not forward corrective action program documents regarding the degraded condition to the control room in a timely manner and operations personnel did not complete a prompt operability assessment. This finding also involved crosscutting aspects associated human performance, since engineering and operations personnel did not adequately communicate the status of the engineering department's efforts to review the degraded condition.

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. This finding has very low safety significance based on the results of a Significance Determination Process, Phase 3 analysis.

Inspection Report# : 2004014*(pdf)*

Significance: SL-III Dec 09, 2004
Identified By: NRC
Item Type: VIO Violation
FAILURE TO OBTAIN PRIOR NRC APPROVAL FOR A CHANGE TO THE FACILITY INVOLVING MAINTAINING A SIGNIFICANT SEGMENT OF CONTAINMENT SUMP SAFETY INJECTION RECIRCULATION PIPING VOID OF WATER
The team identified an apparent violation of 10 CFR 50.59 requirements for the licensee's failure to perform a written safety evaluation and receive NRC approval prior to implementing changes to the facility in 1992 which involved draining, and maintaining drained, a significant segment of containment sump safety injection recirculation piping during normal plant operations. This change resulted in the failure to maintain the safety injection piping full of water in accordance with the Updated Final Safety Analysis Report. This represented an unreviewed safety question since it increased the probability of a malfunction of equipment important to safety previously evaluated in the safety analysis report.

In accordance with Inspection Manual Chapter 0612, Appendix B, "Issue Disposition Screening," the team determined that traditional enforcement applied because this finding may have impacted the NRC's ability to perform its regulatory function. This is an apparent violation pending the results of a predecisional enforcement conference.
Inspection Report# : 2004014*(pdf)*

Barrier Integrity

Significance: G Jun 30, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
FAILURE TO IMPLEMENT PROCEDURES FOR HANDLING SPENT FUEL

Three examples of a self-revealing noncited violation of 10 CFR Part 50, Criterion V, "Instructions Procedures, and Drawings," was identified for failing to properly implement procedures for refueling equipment. Specifically, refueling personnel did not: (1) complete a functional retest following maintenance on the spent fuel handling machine as required by Work Order 2781146, (2) ensure that spent fuel was in a safe condition, stop fuel handling operations, or contact the shift manager to determine the need to complete an event recovery checklist when a deficiency was identified with fuel handling equipment as required by Procedure 40DP-9OP02, "Conduct of Shift Operations," and (3) ensure the material balance area short form was present on the spent fuel handling machine to perform proper independent verification or verify that the bridge and trolley were over the correct fuel assembly as required by Procedure 78OP-9FX03, "Spent Fuel Handling Machine." This issue involved human performance crosscutting aspects associated with operator decision making and not following procedures. This issue also involved problem identification and resolution crosscutting aspects associated with the failure to correct a condition adverse to quality since there have been similar occurrences where operators failed to recognize the need to perform the event recovery checklist. This issue was entered into the corrective action program as Condition Report/Disposition Requests 2791974 and 2792326.

The finding is greater than minor since it could become a more significant safety concern if left uncorrected in that handling spent fuel with degraded equipment impacts the ability to safely handle spent fuel and increases the likelihood of a fuel handling accident. This finding cannot be evaluated by the significance determination process because Manual Chapter 0609, "Significance Determination Process," Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," and Appendix G, "Shutdown Operations Significance Determination Process," do not apply to the spent fuel pool. This finding affects the barrier integrity cornerstone and is determined to be of very low safety significance by NRC management review because it was a deficiency that did not result in the actual degradation of spent fuel
Inspection Report# : 2005003*(pdf)*

Significance: G Nov 23, 2004
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
CORE ALTERATIONS WITH LESS THAN TWO OPERABLE SRMs
A self-revealing violation of Technical Specification 3.9.2 was identified for performing core alterations with less than the required number of startup range monitors. The licensee did not identify that startup monitor Channel 2 was failed low through troubleshooting activities prior to commencing core reload. The licensee only determined that startup monitor Channel 2 was inoperable after core alterations had commenced. The issue was entered into the licensee's corrective action program as Condition Report/Disposition Requests 2654704 and 2654642.

The finding is greater than minor because it is associated with the configuration control attribute of the barrier integrity cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radio nuclide releases caused by accidents or events. Using Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," this finding is determined to have very low safety significance because the event did not constitute a loss of control and did not represent a finding requiring quantitative assessment. The finding did not increase the likelihood of loss or cause a degradation in the ability to restore decay heat removal, reactor coolant system inventory, offsite power, alternate core cooling, or containment.
Inspection Report# : 2004005*(pdf)*

Significance: G Nov 09, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO INCLUDE VENTS AND DRAINS INTO LOCKED VALVE PROGRAM
A noncited violation of Technical Specification Surveillance Requirement 3.6.3.3 was identified for failure to perform the required position verification for vent and drain valves associated with eight safety injection system penetrations per unit. The issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2753335.

This finding is greater than minor since it is associated with the configuration control attribute of the barrier integrity cornerstone and affects the cornerstone objective to provide reasonable assurance that the containment physical design barrier is preserved to protect the public from radio nuclide releases caused by accidents or events. Using the Phase 1 Worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the barrier integrity cornerstone, all the valves were found closed, and did not result in an actual open pathway out of the reactor containment.
Inspection Report# : 2004005*(pdf)*

Emergency Preparedness

Significance: SL-III Mar 20, 2005
Identified By: NRC
Item Type: AV Apparent Violation
CHANGE TO RADIOLOGICAL EMERGENCY ACTION LEVELS WHICH DECREASED THE EFFECTIVENESS OF THE EMERGENCY PLAN
The inspector identified an apparent violation of 10 CFR 50.54(q) for implementing a change to emergency action levels, which decreased the effectiveness of the emergency plan. Emergency Plan Implementing Procedure 99, "EPIP Standard Appendices," Revision 2, removed from

two emergency action levels site boundary exposure rate as measured in the environment as a classifiable condition.

Implementation of changes to emergency action levels, which decreased the effectiveness of the emergency plan was a performance deficiency. The finding is more than minor because removal of a classifiable condition from licensee emergency action levels has the potential to impact safety, and licensee implementation of a change to their emergency plan, which decreases the effectiveness of the plan without prior NRC approval, impacts the regulatory process. This finding is an apparent violation of 10 CFR 50.54(q). The licensee has entered this issue into their corrective action system as Condition Report/Disposition Request 2774185.
Inspection Report# : 2005011*(pdf)*

Significance: G Mar 18, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CORRECT THE DEVELOPMENT OF PROTECTIVE ACTION RECOMENDATIONS NOT IN ACCORDANCE WITH FEDERAL GUIDANCE
The inspectors identified a noncited violation of 10 CFR 50.54(q). The licensee failed to correct a practice which could result in an evacuation protective action recommendation for segments of the population that would not benefit from evacuation, contrary to federal guidance.

This finding is more than minor because it was associated with a cornerstone attribute and affected the emergency preparedness cornerstone objective to ensure the adequate protection of the public health and safety. This finding is of very low safety significance because this practice could result in an increased dose to the evacuating public by evacuating some areas unnecessarily, but would not prevent the notification of appropriate protective action recommendations to those members of the public who did require evacuation.

Inspection Report# : 2005002*(pdf)*

Significance: G Dec 15, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE PROCEDURES FOR IMPLEMENTATION OF AN EMERGENCY ACTION LEVEL
The examiners identified a noncited violation of 10 CFR Part 50, Appendix E, IV.B, for inadequate procedures for implementation of an emergency action level. Emergency Action Level 3-13 requires that an Alert be declared if "major damage to irradiated fuel" is accompanied by a "valid high radiation alarm on the associated radiation monitor." However, the phrase "major damage to irradiated fuel" is not defined in any site procedure, nor is it defined, clarified, or addressed through operator training such that operators would know when conditions meet the threshold for declaring an Alert as a result of damage to irradiated fuel. This deficiency was evidenced during the examination by the fact that the examination authors, examination reviewers, and five of the seven license applicants taking the examination did not recognize conditions that warranted declaring an Alert using Emergency Action Level 3-13. The licensee was evaluating a clarifying change to Emergency Action Level 3-13 and its bases documents and has documented this issue in Condition Report/Disposition Request 2761670.

The finding is a performance deficiency in that the licensee failed to identify that Emergency Action Level 3-13 would not be properly implemented without objectively defining the phrase "major damage to irradiated fuel" in either plant procedures or operator training. The finding is more than minor because it affects the Emergency Preparedness Cornerstone of procedural quality in that it could result in a failure to declare an Alert emergency classification when conditions warrant. The finding is of very low safety significance since it was a failure to comply with a regulatory requirement associated with a Risk-Significant Planning Standard that did not result in the loss or degradation of that Risk-Significant Planning Standard function.
Inspection Report# : 2004301*(pdf)*

Occupational Radiation Safety

Significance: G Oct 05, 2004
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
FAILURE TO COMPLY WITH HIGH RADIATION AREA TECHNICAL SPECIFICATION REQUIREMENT
The inspector reviewed a self revealing non-cited violation of Technical Specification 5.7.1.b because a radiation worker could not hear the electronic dosimeter alarm. Specifically, on September 30, 2003, a radiation worker, in a high radiation area, could not hear the electronic dosimeter alarm for approximately thirty minutes. The individual did not respond to the alarm until after entering another area with lower ambient noise. The licensee determined that the individual had a hearing deficiency. This occurrence was entered into the licensee's Corrective Action Program as Condition Report/Disposition Request 2689876.

The failure to provide an effective alarming dosimeter to a worker entering a high radiation area is a performance deficiency. This finding is greater than minor because it is associated with the Occupational Radiation Safety Program and Process attribute and affected the cornerstone objective because the failure to hear an electronic dosimeter alarm could increase personnel dose. Using the Occupational Radiation Safety

Significance Determination Process, the inspector determined that the finding was of very low safety significance because it did not involve: (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose .

Inspection Report# : 2004005*(pdf)*

Public Radiation Safety

Significance: G Feb 04, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO SHIP RADIOACTIVE MATERIAL CORRECTLY
The team reviewed a self-revealing, non-cited violation of 10 CFR 71.5, which occurred when the licensee failed to ship radioactive material correctly. A radioactive shipment classified as an "excepted package-limited quantity" exceeded the external dose rate limitation of 0.5 millirem per hour because licensee personnel failed to ensure that the package contents could not shift during transportation. The package recipient identified dose rates of 0.8 millirems per hour on the exterior surface of the package and notified the licensee of the problem.

The finding is greater than minor because it was associated with a Public Radiation Safety cornerstone attribute (human performance) and it affected the associated cornerstone objective because the failure to correctly ship radioactive material decreases the licensee's assurance that the public will not receive unnecessary dose. However, this finding cannot be evaluated by the Public Radiation Safety Significance Determination Process because it does not involve radioactive shipments classified as Schedule 5 through 11, as described in NUREG-1660, and it does not fit traditional enforcement. Therefore, the finding was reviewed by NRC management and determined to be of very low safety significance. Additionally, this finding had cross-cutting aspects associated with human performance (personnel). The individual directly contributed to the finding when the licensee's shipper failed to ensure that the package contents could not shift. The finding was placed into the licensee's corrective action program.
Inspection Report# : 2005009*(pdf)*

Significance: G Feb 04, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CONTROL RADIOACTIVE MATERIAL
The team reviewed a self-revealing, non-cited violation of Technical Specification 5.4.1, which occurred when the licensee failed to prevent radioactive material from leaving the radiological controlled area and the protected area. A tape measure worn on the lanyard of a radiation protection technician was not evaluated for the presence of radioactive material before its release from the radiological controlled area. The licensee discovered the radioactive material when the individual was whole body counted; however, the discovery was fortuitous because the licensee's procedural guidance did not specify that items, such as the lanyard, be worn consistently during the whole body counting process. The quantity of radioactive material on the tape measure would have been identified by the licensee's cabinet radiation detectors had the radiation protection technician used one as required.

The finding is greater than minor because it was associated with a Public Radiation Safety cornerstone attribute (human performance) and it affected the associated cornerstone objective because the failure to control radioactive material decreases the licensee's assurance that the public will not receive unnecessary dose. Using the Public Radiation Safety Significance Determination Process, the team determined that the finding had very low safety significance because: (1) it was was a radioactive material control finding, (2) it was not a transportation finding, (3) it did not result in public dose greater than 0.005 rem, and (4) the number of occurrences was not greater than five. Additionally, this finding had cross-cutting aspects associated with human performance (personnel). The individual directly contributed to the finding when the radiation protection technician failed to use the established process to evaluate the tool for radioactive contamination. The finding was placed into the licensee's corrective action program.
Inspection Report# : 2005009*(pdf)*

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Last modified : November 30, 2005

Palo Verde 2
4Q/2005 Plant Inspection Findings

Initiating Events

Significance: G Apr 03, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
INADVERTENT SAFETY INJECTION DURING INTEGRATED SAFEGUARDS TESTING
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for an inadequate surveillance procedure which resulted in an inadvertent safety injection and subsequent reactor coolant system level transient. Specifically, an integrated safeguards test procedure cautioned operations personnel to evaluate the pressure difference between the reactor coolant system and safety injection tanks prior to any actuation that opened the safety injection tank outlet isolation valves. The procedure was inadequate in that it failed to caution the operator to consider level differences which could potentially impact the total pressure head of the system. This issue involved human performance crosscutting aspects associated with inadequate operations procedures. This issue was entered into the corrective action program as Condition Report/Disposition Request 2786378.

The finding is determined to be greater than minor because it affected the procedure quality attribute of the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. Using Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," this finding is determined to have very low safety significance because the event did not constitute a loss of level control and did not represent a finding requiring quantitative assessment. The finding did not increase the likelihood of loss or cause a degradation in the ability to restore decay heat removal, reactor coolant system inventory, offsite power, alternate core cooling, or containment
Inspection Report# : 2005003*(pdf)*

Mitigating Systems

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROMPTLY CORRECT AN ADVERSE CONDITION WITH THE REFUELING WATER TANK INSTRUMENT PIT
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to correct a condition adverse to quality involving the refueling water tank instrument pit. Specifically, in August 2003, the licensee inadvertently cancelled the work orders to correct deficiencies associated with flooding of the refueling water tank instrument pit. This error was identified by the licensee in October 2004; however, corrective actions were inadequate to ensure timely correction of the adverse condition. Additionally, two of the three work orders were inappropriately closed with no work performed following the inspectors' identification of the issue in August 2005. After identification by the inspectors, the licensee installed temporary modifications to prevent water intrusion into the pit. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2838845.

The finding is greater than minor because it is associated with the protection against external factors cornerstone attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding required a Phase 3 analysis by a senior reactor analyst, since the finding was potentially risk significant due to external initiating event core damage sequences. A senior reactor analyst performed a qualitative assessment and concluded that the finding had very low safety significance. The cause of the finding is related to the crosscutting element of problem identification and resolution in that corrective actions lacked timeliness, adequacy, and thoroughness.

Inspection Report# : 2005005*(pdf)*

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO DEMONSTRATE EFFECTIVE MAINTENANCE OF HOT LEG RESISTANCE TEMPERATURE DETECTORS
The inspectors identified a noncited violation of 10 CFR 50.65(a)(2) for the failure to demonstrate that the performance or condition of three

reactor coolant system resistance temperature detectors had been effectively controlled and monitored against licensee-established goals. Specifically, the licensee failed to identify, and properly account for, three detector functional failures occurring from May 31, 2004 to June 23, 2005. Consequently, the licensee did not establish appropriate goal setting and monitoring for the detectors. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2856282.

The finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the condition only affected the mitigating systems cornerstone and did not represent an actual loss of safety function. The cause of the finding is related to the crosscutting element of problem identification and resolution in that the licensee failed to identify the need to perform a maintenance rule functional failure review for failed resistance temperature detectors.

Inspection Report# : 2005005*(pdf)*

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CORRECT AN IDENTIFIED ADVERSE CONDITION ASSOCIATED WITH MAINTENANCE DEPARTMENT GUIDELINES
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to correct a condition adverse to quality involving the use of Maintenance Department Guidelines. Specifically, instrumentation and controls personnel did not complete actions used as a basis for closure for Condition Report/Disposition Request 2715129. In addition, the extent of condition review did not identify the continued active use of Maintenance Department Guidelines to perform quality related activities. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2830633.

The finding is greater than minor because it is associated with the procedure quality cornerstone attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the finding did not result in the loss of safety function of any component, train, or system. The cause of the finding is related to the crosscutting element of problem identification and resolution in that maintenance personnel did not implement timely corrective actions and performed a poor extent of condition review.
Inspection Report# : 2005005*(pdf)*

Significance: SL-IV Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO SUBMIT LER TO REPORT SHUTDOWN REQUIRED BY TECHNICAL SPECIFICATIONS
The inspectors identified a noncited Severity Level IV violation of 10 CFR 50.73 for the failure to submit a licensee event report within 60 days to report the completion of a plant shutdown required by the Technical Specifications. A second similar example of a violation of the same regulation was identified by the licensee. Specifically, the licensee was required to submit a licensee event report by May 17, 2005, to report the completion of a plant shutdown required by the Technical Specifications that occurred on March 18, 2005. This licensee event report was submitted on November 7, 2005. Additionally, the licensee was required to submit a licensee event report by April 10, 2005, to report the completion of a plant shutdown that occurred on February 9, 2005. A revised licensee event report was submitted on January 6, 2006. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Requests 2829976 and 2844019.

The finding was determined to be applicable to traditional enforcement because the NRC's ability to perform this regulatory function was potentially impacted by the licensee's failure to report the event. The finding was determined to be a Severity Level IV violation in accordance with Section D.4 of Supplement I of the NRC Enforcement Policy. The finding is not suitable for evaluation using the significance determination process, but has been reviewed by NRC management and is determined to be a finding of very low safety significance. The cause of the finding is related to the crosscutting element of problem identification and resolution in that the transportability review, conducted by regulatory affairs personnel, failed to identify an additional example of a missed reportable event that was subsequently identified by the NRC.

Inspection Report# : 2005005*(pdf)*

Significance: G Dec 16, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
IMPROPER DESIGN CONTROL FOR EMERGENCY CORE COOLING SYSTEM SUMP AND REFUELING WATER TANK SWAPOVER
The inspectors identified a noncited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," related to potential air entrainment into the emergency core cooling system suction header from the refueling water tank. Specifically, the inspectors determined that the water level in the refueling water tank could fall below the level of the tank discharge pipe and associated vortex breaker during the transfer from the refueling water tank to the containment sump during design basis accidents. As a result, air could be drawn into the emergency core cooling

system piping under accident conditions. This issue was applicable to both trains of all three units. Contrary to proper design control, engineering personnel failed to effectively implement design requirements to prevent potential air entrainment into the emergency core cooling system.

The inspectors considered this finding to be more than minor, in accordance with NRC Manual Chapter 0612, "Power Reactor Inspection Reports," since it potentially affected the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and it affected the attributes of design and configuration control. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the inspectors determined that the issue was of very low safety significance (Green) because there was no actual loss of safety function. Because the violation was determined to be of very low safety significance and has been entered into the corrective action program as condition report/disposition request (CRDR 2835132), this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy. The inspectors also determined this issue had cross-cutting aspects of human performance. Specifically, the licensee's attention to detail was lacking and there was poor inter- and intra-group coordination.
Inspection Report# : 2005012*(pdf)*

Significance: G Dec 16, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
IMPROPER DESIGN CONTROL FOR CONDENSATE STORAGE TANK AND REACTOR WATER MAKEUP TANK USABLE VOLUME TO AUXILIARY FEEDWATER
The inspectors identified two examples of a noncited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," for failure to translate the design basis volume of 300,000 gallons of usable volume in the condensate storage tank (CST) and reactor water makeup tank (RWMT) into the station's instructions, procedures, or drawings. Without this information, operators were unaware that Technical Specification minimum levels, specified in feet, may not provide sufficient usable volumes of water for auxiliary feedwater pump operation. Contrary to proper design control, the licensee failed to effectively implement design requirements to ensure operability of the auxiliary feedwater system.

These two examples of a violation affect the Mitigating Systems cornerstone and are more than minor because they were similar to Example 3.I of Manual Chapter 0612, and design calculations were required to be re-performed to assure accident requirements were met. In both instances, the originally calculated available inventory was less than the actual required design basis inventory of 299,700 gallons. Subsequent calculations by engineering personnel, including significant reduction in margins, demonstrated that minimum required volumes in the CST and RWMT were maintained. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the inspectors determined that the issue was of very low safety significance (Green) because there was no actual loss of safety function. Because the violation was determined to be of very low safety significance and has been entered into the corrective action program as condition report/disposition requests (CRDRs 2839337, 2840186, and 2841773), this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy. The inspectors also determined this issue had cross-cutting aspects of human performance. Specifically, the licensee's attention to detail was lacking and there was poor inter- and intra-group coordination.
Inspection Report# : 2005012*(pdf)*

Significance: G Dec 16, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
IMPROPER DESIGN CONTROL FOR REFUELING WATER TANK LEVEL INSTRUMENT CALIBRATION
The inspectors identified a noncited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," for failure to translate design basis information into the calibration of refueling water tank level instruments. Without this information, operators were unaware that a Technical Specification listed minimum level in this tank may not provide sufficient usable volume of water for emergency core cooling system operation. Specifically, engineers failed to density compensate these instruments for allowable ranges of both temperature and boric acid concentration of the tank. Contrary to proper design control, the licensee failed to effectively implement design requirements to ensure operability of the refueling water tank.

This issue was determined to affect the Mitigating Systems cornerstone and was more than minor based upon review of Example 3.j of Manual Chapter 0612, Appendix E. The errors were considered more than a minor calculation error because the deficiencies required re-performance of the calculations, significantly reduced the overall margin, and could be applicable to other such instrumentation calculations. However, engineering personnel demonstrated that while there was a loss of margin, there was no actual loss of function because of the inaccuracies in the RWT level instrument calibrations. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the inspectors determined that the issue was of very low safety significance (Green) because there was no actual loss of safety function. Because the violation was determined to be of very low safety significance and has been entered into the corrective action program as condition report/disposition request (CRDR 2840920), this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy.
Inspection Report# : 2005012*(pdf)*

Significance: G Dec 16, 2005
Identified By: NRC
Item Type: NCV NonCited Violation

FAILURE TO PROPERLY IMPLEMENT STATION PROCEDURE FOR EQUIPMENT OPERABILITY (TECHNICAL SPECIFICATION 5.4.1.a)
The inspectors identified three examples of a (Green) noncited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings." Specifically, these examples involved the licensee's failure to follow a procedure and to provide appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished, consistent with the facility's administrative procedure for the operability determination process. In the first case an engineer evaluated a concern in a condition report/disposition request without notifying the control room so an operability assessment could be performed. In the other cases, there was inadequate guidance given to operators to address when an operability assessment would be required.

The inspectors considered this finding to be more than minor, in accordance with Manual Chapter 0612, since it potentially affected the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and it affected the attributes of procedure quality and human performance. However, subsequent evaluations completed by the licensee verified that actual safety functions were not lost in any of these examples. The inspectors performed a Phase 1 significance determination, using NRC Manual Chapter 0609, and determined this issue screens out as having very low safety significance (Green) because a safety function was not lost. Because the violation was determined to be of very low safety significance and has been entered into the corrective action program as Condition Report/Disposition Request 2838626, this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy. The inspectors also determined this issue had cross-cutting aspects of human performance. Specifically, the licensee's attention to detail was lacking and there was poor inter- and intra-group coordination.

The inspectors identified an additional example of the Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," described in NRC Supplemental Inspection Report 05000528; 05000529; 05000530/2005012, for the failure to establish an adequate procedure and implement existing procedures involving implementation of the operability determination process. The inspectors also identified examples where information provided to operations from engineering was not sufficiently accurate or complete to support operational decision making with respect to capacitor service life and the overall impact of the identified degraded or non-conforming capacitors. On November 1, 2005, the licensee inappropriately determined that the operability determination process was not applicable for a degraded capacitor condition that had the potential to impact Class 1E inverter operability. Consequently, the degraded condition was evaluated outside the operability determination process. Because the finding is of very low safety significance and has been entered into the corrective action program as Condition Report/Disposition Request 2838626. The cause of the finding is related to the crosscutting element of human performance in that communications between the engineering and operations organizations was inadequate.

Inspection Report# : 2005012*(pdf)*

Significance: N/A Dec 16, 2005
Identified By: NRC
Item Type: FIN Finding
SUMMARY FINDING. 95002 INSPECTORS ASSESSMENT OF IR2004-14 SEVERITY LEVEL III VIOLATION FOR 50.59 ISSUE
The U.S. Nuclear Regulatory Commission (NRC) performed this supplemental inspection, in part, to assess the licensee's evaluation and corrective actions associated with an inappropriate change to an emergency core cooling system procedure without prior NRC approval. This procedure change rendered portions of the system inoperable because of voiding. This performance issue was previously characterized as a Severity Level III violation of 10 CFR 50.59 and was originally identified in NRC Inspection Report 05000528; 529; 530/2004014. During this supplemental inspection, performed in accordance with Inspection Procedure 95002, the inspectors determined that the licensee's evaluation identified the primary root causes of the performance issue to be: (1) The site procedure revision process (01AC-0AP02) was inadequate, in that, the procedure allowed ‘pre-screening' of changes that could potentially bypass performing a 10 CFR 50.59 screening for changes to the facility as described in the licensing basis; and (2) The corrective action program implementation was ineffective. The licensee also identified overlap and interface problems between the corrective action program, the engineering evaluation request program, and the instruction change request program. These issues, in conjunction with inadequate training to recognize a corrective action condition, contributed to the failure of station personnel to initiate a corrective action program input document in 1992 for the potential pipe voiding concern. The inspectors concluded that the licensee's evaluation and implemented corrective actions were appropriate to reasonably prevent repetition of the 10 CFR 50.59 violation.

Given the licensee's acceptable performance in addressing the inappropriate procedure change and 10 CFR 50.59 program deficiencies, the Severity Level III violation is closed.
Inspection Report# : 2005012*(pdf)*

Significance: N/A Dec 16, 2005
Identified By: NRC
Item Type: FIN Finding
SUMMARY FINDING. 95002 INSPECTORS ASSESSMENT OF IR2004-14 (YELLOW) 10CFR50, APP B, CRITERION III VIOLATION
The NRC performed this supplemental inspection, in part, to assess the licensee's evaluation and corrective actions associated with potential air entrainment into the emergency core cooling system. The licensee failed to incorporate original design requirements into the plant to maintain piping between the containment sump isolation valves filled with water. This performance issue was previously characterized as a 10 CFR 50, Appendix B, Criterion III, violation having substantial safety significance (Yellow), and was originally identified in NRC Inspection Report 05000528; 529; 530/2004014. The inspectors determined that the licensee's evaluation identified a direct cause, nine root causes, and nine contributing causes of the performance issue. The evaluation was also used to develop an extensive list of corrective actions. The inspectors found the licensee's methods of evaluation to be appropriate.

The NRC concluded that, while the licensee performed an adequate root cause evaluation of the Design Control violation, certain corrective actions were incomplete at the time of this inspection. Specifically, the team determined that for each of the root and contributing causes, not all corrective actions were sufficiently developed to ensure that the identified performance deficiencies were adequately addressed. In addition, some of the corrective actions were narrowly focused, or the implementation of those actions was not fully effective. Also, the team concluded that criteria and reviews were not established, for auditing or followup, to ensure that corrective actions were effective in improving performance in the affected areas. Consequently, the team did not have assurance that the planned corrective actions were sufficient to address the causes for the performance deficiencies associated with the violation. Therefore, the (Yellow) violation (VIO 2004/014-01) will remain open for further NRC review.
Inspection Report# : 2005012*(pdf)*

Significance: G Sep 30, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
IMPROPER VISUAL ANALYSIS OF BEARING OIL SAMPLE
The inspectors identified a noncited violation of Technical Specification 5.4.1.a for the failure of maintenance personnel to follow Procedure 31DP-9ZZ01, "Lubricant Sampling," and Work Order 2724849. Specifically, a maintenance technician incorrectly determined that the oil sample taken from the Unit 2 high pressure safety injection (HPSI) pump was satisfactory, when the oil sample did not meet the acceptance criteria. Consequently, immediate actions to address potential equipment deficiencies were not taken until the samples were analyzed by a lubrication engineer approximately two weeks later. This finding involved human performance crosscutting aspects associated with maintenance personnel following procedures and attention to details. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2828545.

The finding is greater than minor since the failure to follow the lubricant sampling process, if left uncorrected, would become a more significant safety concern in that degraded equipment conditions may not be identified and corrected in a timely manner. A Phase 2 analysis was required because the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, determined that there was a loss of the long term cooling safety function of a single train of HPSI for greater than the Technical Specification allowed outage time. A senior reactor analyst determined that the HPSI pump was only required to operate for 24 hours to meet the assumptions necessary in the risk model to preclude sequences that result in core damage. Consequently, this finding is determined to have very low safety significance (Section1R19)
Inspection Report# : 2005004*(pdf)*

Significance: G Sep 30, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW PROCEDURES DURING CORE PROTECTION CALCULATOR SOFTWARE INSTALLATION AND TESTING
The inspectors identified two examples of a noncited violation of Technical Specification 5.4.1.a for the failure to follow Procedure 77ST-9SB19, "CPCS Channel Functional Test," and Work Order 2824743 during core protection calculator software installation. Specifically, maintenance technicians: (1) failed to change the software loading instructions of Work Order2824743 prior to proceeding with the core protection calculator software installation when it could not be used as written, and (2) failed to follow the surveillance test procedure used to perform a core protection calculator functional test. This finding involved human performance crosscutting aspects associated with instrumentation and controls personnel following procedures. This finding also involved problem identification and resolution crosscutting aspects associated with instrumentation and controls personnel identifying degraded or nonconforming conditions. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2825189.

The finding is greater than minor since it could become a more significant safety concern in that the failure to follow procedures when performing maintenance and testing on safety related equipment could result in an unintentional actuation or impact the ability of the equipment to perform it’s required function. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone and did not result in the loss of safety function of a single train or system for greater than the Technical Specification allowed outage time (Section 1R19).
Inspection Report# : 2005004*(pdf)*

Significance: G Sep 30, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM LICENSING DOCUMENT CHANGE REQUET AND 10 CFR 50.59 SCREENING FOR ABANDONMENT OF THE BORONOMETER
The inspectors identified a noncited violation of 10 CFR Part50, AppendixB, CriterionXVI, "Corrective Action," for the failure to correct a discrepancy between the current condition of the boronometer and the required configuration described in the Updated Final Safety Analysis Report. Specifically, in April 2003 the licensee identified the need to perform a Licensing Document Change Request and a corresponding 10 CFR 50.59 screening due to the abandonment of the Updated Final Safety Analysis Report required boronometer, but failed to implement corrective actions to ensure that the Licensing Document Change Request and 10CFR 50.59 screening were performed. This issue involved problem identification and resolution crosscutting aspects associated with engineering personnel implementing timely corrective actions. This

issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2823704.

The finding is greater than minor because it was associated with the design control performance attribute of the mitigating systems cornerstone and affects the cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using the Manual Chapter0609, "Significance Determination Process," Phase1 Worksheet, the finding is determined to have very low safety significance because there was no actual loss of safety function (Section 4OA2).
Inspection Report# : 2005004*(pdf)*

Significance: G Sep 30, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
IMPROPER CONTROL OF DESIGN PARAMETERS FOR THE EX-CORE SAFETY CHANNELS
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the improper control of design parameters for the ex-core nuclear instrument safety channels in that engineering personnel did not correctly translate design requirements, nor did they properly control design basis information regarding ex-core safety channels. Additionally, Technical Specification required values were maintained apart from design calculations and documents. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2612092.

This finding is greater than minor because if left uncorrected it could become a more significant safety concern in that failures to maintain design calculations could result in the incorrect setting of safety related devices. The finding is associated with the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because there was not an actual loss of safety function.
Inspection Report# : 2005004*(pdf)*

Significance: SL-IV Sep 30, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
INCOMPLETE AND INACCURATE INFORMATION ASSOCIATED WITH THE EX-CORE SAFETY CHANNELS.
The inspectors identified a noncited Severity Level IV violation of 10 CFR 50.9 for providing incomplete or inaccurate information to the NRC. Specifically, the licensee provided incomplete and inaccurate information regarding the design control of ex-core safety channel log power instrument setpoints. This information was determined to be material in that it affected the NRC's ability to determine compliance with NRC requirements. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2829051.

This finding was not assessed via NRC Manual Chapter 0609, "Significance Determination Process," because the licensee's actions impeded the regulatory process. Therefore, this finding is associated with the mitigating systems cornerstone. The inspectors determined that engineering personnel had additional information, including the subsequently corrected revision of the calculation going through final verification, and additional explanatory setpoint procedures, which were not referenced or provided during the original correspondence by the licensee. Had the complete and accurate information been supplied at the time of the original request in 2003, the NRC would have identified a design control violation at that time. The safety consequence of this issue is of very low safety significance, in that there was no actual loss of a safety function.
Inspection Report# : 2005004*(pdf)*

Significance: G May 17, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CORRECT A CONDITION ADVERSE TO QUALITY
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to identify and correct a deficiency in the method of testing the auxiliary feedwater pump discharge check valves. Specifically, in 1998 the licensee identified the need to test the auxiliary feedwater pump Train B discharge check valve for leak tightness, but failed to implement the appropriate corrective actions to incorporate testing into Procedure 73ST-9XI38, "AF Pumps Discharge Check Valves - Inservice Test." This issue involved problem identification and resolution crosscutting aspects associated with the failure to implement timely corrective actions. This issue was entered into the corrective action program as Condition Report/Disposition Request 2800972.

The finding is greater than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because there was no actual loss of safety function
Inspection Report# : 2005003*(pdf)*

Significance: G Apr 29, 2005
Identified By: Self-Revealing
Item Type: FIN Finding
INADVERTENT ESFAS ACTUATION

A self-revealing finding was identified for the failure to properly sequence work to maintain power to engineered safety features system cabinet Train B. Specifically, operations personnel prematurely implemented a tagout permit prior to restoring the redundant power supply following maintenance. The work sequencing performance deficiency resulted in the loss of vital power to the cabinet; thereby, initiating an inadvertent engineered safety features actuation. This issue involved human performance crosscutting aspects associated with inadequate communications between work control groups and a poor awareness of the plant configuration. This issue was entered into the corrective action program as Condition Report/Disposition Request 2796508.

The finding is greater than minor since it was associated with the configuration control attribute of the mitigating systems cornerstone and affects the cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. This finding cannot be evaluated by the significance determination process because Manual Chapter 0609, "Significance Determination Process," Appendix G, "Shutdown Operations Significance Determination Process," do not apply when the reactor is defueled. This finding is determined to be of very low safety significance by NRC management review because it was a deficiency that did not result in actual safety consequences since the reactor was defueled and a majority of the Train B equipment was tagged out for maintenance.
Inspection Report# : 2005003*(pdf)*

Significance: G Apr 19, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
FAILURE TO TAKE ADEQUATE CORRECTIVE ACTIONS TO PREVENT BOLT FAILURES
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to implement corrective actions to preclude repetition of a significant condition adverse to quality. Specifically, in 1988 the licensee identified that the gasket retaining bolts on several 16 inch butterfly valves were susceptible to stress corrosion cracking. The licensee only replaced bolts on the 16 inch valves with the identified failures and did not consider the need to replace bolts on similarly designed 10 inch and 24 inch valves. Consequently, in April 2005, the safety injection inboard and outboard containment sump isolation valves were discovered to have missing or degraded bolts and the 10 inch containment spray to shut down cooling heat exchanger valves were determined to have suspect bolts. This issue involved problem identification and resolution crosscutting aspects associated with the failure to perform an adequate transportability review. This issue was entered into the corrective action program as Condition Report/Disposition Request 2791716.

The finding is greater than minor since it affects the equipment performance attribute of the mitigating systems cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because there was no actual loss of safety function
Inspection Report# : 2005003*(pdf)*

Significance: SL-IV Mar 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO OBTAIN PRIOR NRC APPROVAL FOR A DESIGN CHANGE TO THE FACILITY
A Severity Level IV non-cited violation of 10 CFR 50.59 requirements was identified for the failure to obtain a license amendment for a permanent modification to all six station emergency diesel generators. The inspectors determined that there were two modifications performed on the jacket water system of each emergency diesel generator. Condition Report/Disposition Request (CRDR) 130208, in 1993, directed the abandonment of the jacket water surge tank makeup valves on both emergency diesel generators of all three units. A recent modification, Design Modification Work Order 220055 in 2003, removed the surge tank low level alarm on both emergency diesel generators of all three units. The licensee replaced these two automatic actions (automatic makeup and low level alarm) with a manual operator action to fill, as necessary, every 12 hours during rounds. The inspectors reviewed the updated final safety analysis report (UFSAR) and design basis documents, and found that the automatic jacket water surge tank makeup, and the low level alarm, were both shown in UFSAR descriptions, drawings, and design value tables.

The issue was determined to be more than minor, through Inspection Manual Chapter 0612, Appendix B, in that it affected the mitigating systems cornerstone attribute of equipment performance, and was repeated for all of the station emergency diesel generators. The issue was determined to result in more than a minimal increase in the consequences of a malfunction of an structure, system, or component important to safety evaluated in the UFSAR, since jacket water leakage could go undetected for up to 12 hours and affect diesel operability. Thus, a license amendment was required. In accordance with the NRC Enforcement Manual, violations of 10 CFR 50.59 are not processed through the significance determination process. Therefore, this issue was considered applicable to traditional enforcement. Although the significance determination process is not designed to assess significance of violations that potentially impact or impede the regulatory process, the result of a 10 CFR 50.59 violation can be assessed significance through the significance determination process. The lead inspector and the Region IV senior reactor analyst discussed the significance of this finding. An SDP Phase 1 screening was performed and the finding was determined to have very low safety significance because there was no actual loss of the mitigating system safety function. The licensee entered this issue into its corrective action program as CRDR 2711244.
Inspection Report# : 2005002*(pdf)*

Significance: G Mar 17, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
FAILURE TO IDENTIFY AN OPERATOR CHALLENGE FOR A BROKEN SWITCH

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to follow procedures to implement compensatory measures and properly track an operator work around for a breaker handswitch with a broken operating knob. When questioned by the inspectors, operations personnel were not able to immediately locate the tools needed to operate the defective handswitch. This issue was entered into the corrective action program as Condition Report/Disposition Request 2807501.

The finding is determined to be greater than minor because if left uncorrected, it could become a more significant safety concern in that operators may not be able to operate equipment necessary to respond to initiating events. Using the Phase 1 Worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affects the mitigating systems cornerstone and did not result in the actual loss of a safety function
Inspection Report# : 2005003*(pdf)*

Significance: G Mar 16, 2005
Identified By: NRC
Item Type: FIN Finding
FAILURE TO TRACK CONTROL ROOM DISCREPANCIES
The inspectors identified a finding for the failure to follow administrative guidelines provided to operations personnel for identifying, documenting, and tracking main control room deficiencies. Specifically, approximately 75 control room instrument and control room meter face plates in Units 1, 2, and 3 were degraded and were not individually tracked in the control room discrepancy log. Furthermore, discrepancy labels containing the control room discrepancy log number and description of the discrepancy were not placed adjacent to or as close as possible to each affected device. This issue was entered into the corrective action program as Condition Report/Disposition Request 2782501.

The finding is determined to be greater than minor because if left uncorrected, it could become a more significant safety concern in that the condition could cause an operator to take an inappropriate action based on expected plant response or conversely cause an operator not to take action when action is required. The senior reactor analyst determined that this finding was not appropriate to be evaluated using the significance determination process since this finding was associated with multiple human performance actions. Based on management review, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and there was no adverse impact to plant equipment.

Inspection Report# : 2005002*(pdf)*

Significance: G Feb 25, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
SCAFFOLDING ERECTED WITH INADEQUATE CLEARANCES AND NO ENGINEERING EVALUATION
The inspectors identified a noncited violation of Technical Specification 5.4.1.a for failing to follow a maintenance procedure and associated engineering specification governing scaffold erection near safety-related components. Specifically, the licensee built approximately 85 scaffolds within the 2-inch clearance requirement and did not obtain engineering approval for the scaffolding installed in close proximity to safety-related equipment, as specified in Engineering Design Change 2000-00463. This issue involved human performance crosscutting aspects (personnel) associated with not following work instructions. This issue was entered into the corrective action program as Condition Report/Disposition Request 2779469.

The finding is determined to be greater than minor because if left uncorrected, the finding would become a more significant safety concern in that improperly installed scaffolding could impact the availability of mitigating equipment. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and all subsequent engineering evaluations determined that there was no adverse affect to the mitigating equipment.

Inspection Report# : 2005002*(pdf)*

Significance: Y Dec 09, 2004
Identified By: NRC
Item Type: VIO Violation
FAILURE TO MAINTAIN DESIGN CONTROL OF CONTAINMENT SUMP RECIRCULATION PIPING
The team identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to establish measures to assure design basis information was translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to maintain the safety injection sump suction piping full of water in accordance with the Updated Final Safety Analysis Report. This nonconformance had the potential to significantly affect the available net positive suction head described in the Updated Final Safety Analysis Report for the high pressure safety injection and containment spray pumps, since the analysis assumed the piping would be maintained full of water.
{NOTE: Finding remains open - IP 95002 results pending 12/16/2005}

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events.

The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that the issue had substantial safety significance (Yellow). After considering the information developed during the inspection and the results of testing sponsored by the licensee, the NRC has concluded that this inspection finding is appropriately characterized as Yellow. The final Significance Determination Process letter was issued on April 8, 2005. This issue will be inspected within the scope of a supplemental 95002 inspection in August - September, 2005.
Inspection Report# : 2004014*(pdf)*

Barrier Integrity

Significance: G Jun 30, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
FAILURE TO IMPLEMENT PROCEDURES FOR HANDLING SPENT FUEL
Three examples of a self-revealing noncited violation of 10 CFR Part 50, Criterion V, "Instructions Procedures, and Drawings," was identified for failing to properly implement procedures for refueling equipment. Specifically, refueling personnel did not: (1) complete a functional retest following maintenance on the spent fuel handling machine as required by Work Order 2781146, (2) ensure that spent fuel was in a safe condition, stop fuel handling operations, or contact the shift manager to determine the need to complete an event recovery checklist when a deficiency was identified with fuel handling equipment as required by Procedure 40DP-9OP02, "Conduct of Shift Operations," and (3) ensure the material balance area short form was present on the spent fuel handling machine to perform proper independent verification or verify that the bridge and trolley were over the correct fuel assembly as required by Procedure 78OP-9FX03, "Spent Fuel Handling Machine." This issue involved human performance crosscutting aspects associated with operator decision making and not following procedures. This issue also involved problem identification and resolution crosscutting aspects associated with the failure to correct a condition adverse to quality since there have been similar occurrences where operators failed to recognize the need to perform the event recovery checklist. This issue was entered into the corrective action program as Condition Report/Disposition Requests 2791974 and 2792326.

The finding is greater than minor since it could become a more significant safety concern if left uncorrected in that handling spent fuel with degraded equipment impacts the ability to safely handle spent fuel and increases the likelihood of a fuel handling accident. This finding cannot be evaluated by the significance determination process because Manual Chapter 0609, "Significance Determination Process," Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," and Appendix G, "Shutdown Operations Significance Determination Process," do not apply to the spent fuel pool. This finding affects the barrier integrity cornerstone and is determined to be of very low safety significance by NRC management review because it was a deficiency that did not result in the actual degradation of spent fuel
Inspection Report# : 2005003*(pdf)*

Emergency Preparedness

Significance: SL-III Mar 20, 2005
Identified By: NRC
Item Type: VIO Violation
CHANGE TO RADIOLOGICAL EMERGENCY ACTION LEVELS WHICH DECREASED THE EFFECTIVENESS OF THE EMERGENCY PLAN
The inspector identified an apparent violation of 10 CFR 50.54(q) for implementing a change to emergency action levels, which decreased the effectiveness of the emergency plan. Emergency Plan Implementing Procedure 99, "EPIP Standard Appendices," Revision 2, removed from two emergency action levels site boundary exposure rate as measured in the environment as a classifiable condition.

Implementation of changes to emergency action levels, which decreased the effectiveness of the emergency plan was a performance deficiency. The finding is more than minor because removal of a classifiable condition from licensee emergency action levels has the potential to impact safety, and licensee implementation of a change to their emergency plan, which decreases the effectiveness of the plan without prior NRC approval, impacts the regulatory process. This finding is an apparent violation of 10 CFR 50.54(q). The licensee has entered this issue into their corrective action system as Condition Report/Disposition Request 2774185.

The NRC informed Arizona Public Service Company of an apparent violation of emergency planning requirements by letter dated April 5, 2005. A predecisional Enforcement Conference was conducted with the licensee June 1, 2006. The licensee was subsequently informed of a Severity Level III Notice of Violation for a decrease in effectiveness of their emergency plan by a letter dated, June 27, 2005. An IP95001 supplemental inspection will be conducted during January 2006 to evaluate the licensee's root cause analysis and corrective actions.
Inspection Report# : 2005011*(pdf)*

Significance: G Mar 18, 2005
Identified By: NRC

Item Type: NCV NonCited Violation
FAILURE TO CORRECT THE DEVELOPMENT OF PROTECTIVE ACTION RECOMENDATIONS NOT IN ACCORDANCE WITH FEDERAL GUIDANCE
The inspectors identified a noncited violation of 10 CFR 50.54(q). The licensee failed to correct a practice which could result in an evacuation protective action recommendation for segments of the population that would not benefit from evacuation, contrary to federal guidance.

This finding is more than minor because it was associated with a cornerstone attribute and affected the emergency preparedness cornerstone objective to ensure the adequate protection of the public health and safety. This finding is of very low safety significance because this practice could result in an increased dose to the evacuating public by evacuating some areas unnecessarily, but would not prevent the notification of appropriate protective action recommendations to those members of the public who did require evacuation.

Inspection Report# : 2005002*(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Significance: G Feb 04, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO SHIP RADIOACTIVE MATERIAL CORRECTLY
The team reviewed a self-revealing, non-cited violation of 10 CFR 71.5, which occurred when the licensee failed to ship radioactive material correctly. A radioactive shipment classified as an "excepted package-limited quantity" exceeded the external dose rate limitation of 0.5 millirem per hour because licensee personnel failed to ensure that the package contents could not shift during transportation. The package recipient identified dose rates of 0.8 millirems per hour on the exterior surface of the package and notified the licensee of the problem.

The finding is greater than minor because it was associated with a Public Radiation Safety cornerstone attribute (human performance) and it affected the associated cornerstone objective because the failure to correctly ship radioactive material decreases the licensee's assurance that the public will not receive unnecessary dose. However, this finding cannot be evaluated by the Public Radiation Safety Significance Determination Process because it does not involve radioactive shipments classified as Schedule 5 through 11, as described in NUREG-1660, and it does not fit traditional enforcement. Therefore, the finding was reviewed by NRC management and determined to be of very low safety significance. Additionally, this finding had cross-cutting aspects associated with human performance (personnel). The individual directly contributed to the finding when the licensee's shipper failed to ensure that the package contents could not shift. The finding was placed into the licensee's corrective action program.
Inspection Report# : 2005009*(pdf)*

Significance: G Feb 04, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CONTROL RADIOACTIVE MATERIAL
The team reviewed a self-revealing, non-cited violation of Technical Specification 5.4.1, which occurred when the licensee failed to prevent radioactive material from leaving the radiological controlled area and the protected area. A tape measure worn on the lanyard of a radiation protection technician was not evaluated for the presence of radioactive material before its release from the radiological controlled area. The licensee discovered the radioactive material when the individual was whole body counted; however, the discovery was fortuitous because the licensee's procedural guidance did not specify that items, such as the lanyard, be worn consistently during the whole body counting process. The quantity of radioactive material on the tape measure would have been identified by the licensee's cabinet radiation detectors had the radiation protection technician used one as required.

The finding is greater than minor because it was associated with a Public Radiation Safety cornerstone attribute (human performance) and it affected the associated cornerstone objective because the failure to control radioactive material decreases the licensee's assurance that the public will not receive unnecessary dose. Using the Public Radiation Safety Significance Determination Process, the team determined that the finding had very low safety significance because: (1) it was was a radioactive material control finding, (2) it was not a transportation finding, (3) it did not result in public dose greater than 0.005 rem, and (4) the number of occurrences was not greater than five. Additionally, this finding had cross-cutting aspects associated with human performance (personnel). The individual directly contributed to the finding when the radiation protection technician failed to use the established process to evaluate the tool for radioactive contamination. The finding was placed into the licensee's corrective action program.
Inspection Report# : 2005009*(pdf)*

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Last modified : March 03, 2006

Palo Verde 2
1Q/2006 Plant Inspection Findings

Initiating Events

Significance: G Apr 03, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
INADVERTENT SAFETY INJECTION DURING INTEGRATED SAFEGUARDS TESTING
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for an inadequate surveillance procedure which resulted in an inadvertent safety injection and subsequent reactor coolant system level transient. Specifically, an integrated safeguards test procedure cautioned operations personnel to evaluate the pressure difference between the reactor coolant system and safety injection tanks prior to any actuation that opened the safety injection tank outlet isolation valves. The procedure was inadequate in that it failed to caution the operator to consider level differences which could potentially impact the total pressure head of the system. This issue involved human performance crosscutting aspects associated with inadequate operations procedures. This issue was entered into the corrective action program as Condition Report/Disposition Request 2786378.

The finding is determined to be greater than minor because it affected the procedure quality attribute of the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. Using Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," this finding is determined to have very low safety significance because the event did not constitute a loss of level control and did not represent a finding requiring quantitative assessment. The finding did not increase the likelihood of loss or cause a degradation in the ability to restore decay heat removal, reactor coolant system inventory, offsite power, alternate core cooling, or containment
Inspection Report# : 2005003*(pdf)*

Mitigating Systems

Significance: G Feb 03, 2006
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
UNTIMELY CORRECTIVE ACTIONS FOR FEEDWATER PUMP RESISTOR FAILURES
A self-revealing, noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” was identified for failure to correct, and preclude repetition of, a significant condition adverse to quality involving the failure of the turbine driven auxiliary feedwater pump. Specifically, the licensee failed to perform a timely evaluation to determine the cause of the Units 2 and 3 turbine driven auxiliary feedwater pump governor power supply resistor failures. Approximately 7 months following the Unit 2 and 3 failures, the Unit 2 turbine driven auxiliary feedwater pump governor failed again due to the same resistor failure. The licensee entered the deficiency into their corrective action program for resolution.

The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the availability of systems that respond to initiating events. The failure of the Unit 2 turbine driven auxiliary feedwater pump governor power supply resistor affected the availability of the auxiliary feedwater system. Using the Phase 1 worksheet in Manual Chapter 0609, “Significance Determination Process,” the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone and did not result in an actual loss of safety function. The cause of the finding is related to the cross-cutting element of problem identification and resolution, in that, delays in the evaluation of the resistors failures allowed a subsequent failure prior to completion of the corrective actions. (Section 4OA2e(2)(i)
Inspection Report# : 2006008*(pdf)*

Significance: G Feb 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROMPTLY CORRECT AN ADVERSE TREND OF CONTAMINATED OIL SAMPLES
A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to correct an adverse trend of contaminated oil samples in a timely manner. Specifically, on April 1, 2005, the licensee identified an increasing trend of incorrect lubricant oil additions and contaminated oil samples and entered the deficiency in their corrective action program. As of January 2006, the inspectors concluded that the corrective actions taken as a result of the identified oil control deficiency were untimely, in that, 9 months later

the frequency of new instances of oil control problems documented in the corrective action program remained unchanged. The licensee entered the deficiency into their corrective action program for resolution.

The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheet, the finding was determined to have very low safety significance because it only affected the mitigating systems cornerstone and did not result in the loss-of-safety function of a single train or system. The cause of the finding is related to the cross-cutting element of problem identification and resolution, in that, poor work practices resulted in multiple oil contamination events and the corrective actions taken were ineffective in promptly correcting the condition. (Section 4OA2e(2)(ii))

Inspection Report# : 2006008*(pdf)*

Significance: G Feb 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO MEET MAINTENANCE TEST REQUIREMENTS
A noncited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," was identified for failure to perform required testing of the Unit 3 essential cooling water system Pump EWP01 breaker in accordance with requirements and acceptance limits. Pump EWP01 breaker test procedure established tolerances and acceptance criteria for the breaker sub-component clearances that were documented as not being met. The licensee entered the deficiency into their corrective action program for resolution.

This finding was more than minor since it affected the equipment performance attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The failure to meet recommended tolerances and acceptance limits specified was similar to Manual Chapter 0612, Appendix E, more than minor example 2.c., in that, the issue was repetitive and affected multiple breakers tested. Using Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheet, the finding was determined to have very low safety significance because the condition was a qualification deficiency confirmed not to result in loss of function. The cause of the finding is related to the cross-cutting element of human performance in that maintenance personnel failed to properly implement maintenance procedures, and the deficient conditions were not identified by supervisory review of the completed procedures. (Section 4OA2e(2)(iii))
Inspection Report# : 2006008*(pdf)*

Significance: G Feb 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IDENTIFY A MAINTENANCE RULE FUNCTIONAL FAILURE
A noncited violation of 10 CFR 50.65(a)(2) was identified for failure to set goals and monitor the performance of the low pressure safety injection/shutdown cooling Pump 2A. Specifically, in May 2005, the licensee failed to accurately account for 15 hours of unavailability time for the low pressure safety injection/shutdown cooling Pump 2A, which when re-evaluated exceeded the performance trigger to enter (a)(1) monitoring. The licensee entered this deficiency into its corrective action program for resolution.

The finding is more than minor because it affects the equipment performance attribute of the mitigating systems cornerstone objective to maintain availability and reliability of structures systems and components needed to respond to initiating events and had a credible impact on safety. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the finding is determined to have very low safety significance because there was no design deficiency and the low pressure safety injection/shutdown cooling Pump 2A failure did not exceed the allowed technical specification outage time. The cause of the finding is related to the cross-cutting element of human performance in that the initial evaluation and subsequent supervisory reviews failed to identify the need for additional monitoring of the low pressure safety injection/shutdown cooling Pump 2A. (Section 4OA2e(2)(v))

Inspection Report# : 2006008*(pdf)*

Significance: N/A Feb 03, 2006
Identified By: NRC
Item Type: FIN Finding
PERFORMANCE DECLINE IN PROBLEM IDENTIFICATION AND RESOLUTION
The inspectors reviewed approximately 175 condition reports, 65 work orders, associated root and apparent cause evaluations, and other supporting documentation to assess problem identification and resolution activities. Performance had declined significantly when compared to the previous problem identification and resolution assessment. Significant delays in evaluation of the significance of an identified problem, as well as identification of appropriate corrective actions, created a condition of large corrective action backlogs, repeat events, and continued non-compliances. The delays in completion of corrective actions continued to result in a significant number of self-disclosing and NRC identified violations and findings. Further, the licensee initiated actions to address the substantive cross-cutting issues in human performance and problem identification and resolution, however, the majority of the corrective actions are not completed and some of the initial completed actions were not fully effective. The corrective action program processes and procedures were generally adequate, but weaknesses in those processes were significantly challenged with an increased backlog of corrective actions. Also, competing priorities between resources and the

backlog of corrective actions created a condition where many corrective actions were significantly delayed in their completion, contributing to failures to adequately implement the corrective action process.

Based on interviews conducted, the inspectors concluded that a positive safety conscious work environment exists at the Palo Verde Nuclear Station. Employees felt free to raise safety concerns to their supervision, to the employee concerns program, and to the NRC. The interviewees indicated their assurance that potential safety significant problems would be identified and addressed, although challenges existed in timely completion of identified actions. The interviewees did not have the same level of assurance that less significant problems would be adequately addressed
Inspection Report# : 2006008*(pdf)*

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROMPTLY CORRECT AN ADVERSE CONDITION WITH THE REFUELING WATER TANK INSTRUMENT PIT
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to correct a condition adverse to quality involving the refueling water tank instrument pit. Specifically, in August 2003, the licensee inadvertently cancelled the work orders to correct deficiencies associated with flooding of the refueling water tank instrument pit. This error was identified by the licensee in October 2004; however, corrective actions were inadequate to ensure timely correction of the adverse condition. Additionally, two of the three work orders were inappropriately closed with no work performed following the inspectors' identification of the issue in August 2005. After identification by the inspectors, the licensee installed temporary modifications to prevent water intrusion into the pit. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2838845.

The finding is greater than minor because it is associated with the protection against external factors cornerstone attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding required a Phase 3 analysis by a senior reactor analyst, since the finding was potentially risk significant due to external initiating event core damage sequences. A senior reactor analyst performed a qualitative assessment and concluded that the finding had very low safety significance. The cause of the finding is related to the crosscutting element of problem identification and resolution in that corrective actions lacked timeliness, adequacy, and thoroughness.

Inspection Report# : 2005005*(pdf)*

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO DEMONSTRATE EFFECTIVE MAINTENANCE OF HOT LEG RESISTANCE TEMPERATURE DETECTORS
The inspectors identified a noncited violation of 10 CFR 50.65(a)(2) for the failure to demonstrate that the performance or condition of three reactor coolant system resistance temperature detectors had been effectively controlled and monitored against licensee-established goals. Specifically, the licensee failed to identify, and properly account for, three detector functional failures occurring from May 31, 2004 to June 23, 2005. Consequently, the licensee did not establish appropriate goal setting and monitoring for the detectors. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2856282.

The finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the condition only affected the mitigating systems cornerstone and did not represent an actual loss of safety function. The cause of the finding is related to the crosscutting element of problem identification and resolution in that the licensee failed to identify the need to perform a maintenance rule functional failure review for failed resistance temperature detectors.

Inspection Report# : 2005005*(pdf)*

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CORRECT AN IDENTIFIED ADVERSE CONDITION ASSOCIATED WITH MAINTENANCE DEPARTMENT GUIDELINES
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to correct a condition adverse to quality involving the use of Maintenance Department Guidelines. Specifically, instrumentation and controls personnel did not complete actions used as a basis for closure for Condition Report/Disposition Request 2715129. In addition, the extent of condition review did not identify the continued active use of Maintenance Department Guidelines to perform quality related activities. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2830633.

The finding is greater than minor because it is associated with the procedure quality cornerstone attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the finding did not result in the loss of safety function of any component, train, or system. The cause of the finding is related to the crosscutting element of problem identification and resolution in that maintenance personnel did not implement timely corrective actions and performed a poor extent of condition review.
Inspection Report# : 2005005*(pdf)*

Significance: SL-IV Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO SUBMIT LER TO REPORT SHUTDOWN REQUIRED BY TECHNICAL SPECIFICATIONS
The inspectors identified a noncited Severity Level IV violation of 10 CFR 50.73 for the failure to submit a licensee event report within 60 days to report the completion of a plant shutdown required by the Technical Specifications. A second similar example of a violation of the same regulation was identified by the licensee. Specifically, the licensee was required to submit a licensee event report by May 17, 2005, to report the completion of a plant shutdown required by the Technical Specifications that occurred on March 18, 2005. This licensee event report was submitted on November 7, 2005. Additionally, the licensee was required to submit a licensee event report by April 10, 2005, to report the completion of a plant shutdown that occurred on February 9, 2005. A revised licensee event report was submitted on January 6, 2006. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Requests 2829976 and 2844019.

The finding was determined to be applicable to traditional enforcement because the NRC's ability to perform this regulatory function was potentially impacted by the licensee's failure to report the event. The finding was determined to be a Severity Level IV violation in accordance with Section D.4 of Supplement I of the NRC Enforcement Policy. The finding is not suitable for evaluation using the significance determination process, but has been reviewed by NRC management and is determined to be a finding of very low safety significance. The cause of the finding is related to the crosscutting element of problem identification and resolution in that the transportability review, conducted by regulatory affairs personnel, failed to identify an additional example of a missed reportable event that was subsequently identified by the NRC.

Inspection Report# : 2005005*(pdf)*

Significance: G Dec 16, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
IMPROPER DESIGN CONTROL FOR EMERGENCY CORE COOLING SYSTEM SUMP AND REFUELING WATER TANK SWAPOVER
The inspectors identified a noncited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," related to potential air entrainment into the emergency core cooling system suction header from the refueling water tank. Specifically, the inspectors determined that the water level in the refueling water tank could fall below the level of the tank discharge pipe and associated vortex breaker during the transfer from the refueling water tank to the containment sump during design basis accidents. As a result, air could be drawn into the emergency core cooling system piping under accident conditions. This issue was applicable to both trains of all three units. Contrary to proper design control, engineering personnel failed to effectively implement design requirements to prevent potential air entrainment into the emergency core cooling system.

The inspectors considered this finding to be more than minor, in accordance with NRC Manual Chapter 0612, "Power Reactor Inspection Reports," since it potentially affected the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and it affected the attributes of design and configuration control. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the inspectors determined that the issue was of very low safety significance (Green) because there was no actual loss of safety function. Because the violation was determined to be of very low safety significance and has been entered into the corrective action program as condition report/disposition request (CRDR 2835132), this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy. The inspectors also determined this issue had cross-cutting aspects of human performance. Specifically, the licensee's attention to detail was lacking and there was poor inter- and intra-group coordination.
Inspection Report# : 2005012*(pdf)*

Significance: G Dec 16, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
IMPROPER DESIGN CONTROL FOR CONDENSATE STORAGE TANK AND REACTOR WATER MAKEUP TANK USABLE VOLUME TO AUXILIARY FEEDWATER
The inspectors identified two examples of a noncited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," for failure to translate the design basis volume of 300,000 gallons of usable volume in the condensate storage tank (CST) and reactor water makeup tank (RWMT) into the station's instructions, procedures, or drawings. Without this information, operators were unaware that Technical Specification minimum levels, specified in feet, may not provide sufficient usable volumes of water for auxiliary feedwater pump operation. Contrary to proper design control, the licensee failed to effectively implement design requirements to ensure operability of the auxiliary feedwater system.

These two examples of a violation affect the Mitigating Systems cornerstone and are more than minor because they were similar to Example 3.I of Manual Chapter 0612, and design calculations were required to be re-performed to assure accident requirements were met. In both instances, the originally calculated available inventory was less than the actual required design basis inventory of 299,700 gallons. Subsequent calculations by engineering personnel, including significant reduction in margins, demonstrated that minimum required volumes in the CST and RWMT were maintained. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the inspectors determined that the issue was of very low safety significance (Green) because there was no actual loss of safety function. Because the violation was determined to be of very low safety significance and has been entered into the corrective action program as condition report/disposition requests (CRDRs 2839337, 2840186, and 2841773), this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy. The inspectors also determined this issue had cross-cutting aspects of human performance. Specifically, the licensee's attention to detail was lacking and there was poor inter- and intra-group coordination.
Inspection Report# : 2005012*(pdf)*

Significance: G Dec 16, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
IMPROPER DESIGN CONTROL FOR REFUELING WATER TANK LEVEL INSTRUMENT CALIBRATION
The inspectors identified a noncited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," for failure to translate design basis information into the calibration of refueling water tank level instruments. Without this information, operators were unaware that a Technical Specification listed minimum level in this tank may not provide sufficient usable volume of water for emergency core cooling system operation. Specifically, engineers failed to density compensate these instruments for allowable ranges of both temperature and boric acid concentration of the tank. Contrary to proper design control, the licensee failed to effectively implement design requirements to ensure operability of the refueling water tank.

This issue was determined to affect the Mitigating Systems cornerstone and was more than minor based upon review of Example 3.j of Manual Chapter 0612, Appendix E. The errors were considered more than a minor calculation error because the deficiencies required re-performance of the calculations, significantly reduced the overall margin, and could be applicable to other such instrumentation calculations. However, engineering personnel demonstrated that while there was a loss of margin, there was no actual loss of function because of the inaccuracies in the RWT level instrument calibrations. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the inspectors determined that the issue was of very low safety significance (Green) because there was no actual loss of safety function. Because the violation was determined to be of very low safety significance and has been entered into the corrective action program as condition report/disposition request (CRDR 2840920), this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy.
Inspection Report# : 2005012*(pdf)*

Significance: G Dec 16, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROPERLY IMPLEMENT STATION PROCEDURE FOR EQUIPMENT OPERABILITY (TECHNICAL SPECIFICATION 5.4.1.a)
The inspectors identified three examples of a (Green) noncited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings." Specifically, these examples involved the licensee's failure to follow a procedure and to provide appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished, consistent with the facility's administrative procedure for the operability determination process. In the first case an engineer evaluated a concern in a condition report/disposition request without notifying the control room so an operability assessment could be performed. In the other cases, there was inadequate guidance given to operators to address when an operability assessment would be required.

The inspectors considered this finding to be more than minor, in accordance with Manual Chapter 0612, since it potentially affected the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and it affected the attributes of procedure quality and human performance. However, subsequent evaluations completed by the licensee verified that actual safety functions were not lost in any of these examples. The inspectors performed a Phase 1 significance determination, using NRC Manual Chapter 0609, and determined this issue screens out as having very low safety significance (Green) because a safety function was not lost. Because the violation was determined to be of very low safety significance and has been entered into the corrective action program as Condition Report/Disposition Request 2838626, this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy. The inspectors also determined this issue had cross-cutting aspects of human performance. Specifically, the licensee's attention to detail was lacking and there was poor inter- and intra-group coordination.

The inspectors identified an additional example of the Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," described in NRC Supplemental Inspection Report 05000528; 05000529; 05000530/2005012, for the failure to establish an adequate procedure and implement existing procedures involving implementation of the operability determination process. The inspectors also identified examples where information provided to operations from engineering was not sufficiently accurate or complete to support operational decision making with respect to capacitor service life and the overall impact of the identified degraded or non-conforming capacitors. On November 1, 2005, the licensee inappropriately determined that the operability determination process was not applicable for a degraded capacitor condition that had the potential to impact Class 1E inverter operability. Consequently, the degraded condition was evaluated

outside the operability determination process. Because the finding is of very low safety significance and has been entered into the corrective action program as Condition Report/Disposition Request 2838626. The cause of the finding is related to the crosscutting element of human performance in that communications between the engineering and operations organizations was inadequate.

Inspection Report# : 2005012*(pdf)*

Significance: N/A Dec 16, 2005
Identified By: NRC
Item Type: FIN Finding
SUMMARY FINDING. 95002 INSPECTORS ASSESSMENT OF IR2004-14 SEVERITY LEVEL III VIOLATION FOR 50.59 ISSUE
The U.S. Nuclear Regulatory Commission (NRC) performed this supplemental inspection, in part, to assess the licensee's evaluation and corrective actions associated with an inappropriate change to an emergency core cooling system procedure without prior NRC approval. This procedure change rendered portions of the system inoperable because of voiding. This performance issue was previously characterized as a Severity Level III violation of 10 CFR 50.59 and was originally identified in NRC Inspection Report 05000528; 529; 530/2004014. During this supplemental inspection, performed in accordance with Inspection Procedure 95002, the inspectors determined that the licensee's evaluation identified the primary root causes of the performance issue to be: (1) The site procedure revision process (01AC-0AP02) was inadequate, in that, the procedure allowed ‘pre-screening' of changes that could potentially bypass performing a 10 CFR 50.59 screening for changes to the facility as described in the licensing basis; and (2) The corrective action program implementation was ineffective. The licensee also identified overlap and interface problems between the corrective action program, the engineering evaluation request program, and the instruction change request program. These issues, in conjunction with inadequate training to recognize a corrective action condition, contributed to the failure of station personnel to initiate a corrective action program input document in 1992 for the potential pipe voiding concern. The inspectors concluded that the licensee's evaluation and implemented corrective actions were appropriate to reasonably prevent repetition of the 10 CFR 50.59 violation.

Given the licensee's acceptable performance in addressing the inappropriate procedure change and 10 CFR 50.59 program deficiencies, the Severity Level III violation is closed.
Inspection Report# : 2005012*(pdf)*

Significance: N/A Dec 16, 2005
Identified By: NRC
Item Type: FIN Finding
SUMMARY FINDING. 95002 INSPECTORS ASSESSMENT OF IR2004-14 (YELLOW) 10CFR50, APP B, CRITERION III VIOLATION
The NRC performed this supplemental inspection, in part, to assess the licensee's evaluation and corrective actions associated with potential air entrainment into the emergency core cooling system. The licensee failed to incorporate original design requirements into the plant to maintain piping between the containment sump isolation valves filled with water. This performance issue was previously characterized as a 10 CFR 50, Appendix B, Criterion III, violation having substantial safety significance (Yellow), and was originally identified in NRC Inspection Report 05000528; 529; 530/2004014. The inspectors determined that the licensee's evaluation identified a direct cause, nine root causes, and nine contributing causes of the performance issue. The evaluation was also used to develop an extensive list of corrective actions. The inspectors found the licensee's methods of evaluation to be appropriate.

The NRC concluded that, while the licensee performed an adequate root cause evaluation of the Design Control violation, certain corrective actions were incomplete at the time of this inspection. Specifically, the team determined that for each of the root and contributing causes, not all corrective actions were sufficiently developed to ensure that the identified performance deficiencies were adequately addressed. In addition, some of the corrective actions were narrowly focused, or the implementation of those actions was not fully effective. Also, the team concluded that criteria and reviews were not established, for auditing or followup, to ensure that corrective actions were effective in improving performance in the affected areas. Consequently, the team did not have assurance that the planned corrective actions were sufficient to address the causes for the performance deficiencies associated with the violation. Therefore, the (Yellow) violation (VIO 2004/014-01) will remain open for further NRC review.
Inspection Report# : 2005012*(pdf)*

Significance: G Sep 30, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
IMPROPER VISUAL ANALYSIS OF BEARING OIL SAMPLE
The inspectors identified a noncited violation of Technical Specification 5.4.1.a for the failure of maintenance personnel to follow Procedure 31DP-9ZZ01, "Lubricant Sampling," and Work Order 2724849. Specifically, a maintenance technician incorrectly determined that the oil sample taken from the Unit 2 high pressure safety injection (HPSI) pump was satisfactory, when the oil sample did not meet the acceptance criteria. Consequently, immediate actions to address potential equipment deficiencies were not taken until the samples were analyzed by a lubrication engineer approximately two weeks later. This finding involved human performance crosscutting aspects associated with maintenance personnel following procedures and attention to details. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2828545.

The finding is greater than minor since the failure to follow the lubricant sampling process, if left uncorrected, would become a more

significant safety concern in that degraded equipment conditions may not be identified and corrected in a timely manner. A Phase 2 analysis was required because the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, determined that there was a loss of the long term cooling safety function of a single train of HPSI for greater than the Technical Specification allowed outage time. A senior reactor analyst determined that the HPSI pump was only required to operate for 24 hours to meet the assumptions necessary in the risk model to preclude sequences that result in core damage. Consequently, this finding is determined to have very low safety significance (Section1R19)
Inspection Report# : 2005004*(pdf)*

Significance: G Sep 30, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW PROCEDURES DURING CORE PROTECTION CALCULATOR SOFTWARE INSTALLATION AND TESTING
The inspectors identified two examples of a noncited violation of Technical Specification 5.4.1.a for the failure to follow Procedure 77ST-9SB19, "CPCS Channel Functional Test," and Work Order 2824743 during core protection calculator software installation. Specifically, maintenance technicians: (1) failed to change the software loading instructions of Work Order2824743 prior to proceeding with the core protection calculator software installation when it could not be used as written, and (2) failed to follow the surveillance test procedure used to perform a core protection calculator functional test. This finding involved human performance crosscutting aspects associated with instrumentation and controls personnel following procedures. This finding also involved problem identification and resolution crosscutting aspects associated with instrumentation and controls personnel identifying degraded or nonconforming conditions. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2825189.

The finding is greater than minor since it could become a more significant safety concern in that the failure to follow procedures when performing maintenance and testing on safety related equipment could result in an unintentional actuation or impact the ability of the equipment to perform it’s required function. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone and did not result in the loss of safety function of a single train or system for greater than the Technical Specification allowed outage time (Section 1R19).
Inspection Report# : 2005004*(pdf)*

Significance: G Sep 30, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM LICENSING DOCUMENT CHANGE REQUET AND 10 CFR 50.59 SCREENING FOR ABANDONMENT OF THE BORONOMETER
The inspectors identified a noncited violation of 10 CFR Part50, AppendixB, CriterionXVI, "Corrective Action," for the failure to correct a discrepancy between the current condition of the boronometer and the required configuration described in the Updated Final Safety Analysis Report. Specifically, in April 2003 the licensee identified the need to perform a Licensing Document Change Request and a corresponding 10 CFR 50.59 screening due to the abandonment of the Updated Final Safety Analysis Report required boronometer, but failed to implement corrective actions to ensure that the Licensing Document Change Request and 10CFR 50.59 screening were performed. This issue involved problem identification and resolution crosscutting aspects associated with engineering personnel implementing timely corrective actions. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2823704.

The finding is greater than minor because it was associated with the design control performance attribute of the mitigating systems cornerstone and affects the cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using the Manual Chapter0609, "Significance Determination Process," Phase1 Worksheet, the finding is determined to have very low safety significance because there was no actual loss of safety function (Section 4OA2).
Inspection Report# : 2005004*(pdf)*

Significance: G Sep 30, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
IMPROPER CONTROL OF DESIGN PARAMETERS FOR THE EX-CORE SAFETY CHANNELS
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the improper control of design parameters for the ex-core nuclear instrument safety channels in that engineering personnel did not correctly translate design requirements, nor did they properly control design basis information regarding ex-core safety channels. Additionally, Technical Specification required values were maintained apart from design calculations and documents. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2612092.

This finding is greater than minor because if left uncorrected it could become a more significant safety concern in that failures to maintain design calculations could result in the incorrect setting of safety related devices. The finding is associated with the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because there was not an actual loss of safety function.
Inspection Report# : 2005004*(pdf)*

Significance: SL-IV Sep 30, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
INCOMPLETE AND INACCURATE INFORMATION ASSOCIATED WITH THE EX-CORE SAFETY CHANNELS.
The inspectors identified a noncited Severity Level IV violation of 10 CFR 50.9 for providing incomplete or inaccurate information to the NRC. Specifically, the licensee provided incomplete and inaccurate information regarding the design control of ex-core safety channel log power instrument setpoints. This information was determined to be material in that it affected the NRC's ability to determine compliance with NRC requirements. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2829051.

This finding was not assessed via NRC Manual Chapter 0609, "Significance Determination Process," because the licensee's actions impeded the regulatory process. Therefore, this finding is associated with the mitigating systems cornerstone. The inspectors determined that engineering personnel had additional information, including the subsequently corrected revision of the calculation going through final verification, and additional explanatory setpoint procedures, which were not referenced or provided during the original correspondence by the licensee. Had the complete and accurate information been supplied at the time of the original request in 2003, the NRC would have identified a design control violation at that time. The safety consequence of this issue is of very low safety significance, in that there was no actual loss of a safety function.
Inspection Report# : 2005004*(pdf)*

Significance: G May 17, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CORRECT A CONDITION ADVERSE TO QUALITY
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to identify and correct a deficiency in the method of testing the auxiliary feedwater pump discharge check valves. Specifically, in 1998 the licensee identified the need to test the auxiliary feedwater pump Train B discharge check valve for leak tightness, but failed to implement the appropriate corrective actions to incorporate testing into Procedure 73ST-9XI38, "AF Pumps Discharge Check Valves - Inservice Test." This issue involved problem identification and resolution crosscutting aspects associated with the failure to implement timely corrective actions. This issue was entered into the corrective action program as Condition Report/Disposition Request 2800972.

The finding is greater than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because there was no actual loss of safety function.
Inspection Report# : 2005003*(pdf)*

Significance: G Apr 29, 2005
Identified By: Self-Revealing
Item Type: FIN Finding
INADVERTENT ESFAS ACTUATION
A self-revealing finding was identified for the failure to properly sequence work to maintain power to engineered safety features system cabinet Train B. Specifically, operations personnel prematurely implemented a tagout permit prior to restoring the redundant power supply following maintenance. The work sequencing performance deficiency resulted in the loss of vital power to the cabinet; thereby, initiating an inadvertent engineered safety features actuation. This issue involved human performance crosscutting aspects associated with inadequate communications between work control groups and a poor awareness of the plant configuration. This issue was entered into the corrective action program as Condition Report/Disposition Request 2796508.

The finding is greater than minor since it was associated with the configuration control attribute of the mitigating systems cornerstone and affects the cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. This finding cannot be evaluated by the significance determination process because Manual Chapter 0609, "Significance Determination Process," Appendix G, "Shutdown Operations Significance Determination Process," do not apply when the reactor is defueled. This finding is determined to be of very low safety significance by NRC management review because it was a deficiency that did not result in actual safety consequences since the reactor was defueled and a majority of the Train B equipment was tagged out for maintenance.
Inspection Report# : 2005003*(pdf)*

Significance: G Apr 19, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
FAILURE TO TAKE ADEQUATE CORRECTIVE ACTIONS TO PREVENT BOLT FAILURES
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to implement corrective actions to preclude repetition of a significant condition adverse to quality. Specifically, in 1988 the licensee identified that the gasket retaining bolts on several 16 inch butterfly valves were susceptible to stress corrosion cracking. The licensee only replaced bolts on the 16 inch valves with the identified failures and did not consider the need to replace bolts on similarly designed 10 inch and 24 inch valves. Consequently, in April 2005, the safety injection inboard and outboard containment sump isolation valves were discovered to have

missing or degraded bolts and the 10 inch containment spray to shut down cooling heat exchanger valves were determined to have suspect bolts. This issue involved problem identification and resolution crosscutting aspects associated with the failure to perform an adequate transportability review. This issue was entered into the corrective action program as Condition Report/Disposition Request 2791716.

The finding is greater than minor since it affects the equipment performance attribute of the mitigating systems cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because there was no actual loss of safety function
Inspection Report# : 2005003*(pdf)*

Significance: G Mar 16, 2005
Identified By: NRC
Item Type: FIN Finding
FAILURE TO TRACK CONTROL ROOM DISCREPANCIES
The inspectors identified a finding for the failure to follow administrative guidelines provided to operations personnel for identifying, documenting, and tracking main control room deficiencies. Specifically, approximately 75 control room instrument and control room meter face plates in Units 1, 2, and 3 were degraded and were not individually tracked in the control room discrepancy log. Furthermore, discrepancy labels containing the control room discrepancy log number and description of the discrepancy were not placed adjacent to or as close as possible to each affected device. This issue was entered into the corrective action program as Condition Report/Disposition Request 2782501.

The finding is determined to be greater than minor because if left uncorrected, it could become a more significant safety concern in that the condition could cause an operator to take an inappropriate action based on expected plant response or conversely cause an operator not to take action when action is required. The senior reactor analyst determined that this finding was not appropriate to be evaluated using the significance determination process since this finding was associated with multiple human performance actions. Based on management review, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and there was no adverse impact to plant equipment.

Inspection Report# : 2005002*(pdf)*

Significance: Y Dec 09, 2004
Identified By: NRC
Item Type: VIO Violation
FAILURE TO MAINTAIN DESIGN CONTROL OF CONTAINMENT SUMP RECIRCULATION PIPING
The team identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to establish measures to assure design basis information was translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to maintain the safety injection sump suction piping full of water in accordance with the Updated Final Safety Analysis Report. This nonconformance had the potential to significantly affect the available net positive suction head described in the Updated Final Safety Analysis Report for the high pressure safety injection and containment spray pumps, since the analysis assumed the piping would be maintained full of water.
{NOTE: Finding remains open - IP 95002 results pending 12/16/2005}

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that the issue had substantial safety significance (Yellow). After considering the information developed during the inspection and the results of testing sponsored by the licensee, the NRC has concluded that this inspection finding is appropriately characterized as Yellow. The final Significance Determination Process letter was issued on April 8, 2005. This issue will be inspected within the scope of a supplemental 95002 inspection in August - September, 2005.
Inspection Report# : 2004014*(pdf)*

Barrier Integrity

Significance: G Jun 30, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
FAILURE TO IMPLEMENT PROCEDURES FOR HANDLING SPENT FUEL
Three examples of a self-revealing noncited violation of 10 CFR Part 50, Criterion V, "Instructions Procedures, and Drawings," was identified for failing to properly implement procedures for refueling equipment. Specifically, refueling personnel did not: (1) complete a functional retest following maintenance on the spent fuel handling machine as required by Work Order 2781146, (2) ensure that spent fuel was in a safe condition, stop fuel handling operations, or contact the shift manager to determine the need to complete an event recovery checklist when a deficiency was identified with fuel handling equipment as required by Procedure 40DP-9OP02, "Conduct of Shift Operations," and (3) ensure

the material balance area short form was present on the spent fuel handling machine to perform proper independent verification or verify that the bridge and trolley were over the correct fuel assembly as required by Procedure 78OP-9FX03, "Spent Fuel Handling Machine." This issue involved human performance crosscutting aspects associated with operator decision making and not following procedures. This issue also involved problem identification and resolution crosscutting aspects associated with the failure to correct a condition adverse to quality since there have been similar occurrences where operators failed to recognize the need to perform the event recovery checklist. This issue was entered into the corrective action program as Condition Report/Disposition Requests 2791974 and 2792326.

The finding is greater than minor since it could become a more significant safety concern if left uncorrected in that handling spent fuel with degraded equipment impacts the ability to safely handle spent fuel and increases the likelihood of a fuel handling accident. This finding cannot be evaluated by the significance determination process because Manual Chapter 0609, "Significance Determination Process," Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," and Appendix G, "Shutdown Operations Significance Determination Process," do not apply to the spent fuel pool. This finding affects the barrier integrity cornerstone and is determined to be of very low safety significance by NRC management review because it was a deficiency that did not result in the actual degradation of spent fuel.
Inspection Report# : 2005003*(pdf)*

Emergency Preparedness

Significance: SL-III Mar 20, 2005
Identified By: NRC
Item Type: VIO Violation
CHANGE TO RADIOLOGICAL EMERGENCY ACTION LEVELS WHICH DECREASED THE EFFECTIVENESS OF THE EMERGENCY PLAN
The inspector identified an apparent violation of 10 CFR 50.54(q) for implementing a change to emergency action levels, which decreased the effectiveness of the emergency plan. Emergency Plan Implementing Procedure 99, "EPIP Standard Appendices," Revision 2, removed from two emergency action levels site boundary exposure rate as measured in the environment as a classifiable condition.

Implementation of changes to emergency action levels, which decreased the effectiveness of the emergency plan was a performance deficiency. The finding is more than minor because removal of a classifiable condition from licensee emergency action levels has the potential to impact safety, and licensee implementation of a change to their emergency plan, which decreases the effectiveness of the plan without prior NRC approval, impacts the regulatory process. This finding is an apparent violation of 10 CFR 50.54(q). The licensee has entered this issue into their corrective action system as Condition Report/Disposition Request 2774185.

The NRC informed Arizona Public Service Company of an apparent violation of emergency planning requirements by letter dated April 5, 2005. A predecisional Enforcement Conference was conducted with the licensee June 1, 2006. The licensee was subsequently informed of a Severity Level III Notice of Violation for a decrease in effectiveness of their emergency plan by a letter dated, June 27, 2005. An IP95001 supplemental inspection will be conducted during January 2006 to evaluate the licensee's root cause analysis and corrective actions.
Inspection Report# : 2005011*(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Last modified : May 25, 2006

Palo Verde 2
2Q/2006 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Mar 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE DIESEL FIRE PUMP BATTERY SURVEILLANCE
The inspectors identified a noncited violation of Technical Specification 5.4.1.d for an inadequate surveillance test for the diesel fire pump batteries. Specifically, since 1995, the method described in Procedure 38FT-9FP02, "Fire Protection System Monthly Diesel Fire Battery Test," Revision 4, to verify the specific gravity of the diesel fire pump batteries was inadequate in that the specific gravity was not directly measured, but was verified by a correlation to open circuit voltage. This methodology could result in a measured battery voltage that would be higher than the true specific gravity would provide. The cause was due to an inadequate engineering evaluation to develop the correlation used in the surveillance procedure. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2875906.

The finding is greater than minor because it is associated with the procedure quality cornerstone attribute of mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet and Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," the finding is determined to have very low safety significance because the fire pump battery performance and reliability is minimally affected since the batteries were replaced every two years, and the required capacity of the batteries is approximately 60 percent of a newly installed battery.
Inspection Report# : 2006002*(pdf)*

Significance: G Feb 03, 2006
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
UNTIMELY CORRECTIVE ACTIONS FOR FEEDWATER PUMP RESISTOR FAILURES
A self-revealing, noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” was identified for failure to correct, and preclude repetition of, a significant condition adverse to quality involving the failure of the turbine driven auxiliary feedwater pump. Specifically, the licensee failed to perform a timely evaluation to determine the cause of the Units 2 and 3 turbine driven auxiliary feedwater pump governor power supply resistor failures. Approximately 7 months following the Unit 2 and 3 failures, the Unit 2 turbine driven auxiliary feedwater pump governor failed again due to the same resistor failure. The licensee entered the deficiency into their corrective action program as Condition Report Disposition Request 2871541 for resolution.

The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the availability of systems that respond to initiating events. The failure of the Unit 2 turbine driven auxiliary feedwater pump governor power supply resistor affected the availability of the auxiliary feedwater system. Using the Phase 1 worksheet in Manual Chapter 0609, “Significance Determination Process,” the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone and did not result in an actual loss of safety function. The cause of the finding is related to the cross-cutting element of problem identification and resolution, in that, delays in the evaluation of the resistors failures allowed a subsequent failure prior to completion of the corrective actions. (Section 4OA2e(2)(i)
Inspection Report# : 2006008*(pdf)*

Significance: G Feb 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROMPTLY CORRECT AN ADVERSE TREND OF CONTAMINATED OIL SAMPLES
A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to correct an adverse trend of contaminated oil samples in a timely manner. Specifically, on April 1, 2005, the licensee identified an increasing trend of incorrect lubricant oil additions and contaminated oil samples and entered the deficiency in their corrective action program. As of January 2006, the inspectors concluded that the corrective actions taken as a result of the identified oil control deficiency were untimely, in that, 9 months later the frequency of new instances of oil control problems documented in the corrective action program remained unchanged. The licensee entered the deficiency into their corrective action program as Condition Report Disposition Request 2785915 for resolution.

The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheet, the finding was determined to have very low safety significance because it only affected the mitigating systems cornerstone and did not result in the loss-of-safety function of a single train or system. The cause of the finding is related to the cross-cutting element of problem identification and resolution, in that, poor work practices resulted in multiple oil contamination events and the corrective actions taken were ineffective in promptly correcting the condition. (Section 4OA2e(2)(ii))

Inspection Report# : 2006008*(pdf)*

Significance: G Feb 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO MEET MAINTENANCE TEST REQUIREMENTS
A noncited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," was identified for failure to perform required testing of the Unit 3 essential cooling water system Pump EWP01 breaker in accordance with requirements and acceptance limits. Pump EWP01 breaker test procedure established tolerances and acceptance criteria for the breaker sub-component clearances that were documented as not being met. The licensee entered the deficiency into their corrective action program as Condition Report Disposition Request 2865792 for resolution.

This finding was more than minor since it affected the equipment performance attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The failure to meet recommended tolerances and acceptance limits specified was similar to Manual Chapter 0612, Appendix E, more than minor example 2.c., in that, the issue was repetitive and affected multiple breakers tested. Using Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheet, the finding was determined to have very low safety significance because the condition was a qualification deficiency confirmed not to result in loss of function. The cause of the finding is related to the cross-cutting element of human performance in that maintenance personnel failed to properly implement maintenance procedures, and the deficient conditions were not identified by supervisory review of the completed procedures. (Section 4OA2e(2)(iii))
Inspection Report# : 2006008*(pdf)*

Significance: G Feb 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IDENTIFY A MAINTENANCE RULE FUNCTIONAL FAILURE
A noncited violation of 10 CFR 50.65(a)(2) was identified for the failure to demonstrate that the performance or condition of the low pressure safety injection/shutdown cooling Pump 2A was adequate. Specifically, in May 2005, the licensee failed to accurately account for 15 hours of unavailability time for the low pressure safety injection/shutdown cooling Pump 2A, which when re-evaluated, exceeded the performance trigger to enter (a)(1) monitoring. The licensee entered this deficiency into their corrective action program as Condition Report Disposition Request 2865315 for resolution.

The finding is more than minor because it affects the equipment performance attribute of the mitigating systems cornerstone objective to maintain availability and reliability of structures systems and components needed to respond to initiating events and had a credible impact on safety. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the finding is determined to have very low safety significance because there was no design deficiency and the low pressure safety injection/shutdown cooling Pump 2A failure did not exceed the allowed technical specification outage time. The cause of the finding is related to the cross-cutting element of human performance in that the initial evaluation and subsequent supervisory reviews failed to identify the need for additional monitoring of the low pressure safety injection/shutdown cooling Pump 2A. (Section 4OA2e(2)(v))

Inspection Report# : 2006008*(pdf)*

Significance: N/A Feb 03, 2006
Identified By: NRC
Item Type: FIN Finding
PERFORMANCE DECLINE IN PROBLEM IDENTIFICATION AND RESOLUTION
The inspectors reviewed approximately 175 condition reports, 65 work orders, associated root and apparent cause evaluations, and other supporting documentation to assess problem identification and resolution activities. Overall, performance declined when compared to the previous problem identification and resolution assessment. Significant delays in evaluation of the significance of an identified problem, as well as identification of appropriate corrective actions, resulted in large corrective action backlogs, some repeat events, and examples of continued noncompliance. The delays in completion of corrective actions continued to result in a significant number of self-disclosing and NRC-identified violations and findings. While the licensee initiated actions to address the substantive cross-cutting issues in human performance and problem identification and resolution, the majority of the corrective actions were not complete and some of the initial completed actions were not effective. Also, competing priorities between resources and the backlog of corrective actions created a condition where many corrective actions were significantly delayed in their completion, contributing to failures to adequately implement the corrective action process.

The team concluded that while a safety-conscious work environment exists at your facility, isolated concerns were raised by your staff during the interviews. These concerns were associated with not having sufficient personnel to accomplish long-term improvements, a loss of trust that

management would not subject the staff to negative consequences for raising issues, some confusion about when to place an adverse condition into your corrective action program, and a decrease in confidence that the corrective action program will adequately address problems. (Section 4OA2).
Inspection Report# : 2006008*(pdf)*

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROMPTLY CORRECT AN ADVERSE CONDITION WITH THE REFUELING WATER TANK INSTRUMENT PIT
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to correct a condition adverse to quality involving the refueling water tank instrument pit. Specifically, in August 2003, the licensee inadvertently cancelled the work orders to correct deficiencies associated with flooding of the refueling water tank instrument pit. This error was identified by the licensee in October 2004; however, corrective actions were inadequate to ensure timely correction of the adverse condition. Additionally, two of the three work orders were inappropriately closed with no work performed following the inspectors' identification of the issue in August 2005. After identification by the inspectors, the licensee installed temporary modifications to prevent water intrusion into the pit. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2838845.

The finding is greater than minor because it is associated with the protection against external factors cornerstone attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding required a Phase 3 analysis by a senior reactor analyst, since the finding was potentially risk significant due to external initiating event core damage sequences. A senior reactor analyst performed a qualitative assessment and concluded that the finding had very low safety significance. The cause of the finding is related to the crosscutting element of problem identification and resolution in that corrective actions lacked timeliness, adequacy, and thoroughness.

Inspection Report# : 2005005*(pdf)*

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO DEMONSTRATE EFFECTIVE MAINTENANCE OF HOT LEG RESISTANCE TEMPERATURE DETECTORS
The inspectors identified a noncited violation of 10 CFR 50.65(a)(2) for the failure to demonstrate that the performance or condition of three reactor coolant system resistance temperature detectors had been effectively controlled and monitored against licensee-established goals. Specifically, the licensee failed to identify, and properly account for, three detector functional failures occurring from May 31, 2004 to June 23, 2005. Consequently, the licensee did not establish appropriate goal setting and monitoring for the detectors. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2856282.

The finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the condition only affected the mitigating systems cornerstone and did not represent an actual loss of safety function. The cause of the finding is related to the crosscutting element of problem identification and resolution in that the licensee failed to identify the need to perform a maintenance rule functional failure review for failed resistance temperature detectors.

Inspection Report# : 2005005*(pdf)*

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CORRECT AN IDENTIFIED ADVERSE CONDITION ASSOCIATED WITH MAINTENANCE DEPARTMENT GUIDELINES
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to correct a condition adverse to quality involving the use of Maintenance Department Guidelines. Specifically, instrumentation and controls personnel did not complete actions used as a basis for closure for Condition Report/Disposition Request 2715129. In addition, the extent of condition review did not identify the continued active use of Maintenance Department Guidelines to perform quality related activities. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2830633.

The finding is greater than minor because it is associated with the procedure quality cornerstone attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the finding did not result in the loss of safety function of any component, train, or system. The cause of the finding is related to the crosscutting element of problem identification and resolution in that maintenance personnel did not implement timely corrective actions and performed a poor extent of condition review.
Inspection Report# : 2005005*(pdf)*

Significance: SL-IV Dec 31, 2005

Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO SUBMIT LER TO REPORT SHUTDOWN REQUIRED BY TECHNICAL SPECIFICATIONS
The inspectors identified a noncited Severity Level IV violation of 10 CFR 50.73 for the failure to submit a licensee event report within 60 days to report the completion of a plant shutdown required by the Technical Specifications. A second similar example of a violation of the same regulation was identified by the licensee. Specifically, the licensee was required to submit a licensee event report by May 17, 2005, to report the completion of a plant shutdown required by the Technical Specifications that occurred on March 18, 2005. This licensee event report was submitted on November 7, 2005. Additionally, the licensee was required to submit a licensee event report by April 10, 2005, to report the completion of a plant shutdown that occurred on February 9, 2005. A revised licensee event report was submitted on January 6, 2006. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Requests 2829976 and 2844019.

The finding was determined to be applicable to traditional enforcement because the NRC's ability to perform this regulatory function was potentially impacted by the licensee's failure to report the event. The finding was determined to be a Severity Level IV violation in accordance with Section D.4 of Supplement I of the NRC Enforcement Policy. The finding is not suitable for evaluation using the significance determination process, but has been reviewed by NRC management and is determined to be a finding of very low safety significance. The cause of the finding is related to the crosscutting element of problem identification and resolution in that the transportability review, conducted by regulatory affairs personnel, failed to identify an additional example of a missed reportable event that was subsequently identified by the NRC.

Inspection Report# : 2005005*(pdf)*

Significance: G Dec 16, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
IMPROPER DESIGN CONTROL FOR EMERGENCY CORE COOLING SYSTEM SUMP AND REFUELING WATER TANK SWAPOVER
The inspectors identified a noncited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," related to potential air entrainment into the emergency core cooling system suction header from the refueling water tank. Specifically, the inspectors determined that the water level in the refueling water tank could fall below the level of the tank discharge pipe and associated vortex breaker during the transfer from the refueling water tank to the containment sump during design basis accidents. As a result, air could be drawn into the emergency core cooling system piping under accident conditions. This issue was applicable to both trains of all three units. Contrary to proper design control, engineering personnel failed to effectively implement design requirements to prevent potential air entrainment into the emergency core cooling system.

The inspectors considered this finding to be more than minor, in accordance with NRC Manual Chapter 0612, "Power Reactor Inspection Reports," since it potentially affected the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and it affected the attributes of design and configuration control. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the inspectors determined that the issue was of very low safety significance (Green) because there was no actual loss of safety function. Because the violation was determined to be of very low safety significance and has been entered into the corrective action program as condition report/disposition request (CRDR 2835132), this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy. The inspectors also determined this issue had cross-cutting aspects of human performance. Specifically, the licensee's attention to detail was lacking and there was poor inter- and intra-group coordination.
Inspection Report# : 2005012*(pdf)*

Significance: G Dec 16, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
IMPROPER DESIGN CONTROL FOR CONDENSATE STORAGE TANK AND REACTOR WATER MAKEUP TANK USABLE VOLUME TO AUXILIARY FEEDWATER
The inspectors identified two examples of a noncited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," for failure to translate the design basis volume of 300,000 gallons of usable volume in the condensate storage tank (CST) and reactor water makeup tank (RWMT) into the station's instructions, procedures, or drawings. Without this information, operators were unaware that Technical Specification minimum levels, specified in feet, may not provide sufficient usable volumes of water for auxiliary feedwater pump operation. Contrary to proper design control, the licensee failed to effectively implement design requirements to ensure operability of the auxiliary feedwater system.

These two examples of a violation affect the Mitigating Systems cornerstone and are more than minor because they were similar to Example 3.I of Manual Chapter 0612, and design calculations were required to be re-performed to assure accident requirements were met. In both instances, the originally calculated available inventory was less than the actual required design basis inventory of 299,700 gallons. Subsequent calculations by engineering personnel, including significant reduction in margins, demonstrated that minimum required volumes in the CST and RWMT were maintained. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the inspectors determined that the issue was of very low safety significance (Green) because there was no actual loss of safety function. Because the violation was determined to be of very low safety significance and has been entered into the corrective action program as condition report/disposition requests (CRDRs 2839337, 2840186, and 2841773), this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy. The inspectors also determined this issue had cross-cutting aspects of human performance. Specifically, the licensee's attention to detail was lacking and there was poor inter- and intra-group coordination.
Inspection Report# : 2005012*(pdf)*

Significance: G Dec 16, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
IMPROPER DESIGN CONTROL FOR REFUELING WATER TANK LEVEL INSTRUMENT CALIBRATION
The inspectors identified a noncited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," for failure to translate design basis information into the calibration of refueling water tank level instruments. Without this information, operators were unaware that a Technical Specification listed minimum level in this tank may not provide sufficient usable volume of water for emergency core cooling system operation. Specifically, engineers failed to density compensate these instruments for allowable ranges of both temperature and boric acid concentration of the tank. Contrary to proper design control, the licensee failed to effectively implement design requirements to ensure operability of the refueling water tank.

This issue was determined to affect the Mitigating Systems cornerstone and was more than minor based upon review of Example 3.j of Manual Chapter 0612, Appendix E. The errors were considered more than a minor calculation error because the deficiencies required re-performance of the calculations, significantly reduced the overall margin, and could be applicable to other such instrumentation calculations. However, engineering personnel demonstrated that while there was a loss of margin, there was no actual loss of function because of the inaccuracies in the RWT level instrument calibrations. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the inspectors determined that the issue was of very low safety significance (Green) because there was no actual loss of safety function. Because the violation was determined to be of very low safety significance and has been entered into the corrective action program as condition report/disposition request (CRDR 2840920), this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy.
Inspection Report# : 2005012*(pdf)*

Significance: G Dec 16, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROPERLY IMPLEMENT STATION PROCEDURE FOR EQUIPMENT OPERABILITY (TECHNICAL SPECIFICATION 5.4.1.a)
The inspectors identified three examples of a (Green) noncited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings." Specifically, these examples involved the licensee's failure to follow a procedure and to provide appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished, consistent with the facility's administrative procedure for the operability determination process. In the first case an engineer evaluated a concern in a condition report/disposition request without notifying the control room so an operability assessment could be performed. In the other cases, there was inadequate guidance given to operators to address when an operability assessment would be required.

The inspectors considered this finding to be more than minor, in accordance with Manual Chapter 0612, since it potentially affected the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and it affected the attributes of procedure quality and human performance. However, subsequent evaluations completed by the licensee verified that actual safety functions were not lost in any of these examples. The inspectors performed a Phase 1 significance determination, using NRC Manual Chapter 0609, and determined this issue screens out as having very low safety significance (Green) because a safety function was not lost. Because the violation was determined to be of very low safety significance and has been entered into the corrective action program as Condition Report/Disposition Request 2838626, this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy. The inspectors also determined this issue had cross-cutting aspects of human performance. Specifically, the licensee's attention to detail was lacking and there was poor inter- and intra-group coordination.

The inspectors identified an additional example of the Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," described in NRC Supplemental Inspection Report 05000528; 05000529; 05000530/2005012, for the failure to establish an adequate procedure and implement existing procedures involving implementation of the operability determination process. The inspectors also identified examples where information provided to operations from engineering was not sufficiently accurate or complete to support operational decision making with respect to capacitor service life and the overall impact of the identified degraded or non-conforming capacitors. On November 1, 2005, the licensee inappropriately determined that the operability determination process was not applicable for a degraded capacitor condition that had the potential to impact Class 1E inverter operability. Consequently, the degraded condition was evaluated outside the operability determination process. Because the finding is of very low safety significance and has been entered into the corrective action program as Condition Report/Disposition Request 2838626. The cause of the finding is related to the crosscutting element of human performance in that communications between the engineering and operations organizations was inadequate.

Inspection Report# : 2005012*(pdf)*

Significance: N/A Dec 16, 2005
Identified By: NRC
Item Type: FIN Finding
SUMMARY FINDING. 95002 INSPECTORS ASSESSMENT OF IR2004-14 SEVERITY LEVEL III VIOLATION FOR 50.59 ISSUE
The U.S. Nuclear Regulatory Commission (NRC) performed this supplemental inspection, in part, to assess the licensee's evaluation and corrective actions associated with an inappropriate change to an emergency core cooling system procedure without prior NRC approval. This procedure change rendered portions of the system inoperable because of voiding. This performance issue was previously characterized as a Severity Level III violation of 10 CFR 50.59 and was originally identified in NRC Inspection Report 05000528; 529; 530/2004014. During this supplemental

inspection, performed in accordance with Inspection Procedure 95002, the inspectors determined that the licensee's evaluation identified the primary root causes of the performance issue to be: (1) The site procedure revision process (01AC-0AP02) was inadequate, in that, the procedure allowed 'pre-screening' of changes that could potentially bypass performing a 10 CFR 50.59 screening for changes to the facility as described in the licensing basis; and (2) The corrective action program implementation was ineffective. The licensee also identified overlap and interface problems between the corrective action program, the engineering evaluation request program, and the instruction change request program. These issues, in conjunction with inadequate training to recognize a corrective action condition, contributed to the failure of station personnel to initiate a corrective action program input document in 1992 for the potential pipe voiding concern. The inspectors concluded that the licensee's evaluation and implemented corrective actions were appropriate to reasonably prevent repetition of the 10 CFR 50.59 violation.

Given the licensee's acceptable performance in addressing the inappropriate procedure change and 10 CFR 50.59 program deficiencies, the Severity Level III violation is closed.
Inspection Report# : 2005012*(pdf)*

Significance: N/A Dec 16, 2005
Identified By: NRC
Item Type: FIN Finding
SUMMARY FINDING. 95002 INSPECTORS ASSESSMENT OF IR2004-14 (YELLOW) 10CFR50, APP B, CRITERION III VIOLATION
The NRC performed this supplemental inspection, in part, to assess the licensee's evaluation and corrective actions associated with potential air entrainment into the emergency core cooling system. The licensee failed to incorporate original design requirements into the plant to maintain piping between the containment sump isolation valves filled with water. This performance issue was previously characterized as a 10 CFR 50, Appendix B, Criterion III, violation having substantial safety significance (Yellow), and was originally identified in NRC Inspection Report 05000528; 529; 530/2004014. The inspectors determined that the licensee's evaluation identified a direct cause, nine root causes, and nine contributing causes of the performance issue. The evaluation was also used to develop an extensive list of corrective actions. The inspectors found the licensee's methods of evaluation to be appropriate.

The NRC concluded that, while the licensee performed an adequate root cause evaluation of the Design Control violation, certain corrective actions were incomplete at the time of this inspection. Specifically, the team determined that for each of the root and contributing causes, not all corrective actions were sufficiently developed to ensure that the identified performance deficiencies were adequately addressed. In addition, some of the corrective actions were narrowly focused, or the implementation of those actions was not fully effective. Also, the team concluded that criteria and reviews were not established, for auditing or followup, to ensure that corrective actions were effective in improving performance in the affected areas. Consequently, the team did not have assurance that the planned corrective actions were sufficient to address the causes for the performance deficiencies associated with the violation. Therefore, the (Yellow) violation (VIO 2004/014-01) will remain open for further NRC review.
Inspection Report# : 2005012*(pdf)*

Significance:  Sep 30, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
IMPROPER VISUAL ANALYSIS OF BEARING OIL SAMPLE
The inspectors identified a noncited violation of Technical Specification 5.4.1.a for the failure of maintenance personnel to follow Procedure 31DP-9ZZ01, "Lubricant Sampling," and Work Order 2724849. Specifically, a maintenance technician incorrectly determined that the oil sample taken from the Unit 2 high pressure safety injection (HPSI) pump was satisfactory, when the oil sample did not meet the acceptance criteria. Consequently, immediate actions to address potential equipment deficiencies were not taken until the samples were analyzed by a lubrication engineer approximately two weeks later. This finding involved human performance crosscutting aspects associated with maintenance personnel following procedures and attention to details. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2828545.

The finding is greater than minor since the failure to follow the lubricant sampling process, if left uncorrected, would become a more significant safety concern in that degraded equipment conditions may not be identified and corrected in a timely manner. A Phase 2 analysis was required because the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, determined that there was a loss of the long term cooling safety function of a single train of HPSI for greater than the Technical Specification allowed outage time. A senior reactor analyst determined that the HPSI pump was only required to operate for 24 hours to meet the assumptions necessary in the risk model to preclude sequences that result in core damage. Consequently, this finding is determined to have very low safety significance (Section1R19)
Inspection Report# : 2005004*(pdf)*

Significance:  Sep 30, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW PROCEDURES DURING CORE PROTECTION CALCULATOR SOFTWARE INSTALLATION AND TESTING
The inspectors identified two examples of a noncited violation of Technical Specification 5.4.1.a for the failure to follow Procedure 77ST-9SB19, "CPCS Channel Functional Test," and Work Order 2824743 during core protection calculator software installation. Specifically, maintenance technicians: (1) failed to change the software loading instructions of Work Order 2824743 prior to proceeding with the core protection calculator software installation when it could not be used as written, and (2) failed to follow the surveillance test procedure used to perform a core protection calculator functional test. This finding involved human performance crosscutting aspects associated with instrumentation and controls personnel

following procedures. This finding also involved problem identification and resolution crosscutting aspects associated with instrumentation and controls personnel identifying degraded or nonconforming conditions. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2825189.

The finding is greater than minor since it could become a more significant safety concern in that the failure to follow procedures when performing maintenance and testing on safety related equipment could result in an unintentional actuation or impact the ability of the equipment to perform it's required function. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone and did not result in the loss of safety function of a single train or system for greater than the Technical Specification allowed outage time (Section 1R19).
Inspection Report# : 2005004*(pdf)*

Significance: G Sep 30, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM LICENSING DOCUMENT CHANGE REQUEST AND 10 CFR 50.59 SCREENING FOR ABANDONMENT OF THE BORONOMETER
The inspectors identified a noncited violation of 10 CFR Part50, AppendixB, CriterionXVI, "Corrective Action," for the failure to correct a discrepancy between the current condition of the boronometer and the required configuration described in the Updated Final Safety Analysis Report. Specifically, in April 2003 the licensee identified the need to perform a Licensing Document Change Request and a corresponding 10 CFR 50.59 screening due to the abandonment of the Updated Final Safety Analysis Report required boronometer, but failed to implement corrective actions to ensure that the Licensing Document Change Request and 10CFR 50.59 screening were performed. This issue involved problem identification and resolution crosscutting aspects associated with engineering personnel implementing timely corrective actions. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2823704.

The finding is greater than minor because it was associated with the design control performance attribute of the mitigating systems cornerstone and affects the cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using the Manual Chapter0609, "Significance Determination Process," Phase1 Worksheet, the finding is determined to have very low safety significance because there was no actual loss of safety function (Section 4OA2).
Inspection Report# : 2005004*(pdf)*

Significance: G Sep 30, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
IMPROPER CONTROL OF DESIGN PARAMETERS FOR THE EX-CORE SAFETY CHANNELS
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the improper control of design parameters for the ex-core nuclear instrument safety channels in that engineering personnel did not correctly translate design requirements, nor did they properly control design basis information regarding ex-core safety channels. Additionally, Technical Specification required values were maintained apart from design calculations and documents. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2612092.

This finding is greater than minor because if left uncorrected it could become a more significant safety concern in that failures to maintain design calculations could result in the incorrect setting of safety related devices. The finding is associated with the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because there was not an actual loss of safety function.
Inspection Report# : 2005004*(pdf)*

Significance: SL-IV Sep 30, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
INCOMPLETE AND INACCURATE INFORMATION ASSOCIATED WITH THE EX-CORE SAFETY CHANNELS.
The inspectors identified a noncited Severity Level IV violation of 10 CFR 50.9 for providing incomplete or inaccurate information to the NRC. Specifically, the licensee provided incomplete and inaccurate information regarding the design control of ex-core safety channel log power instrument setpoints. This information was determined to be material in that it affected the NRC's ability to determine compliance with NRC requirements. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2829051.

This finding was not assessed via NRC Manual Chapter 0609, "Significance Determination Process," because the licensee's actions impeded the regulatory process. Therefore, this finding is associated with the mitigating systems cornerstone. The inspectors determined that engineering personnel had additional information, including the subsequently corrected revision of the calculation going through final verification, and additional explanatory setpoint procedures, which were not referenced or provided during the original correspondence by the licensee. Had the complete and accurate information been supplied at the time of the original request in 2003, the NRC would have identified a design control violation at that time. The safety consequence of this issue is of very low safety significance, in that there was no actual loss of a safety function.
Inspection Report# : 2005004*(pdf)*

Significance: G Mar 16, 2005

Identified By: NRC
Item Type: FIN Finding
FAILURE TO TRACK CONTROL ROOM DISCREPANCIES
The inspectors identified a finding for the failure to follow administrative guidelines provided to operations personnel for identifying, documenting, and tracking main control room deficiencies. Specifically, approximately 75 control room instrument and control room meter face plates in Units 1, 2, and 3 were degraded and were not individually tracked in the control room discrepancy log. Furthermore, discrepancy labels containing the control room discrepancy log number and description of the discrepancy were not placed adjacent to or as close as possible to each affected device. This issue was entered into the corrective action program as Condition Report/Disposition Request 2782501.

The finding is determined to be greater than minor because if left uncorrected, it could become a more significant safety concern in that the condition could cause an operator to take an inappropriate action based on expected plant response or conversely cause an operator not to take action when action is required. The senior reactor analyst determined that this finding was not appropriate to be evaluated using the significance determination process since this finding was associated with multiple human performance actions. Based on management review, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and there was no adverse impact to plant equipment.

Inspection Report# : 2005002*(pdf)*

Significance: Y Dec 09, 2004
Identified By: NRC
Item Type: VIO Violation
FAILURE TO MAINTAIN DESIGN CONTROL OF CONTAINMENT SUMP RECIRCULATION PIPING
The team identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to establish measures to assure design basis information was translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to maintain the safety injection sump suction piping full of water in accordance with the Updated Final Safety Analysis Report. This nonconformance had the potential to significantly affect the available net positive suction head described in the Updated Final Safety Analysis Report for the high pressure safety injection and containment spray pumps, since the analysis assumed the piping would be maintained full of water.
{NOTE: Finding remains open - IP 95002 results pending 12/16/2005}

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that the issue had substantial safety significance (Yellow). After considering the information developed during the inspection and the results of testing sponsored by the licensee, the NRC has concluded that this inspection finding is appropriately characterized as Yellow. The final Significance Determination Process letter was issued on April 8, 2005. This issue will be inspected within the scope of a supplemental 95002 inspection in August - September, 2005.
Inspection Report# : 2004014*(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance: G Mar 31, 2006
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW RADIATION EXPOSURE PERMIT INSTRUCTIONS
The inspector reviewed a self-revealing, noncited violation of Technical Specification 5.4.1.a, resulting from two radiation workers' failure to follow radiation exposure permit instructions. On November 22, 2005, two radiation workers, without notifying radiation protection staff, used a pneumatic grinder with a wire wheel inside of the Unit-1 Steam Generator No. 2 cold leg pipe. As a result of the wire wheel grinding, both workers were contaminated. Radiation protection staff members were not made aware of the contamination event until the workers alarmed the PM-7 portal monitor upon attempting egress from the 140-foot radiological controlled area. One worker received unplanned and unintended internal dose of 6 millirem. The other worker did not receive an internal dose. As corrective action, the licensee counseled the two workers and their supervision, and informed the contractor's management.

The finding was greater than minor because it was associated with one of the cornerstone attributes (exposure control) and the finding affected the occupational radiation safety cornerstone objective, in that a failure to follow radiation exposure permit instructions resulted in additional radiation dose. The inspector determined that the finding had no more than very low safety significance because: (1) it did not involve an ALARA finding, (2) there was no personnel overexposure, (3) there was no substantial potential for personnel overexposure, and (4) the finding did not compromise the licensee's ability to assess dose. The finding also had crosscutting aspects related to human performance, in that, radiation workers failed to follow the radiation exposure permit instructions, which directly resulted in the finding.

Inspection Report# : 2006002*(pdf)*

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Last modified : August 25, 2006

Palo Verde 2
3Q/2006 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: TBD Sep 26, 2006
Identified By: NRC
Item Type: AV Apparent Violation
EW TRAIN 2B INOPERABLE LONGER THAN ALLOWED OUTAGE TIME
A finding with five apparent violations was identified associated with fouling of safety-related heat exchangers cooled by the emergency spray pond system. Between 1995 and May, 2006, the licensee failed to recognize that improperly implemented chemistry controls for the emergency spray pond system caused a significant condition adverse to quality which degraded the performance of all emergency diesel generators and emergency cooling water systems. The degraded performance was primarily due to heat exchanger fouling caused by adding excessive amounts of chemicals. The conditions that existed also had the potential to cause scaling after an accident starts. In one instance, it is estimated that this resulted in degrading the performance of Emergency Cooling Water Heat Exchanger 2B to the point where it would not have been capable of performing its intended safety function for approximately 6.8 months in 2003.

An apparent violation of Technical Specification 3.7.7 was identified because Train A of the Essential Cooling Water System in Unit 2 was not capable of performing its safety function for approximately 6.8 months ending on September 27, 2003.

The performance deficiency associated with these apparent violations was more than minor because it impacted the equipment performance attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. Specifically, Essential Cooling Water (EW) Train B in Unit 2 was estimated to have been incapable of performing its function under existing conditions for approximately 6.8 months. A Phase 2 significance determination process concluded that this finding has potential safety significance greater than very low safety significance because some accident sequences, notably loss of coolant accidents, were expected to elevate the ultimate heat sink temperature to the point where the degraded essential cooling water heat exchanger would be challenged. This was expected to cause failure of the essential chiller, and the resulting loss of room cooling to safety-related equipment increased the plant risk. In addition, there is uncertainty associated with the amount of scaling that could occur on any of the affected heat exchangers for all three units during 24 hours of an accident scenario. Additional information was needed to perform a final Phase 3 assessment, due to the complexity of the issue
Inspection Report# : 2006011*(pdf)*

Significance: TBD Sep 26, 2006
Identified By: NRC
Item Type: AV Apparent Violation
INADEQUATE TEST CONTROL TO PROMPTLY IDENTIFY UNACCEPTABLE PERFORMANCE TEST RESULTS
A finding with five apparent violations was identified associated with fouling of safety-related heat exchangers cooled by the emergency spray pond system. Between 1995 and May, 2006, the licensee failed to recognize that improperly implemented chemistry controls for the emergency spray pond system caused a significant condition adverse to quality which degraded the performance of all emergency diesel generators and emergency cooling water systems. The degraded performance was primarily due to heat exchanger fouling caused by adding excessive amounts of chemicals. The conditions that existed also had the potential to cause scaling after an accident starts. In one instance, it is estimated that this resulted in degrading the performance of Emergency Cooling Water Heat Exchanger 2B to the point where it would not have been capable of performing its intended safety function for approximately 6.8 months in 2003.

An apparent violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," was identified because the two procedures that were performed to measure essential cooling water heat exchanger performance were implemented in a way that was inadequate to ensure the timely determination that the requirements and acceptance limits contained in applicable design documents were met.

The performance deficiency associated with these apparent violations was more than minor because it impacted the equipment performance attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. Specifically, Essential Cooling Water (EW) Train B in Unit 2 was estimated to have been incapable of performing its function under existing conditions for approximately 6.8 months. A Phase 2 significance determination process concluded that this finding has potential safety significance greater than very low safety significance because some accident sequences, notably loss of coolant accidents, were expected to elevate the ultimate heat sink temperature to the point where the degraded essential cooling water heat exchanger would be challenged. This was expected to cause failure of the essential chiller, and the resulting loss of room cooling to safety-related equipment increased the plant risk. In addition, there is uncertainty associated with the amount of scaling that could occur on any of the affected heat exchangers for all three units during 24 hours of an accident scenario. Additional information was needed to perform a final Phase 3 assessment, due to the complexity of the issue
Inspection Report# : 2006011*(pdf)*

Significance: TBD Sep 26, 2006
Identified By: NRC
Item Type: AV Apparent Violation
50.59 REVIEWS NOT PERFORMED OR INADEQUATE FOR MULTIPLE CHANGES TO SPRAY POND CHEMISTRY CONTROL PROCEDURE
A finding with five apparent violations was identified associated with fouling of safety-related heat exchangers cooled by the emergency spray pond system. Between 1995 and May, 2006, the licensee failed to recognize that improperly implemented chemistry controls for the emergency spray pond system caused a significant condition adverse to quality which degraded the performance of all emergency diesel generators and emergency cooling water systems. The degraded performance was primarily due to heat exchanger fouling caused by adding excessive amounts of chemicals. The conditions that existed also had the potential to cause scaling after an accident starts. In one instance, it is estimated that this resulted in degrading the performance of Emergency Cooling Water Heat Exchanger 2B to the point where it would not have been capable of performing its intended safety function for approximately 6.8 months in 2003.

An apparent violation of 10 CFR 50.59 was identified for making nine revisions to Procedure 74DP-9CY04, "System Chemistry Specification," a procedure described in the Updated Final Safety Analysis Report, between 1998 and 2004 without performing evaluations of the potential impact of the changes on the safety-related components in the spray pond system; the changes revised spray pond chemistry parameter limits which were subsequently determined to have contributed to heat exchanger fouling.

The performance deficiency associated with these apparent violations was more than minor because it impacted the equipment performance attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. Specifically, Essential Cooling Water (EW) Train B in Unit 2 was estimated to have been incapable of performing its function under existing conditions for approximately 6.8 months. A Phase 2 significance determination process concluded that this finding has potential safety significance greater than very low safety significance because some accident sequences, notably loss of coolant accidents, were expected to elevate the ultimate heat sink temperature to the point where the degraded essential cooling water heat exchanger would be challenged. This was expected to cause failure of the essential chiller, and the resulting loss of room cooling to safety-related equipment increased the plant risk. In addition, there is uncertainty associated with the amount of scaling that could occur on any of the affected heat exchangers for all three units during 24 hours of an accident scenario. Additional information was needed to perform a final Phase 3 assessment, due to the complexity of the issue
Inspection Report# : 2006011*(pdf)*

Significance: TBD Sep 26, 2006
Identified By: NRC
Item Type: AV Apparent Violation
INADEQUATE IDENTIFICATION AND CORRECTIVE ACTION FOR DEGRADED EW HEAT EXCHANGER PERFORMANCE

A finding with five apparent violations was identified associated with fouling of safety-related heat exchangers cooled by the emergency spray pond system. Between 1995 and May, 2006, the licensee failed to recognize that improperly implemented chemistry controls for the emergency spray pond system caused a significant condition adverse to quality which degraded the performance of all emergency diesel generators and emergency cooling water systems. The degraded performance was primarily due to heat exchanger fouling caused by adding excessive amounts of chemicals. The conditions that existed also had the potential to cause scaling after an accident starts. In one instance, it is estimated that this resulted in degrading the performance of Emergency Cooling Water Heat Exchanger 2B to the point where it would not have been capable of performing its intended safety function for approximately 6.8 months in 2003.

An apparent violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," was identified. On March 19, 2002, performance testing for Essential Cooling Water Heat Exchanger 2B indicated that the system would not be capable of performing its design function, but this significant condition adverse to quality was not promptly identified, the cause determined, or corrective actions taken to restore the required heat exchanger performance. The failure to correct this degraded performance contributed to the continued degradation and eventual loss of function for an estimated period of 6.8 months.

The performance deficiency associated with these apparent violations was more than minor because it impacted the equipment performance attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. Specifically, Essential Cooling Water (EW) Train B in Unit 2 was estimated to have been incapable of performing its function under existing conditions for approximately 6.8 months. A Phase 2 significance determination process concluded that this finding has potential safety significance greater than very low safety significance because some accident sequences, notably loss of coolant accidents, were expected to elevate the ultimate heat sink temperature to the point where the degraded essential cooling water heat exchanger would be challenged. This was expected to cause failure of the essential chiller, and the resulting loss of room cooling to safety-related equipment increased the plant risk. In addition, there is uncertainty associated with the amount of scaling that could occur on any of the affected heat exchangers for all three units during 24 hours of an accident scenario. Additional information was needed to perform a final Phase 3 assessment, due to the complexity of the issue
Inspection Report# : 2006011*(pdf)*

Significance: TBD Sep 26, 2006
Identified By: NRC
Item Type: AV Apparent Violation
INADEQUATE DESIGN CONTROL TO ENSURE NO EW HEAT EXCHANGER SCALING
An apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified for failure to correctly evaluate the scaling potential of the safety-related heat exchangers cooled by the emergency spray pond during a design basis accident. An error in the SEQUIL calculation caused the licensee to incorrectly conclude that scaling would not occur under the conditions established in the chemistry control program.

The performance deficiency associated with these apparent violations was more than minor because it impacted the equipment performance attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. Specifically, Essential Cooling Water (EW) Train B in Unit 2 was estimated to have been incapable of performing its function under existing conditions for approximately 6.8 months. A Phase 2 significance determination process concluded that this finding has potential safety significance greater than very low safety significance because some accident sequences, notably loss of coolant accidents, were expected to elevate the ultimate heat sink temperature to the point where the degraded essential cooling water heat exchanger would be challenged. This was expected to cause failure of the essential chiller, and the resulting loss of room cooling to safety-related equipment increased the plant risk. In addition, there is uncertainty associated with the amount of scaling that could occur on any of the affected heat exchangers for all three units during 24 hours of an accident scenario. Additional information was needed to perform a final Phase 3 assessment, due to the complexity of the issue
Inspection Report# : 2006011*(pdf)*

Significance: G Sep 26, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
TWO EXAMPLES OF FAILURE TO TRANSLATE SPRAY POND DESIGN ASSUMPTIONS INTO PLANT PROCEDURES CONTROL

Two examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," were identified involving the failure to adequately translate the design basis of the spray ponds into procedures. Design Calculation 13-MC-SP-0307, "SP/EW System Thermal Performance Design Basis Analysis," Revision 7, which demonstrated that the spray pond system could adequately limit spray pond temperature during a design basis accident did not account for any reduced heat capacity caused by sediment buildup. However, this fact was not translated into procedures, so approximately 400 cubic yards of sediment had built up in each of the six spray ponds when the team questioned the impact to the heat removal function. Also, the same calculation demonstrated that sufficient water was available to provide adequate cooling during a design basis accident, but did not account for any leakage from the ponds. The team determined that the licensee did not translate this into a procedure to ensure that the condition of the spray pond was maintained such that leakage did not occur. Procedure 81DP-0ZZ01, "Civil System, Structure, and Component Monitoring Program," Revision 11, was used to monitor the condition of the pond structures. The team identified that it examined only the exposed concrete surfaces, which constituted about 7 percent of the surface area and almost none of the water-containing volume. Cracks had been identified and repaired in this area, but the inspections were not expanded to the underwater surfaces. This issue was documented in Condition Report/Disposition Requests 2906671 and 2910912.

Failure to adequately translate the design basis of the spray ponds into procedures was a performance deficiency. This finding was determined to be more than minor because, if left uncorrected, the finding could become a more significant safety concern. This finding affected the Mitigating Systems Cornerstone. This performance deficiency screened as having very low safety significance in a Phase 1 significance determination process because the licensee was able to demonstrate that the sediment would not have resulted in a loss of safety function, and that significant leakage did not exist. The licensee was able to revise the calculation to take credit for heat absorption by the concrete walls, and scheduled inspections by divers of underwater portions of the ponds to follow sediment removal
Inspection Report# : 2006011*(pdf)*

Significance: G Sep 26, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
MULTIPLE EXAMPLES OF INADEQUATE OPERABILITY ASSESSMENTS FOR HEAT EXCHANGER DEGRADATION
A noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," with multiple examples was identified for failure to adequately assess the impact to operability of degraded heat exchangers in the emergency diesel generators and essential cooling water system. Specifically, the licensee failed to follow Procedure 40DP-9OP26, "Operability Determination and Functional Assessment," Revision 16, in assessing indications of degraded heat exchanger performance, an activity affecting quality. Key support organizations were not always involving operations personnel with questions that had a potential to affect the operability of safety-related equipment, or were informing operators only after the support organization had fully evaluated the condition, delaying actions that were required to be prompt. Also, operations personnel did not always insist on a rigorous evaluation. This issue was documented in Condition Report/Disposition Requests 2918892, 2901815, and 2898237.

Failure to adequately implement the operability assessment process was a performance deficiency. This finding was more than minor because it impacted the equipment performance attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. This finding screened as having very low safety significance in a Phase 1 significance determination process, because the examples used for this violation were confirmed not to involve any loss of safety function. This finding had cross-cutting aspects in the area of human performance because the licensee did not follow their systematic process for operability decision making when information was not brought to the right decision makers
Inspection Report# : 2006011*(pdf)*

Significance: G Mar 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE DIESEL FIRE PUMP BATTERY SURVEILLANCE
The inspectors identified a noncited violation of Technical Specification 5.4.1.d for an inadequate surveillance test for the diesel fire pump batteries. Specifically, since 1995, the method described in Procedure 38FT-9FP02, "Fire Protection System Monthly Diesel Fire Battery Test," Revision 4, to verify the specific gravity of the diesel fire pump batteries was

inadequate in that the specific gravity was not directly measured, but was verified by a correlation to open circuit voltage. This methodology could result in a measured battery voltage that would be higher than the true specific gravity would provide. The cause was due to an inadequate engineering evaluation to develop the correlation used in the surveillance procedure. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2875906.

The finding is greater than minor because it is associated with the procedure quality cornerstone attribute of mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet and Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," the finding is determined to have very low safety significance because the fire pump battery performance and reliability is minimally affected since the batteries were replaced every two years, and the required capacity of the batteries is approximately 60 percent of a newly installed battery.
Inspection Report# : 2006002*(pdf)*

Significance: G Feb 03, 2006
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
UNTIMELY CORRECTIVE ACTIONS FOR FEEDWATER PUMP RESISTOR FAILURES
A self-revealing, noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” was identified for failure to correct, and preclude repetition of, a significant condition adverse to quality involving the failure of the turbine driven auxiliary feedwater pump. Specifically, the licensee failed to perform a timely evaluation to determine the cause of the Units 2 and 3 turbine driven auxiliary feedwater pump governor power supply resistor failures. Approximately 7 months following the Unit 2 and 3 failures, the Unit 2 turbine driven auxiliary feedwater pump governor failed again due to the same resistor failure. The licensee entered the deficiency into their corrective action program as Condition Report Disposition Request 2871541 for resolution.

The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the availability of systems that respond to initiating events. The failure of the Unit 2 turbine driven auxiliary feedwater pump governor power supply resistor affected the availability of the auxiliary feedwater system. Using the Phase 1 worksheet in Manual Chapter 0609, “Significance Determination Process,” the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone and did not result in an actual loss of safety function. The cause of the finding is related to the cross-cutting element of problem identification and resolution, in that, delays in the evaluation of the resistors failures allowed a subsequent failure prior to completion of the corrective actions. (Section 4OA2e(2)(i)
Inspection Report# : 2006008*(pdf)*

Significance: G Feb 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROMPTLY CORRECT AN ADVERSE TREND OF CONTAMINATED OIL SAMPLES
A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to correct an adverse trend of contaminated oil samples in a timely manner. Specifically, on April 1, 2005, the licensee identified an increasing trend of incorrect lubricant oil additions and contaminated oil samples and entered the deficiency in their corrective action program. As of January 2006, the inspectors concluded that the corrective actions taken as a result of the identified oil control deficiency were untimely, in that, 9 months later the frequency of new instances of oil control problems documented in the corrective action program remained unchanged. The licensee entered the deficiency into their corrective action program as Condition Report Disposition Request 2785915 for resolution.

The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheet, the finding was determined to have very low safety significance because it only affected the mitigating systems cornerstone and did not result in the loss-of-safety function of a single train or system. The cause of the finding is related to the cross-cutting element of problem identification and resolution, in that, poor work practices resulted in multiple oil contamination events

and the corrective actions taken were ineffective in promptly correcting the condition. (Section 4OA2e(2)(ii))

Inspection Report# : 2006008*(pdf)*

Significance: G Feb 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO MEET MAINTENANCE TEST REQUIREMENTS
A noncited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," was identified for failure to perform required testing of the Unit 3 essential cooling water system Pump EWP01 breaker in accordance with requirements and acceptance limits. Pump EWP01 breaker test procedure established tolerances and acceptance criteria for the breaker sub-component clearances that were documented as not being met. The licensee entered the deficiency into their corrective action program as Condition Report Disposition Request 2865792 for resolution.

This finding was more than minor since it affected the equipment performance attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The failure to meet recommended tolerances and acceptance limits specified was similar to Manual Chapter 0612, Appendix E, more than minor example 2.c., in that, the issue was repetitive and affected multiple breakers tested. Using Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheet, the finding was determined to have very low safety significance because the condition was a qualification deficiency confirmed not to result in loss of function. The cause of the finding is related to the cross-cutting element of human performance in that maintenance personnel failed to properly implement maintenance procedures, and the deficient conditions were not identified by supervisory review of the completed procedures. (Section 4OA2e(2)(iii))
Inspection Report# : 2006008*(pdf)*

Significance: G Feb 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IDENTIFY A MAINTENANCE RULE FUNCTIONAL FAILURE
A noncited violation of 10 CFR 50.65(a)(2) was identified for the failure to demonstrate that the performance or condition of the low pressure safety injection/shutdown cooling Pump 2A was adequate. Specifically, in May 2005, the licensee failed to accurately account for 15 hours of unavailability time for the low pressure safety injection/shutdown cooling Pump 2A, which when re-evaluated, exceeded the performance trigger to enter (a)(1) monitoring. The licensee entered this deficiency into their corrective action program as Condition Report Disposition Request 2865315 for resolution.

The finding is more than minor because it affects the equipment performance attribute of the mitigating systems cornerstone objective to maintain availability and reliability of structures systems and components needed to respond to initiating events and had a credible impact on safety. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the finding is determined to have very low safety significance because there was no design deficiency and the low pressure safety injection/shutdown cooling Pump 2A failure did not exceed the allowed technical specification outage time. The cause of the finding is related to the cross-cutting element of human performance in that the initial evaluation and subsequent supervisory reviews failed to identify the need for additional monitoring of the low pressure safety injection/shutdown cooling Pump 2A. (Section 4OA2e(2)(v))

Inspection Report# : 2006008*(pdf)*

Significance: N/A Feb 03, 2006
Identified By: NRC
Item Type: FIN Finding
PERFORMANCE DECLINE IN PROBLEM IDENTIFICATION AND RESOLUTION
The inspectors reviewed approximately 175 condition reports, 65 work orders, associated root and apparent cause evaluations, and other supporting documentation to assess problem identification and resolution activities. Overall, performance declined when compared to the previous problem identification and resolution assessment. Significant delays in evaluation of the significance of an identified problem, as well as identification of appropriate corrective actions, resulted in large corrective action backlogs, some repeat events, and examples of continued noncompliance. The delays in

completion of corrective actions continued to result in a significant number of self-disclosing and NRC-identified violations and findings. While the licensee initiated actions to address the substantive cross-cutting issues in human performance and problem identification and resolution, the majority of the corrective actions were not complete and some of the initial completed actions were not effective. Also, competing priorities between resources and the backlog of corrective actions created a condition where many corrective actions were significantly delayed in their completion, contributing to failures to adequately implement the corrective action process.

The team concluded that while a safety-conscious work environment exists at your facility, isolated concerns were raised by your staff during the interviews. These concerns were associated with not having sufficient personnel to accomplish long-term improvements, a loss of trust that management would not subject the staff to negative consequences for raising issues, some confusion about when to place an adverse condition into your corrective action program, and a decrease in confidence that the corrective action program will adequately address problems. (Section 4OA2).
Inspection Report# : 2006008*(pdf)*

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROMPTLY CORRECT AN ADVERSE CONDITION WITH THE REFUELING WATER TANK INSTRUMENT PIT
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to correct a condition adverse to quality involving the refueling water tank instrument pit. Specifically, in August 2003, the licensee inadvertently cancelled the work orders to correct deficiencies associated with flooding of the refueling water tank instrument pit. This error was identified by the licensee in October 2004; however, corrective actions were inadequate to ensure timely correction of the adverse condition. Additionally, two of the three work orders were inappropriately closed with no work performed following the inspectors' identification of the issue in August 2005. After identification by the inspectors, the licensee installed temporary modifications to prevent water intrusion into the pit. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2838845.

The finding is greater than minor because it is associated with the protection against external factors cornerstone attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding required a Phase 3 analysis by a senior reactor analyst, since the finding was potentially risk significant due to external initiating event core damage sequences. A senior reactor analyst performed a qualitative assessment and concluded that the finding had very low safety significance. The cause of the finding is related to the crosscutting element of problem identification and resolution in that corrective actions lacked timeliness, adequacy, and thoroughness.

Inspection Report# : 2005005*(pdf)*

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO DEMONSTRATE EFFECTIVE MAINTENANCE OF HOT LEG RESISTANCE TEMPERATURE DETECTORS
The inspectors identified a noncited violation of 10 CFR 50.65(a)(2) for the failure to demonstrate that the performance or condition of three reactor coolant system resistance temperature detectors had been effectively controlled and monitored against licensee-established goals. Specifically, the licensee failed to identify, and properly account for, three detector functional failures occurring from May 31, 2004 to June 23, 2005. Consequently, the licensee did not establish appropriate goal setting and monitoring for the detectors. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2856282.

The finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the condition only affected the mitigating systems

cornerstone and did not represent an actual loss of safety function. The cause of the finding is related to the crosscutting element of problem identification and resolution in that the licensee failed to identify the need to perform a maintenance rule functional failure review for failed resistance temperature detectors.

Inspection Report# : 2005005*(pdf)*

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CORRECT AN IDENTIFIED ADVERSE CONDITION ASSOCIATED WITH MAINTENANCE DEPARTMENT GUIDELINES
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to correct a condition adverse to quality involving the use of Maintenance Department Guidelines. Specifically, instrumentation and controls personnel did not complete actions used as a basis for closure for Condition Report/Disposition Request 2715129. In addition, the extent of condition review did not identify the continued active use of Maintenance Department Guidelines to perform quality related activities. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2830633.

The finding is greater than minor because it is associated with the procedure quality cornerstone attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the finding did not result in the loss of safety function of any component, train, or system. The cause of the finding is related to the crosscutting element of problem identification and resolution in that maintenance personnel did not implement timely corrective actions and performed a poor extent of condition review.
Inspection Report# : 2005005*(pdf)*

Significance: SL-IV Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO SUBMIT LER TO REPORT SHUTDOWN REQUIRED BY TECHNICAL SPECIFICATIONS
The inspectors identified a noncited Severity Level IV violation of 10 CFR 50.73 for the failure to submit a licensee event report within 60 days to report the completion of a plant shutdown required by the Technical Specifications. A second similar example of a violation of the same regulation was identified by the licensee. Specifically, the licensee was required to submit a licensee event report by May 17, 2005, to report the completion of a plant shutdown required by the Technical Specifications that occurred on March 18, 2005. This licensee event report was submitted on November 7, 2005. Additionally, the licensee was required to submit a licensee event report by April 10, 2005, to report the completion of a plant shutdown that occurred on February 9, 2005. A revised licensee event report was submitted on January 6, 2006. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Requests 2829976 and 2844019.

The finding was determined to be applicable to traditional enforcement because the NRC's ability to perform this regulatory function was potentially impacted by the licensee's failure to report the event. The finding was determined to be a Severity Level IV violation in accordance with Section D.4 of Supplement I of the NRC Enforcement Policy. The finding is not suitable for evaluation using the significance determination process, but has been reviewed by NRC management and is determined to be a finding of very low safety significance. The cause of the finding is related to the crosscutting element of problem identification and resolution in that the transportability review, conducted by regulatory affairs personnel, failed to identify an additional example of a missed reportable event that was subsequently identified by the NRC.

Inspection Report# : 2005005*(pdf)*

Significance: G Dec 16, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
IMPROPER DESIGN CONTROL FOR EMERGENCY CORE COOLING SYSTEM SUMP AND REFUELING

WATER TANK SWAPOVER
The inspectors identified a noncited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," related to potential air entrainment into the emergency core cooling system suction header from the refueling water tank. Specifically, the inspectors determined that the water level in the refueling water tank could fall below the level of the tank discharge pipe and associated vortex breaker during the transfer from the refueling water tank to the containment sump during design basis accidents. As a result, air could be drawn into the emergency core cooling system piping under accident conditions. This issue was applicable to both trains of all three units. Contrary to proper design control, engineering personnel failed to effectively implement design requirements to prevent potential air entrainment into the emergency core cooling system.

The inspectors considered this finding to be more than minor, in accordance with NRC Manual Chapter 0612, "Power Reactor Inspection Reports," since it potentially affected the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and it affected the attributes of design and configuration control. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the inspectors determined that the issue was of very low safety significance (Green) because there was no actual loss of safety function. Because the violation was determined to be of very low safety significance and has been entered into the corrective action program as condition report/disposition request (CRDR 2835132), this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy. The inspectors also determined this issue had cross-cutting aspects of human performance. Specifically, the licensee's attention to detail was lacking and there was poor inter- and intra-group coordination.
Inspection Report# : 2005012*(pdf)*

Significance: G Dec 16, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
IMPROPER DESIGN CONTROL FOR CONDENSATE STORAGE TANK AND REACTOR WATER MAKEUP TANK USABLE VOLUME TO AUXILIARY FEEDWATER
The inspectors identified two examples of a noncited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," for failure to translate the design basis volume of 300,000 gallons of usable volume in the condensate storage tank (CST) and reactor water makeup tank (RWMT) into the station's instructions, procedures, or drawings. Without this information, operators were unaware that Technical Specification minimum levels, specified in feet, may not provide sufficient usable volumes of water for auxiliary feedwater pump operation. Contrary to proper design control, the licensee failed to effectively implement design requirements to ensure operability of the auxiliary feedwater system.

These two examples of a violation affect the Mitigating Systems cornerstone and are more than minor because they were similar to Example 3.I of Manual Chapter 0612, and design calculations were required to be re-performed to assure accident requirements were met. In both instances, the originally calculated available inventory was less than the actual required design basis inventory of 299,700 gallons. Subsequent calculations by engineering personnel, including significant reduction in margins, demonstrated that minimum required volumes in the CST and RWMT were maintained. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the inspectors determined that the issue was of very low safety significance (Green) because there was no actual loss of safety function. Because the violation was determined to be of very low safety significance and has been entered into the corrective action program as condition report/disposition requests (CRDRs 2839337, 2840186, and 2841773), this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy. The inspectors also determined this issue had cross-cutting aspects of human performance. Specifically, the licensee's attention to detail was lacking and there was poor inter- and intra-group coordination.
Inspection Report# : 2005012*(pdf)*

Significance: G Dec 16, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
IMPROPER DESIGN CONTROL FOR REFUELING WATER TANK LEVEL INSTRUMENT CALIBRATION
The inspectors identified a noncited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," for failure to translate design basis information into the calibration of refueling water tank level instruments. Without this information, operators were unaware that a Technical Specification listed minimum level in this tank may not provide sufficient usable volume of water for emergency core cooling system operation. Specifically, engineers failed to density compensate these

instruments for allowable ranges of both temperature and boric acid concentration of the tank. Contrary to proper design control, the licensee failed to effectively implement design requirements to ensure operability of the refueling water tank.

This issue was determined to affect the Mitigating Systems cornerstone and was more than minor based upon review of Example 3.j of Manual Chapter 0612, Appendix E. The errors were considered more than a minor calculation error because the deficiencies required re-performance of the calculations, significantly reduced the overall margin, and could be applicable to other such instrumentation calculations. However, engineering personnel demonstrated that while there was a loss of margin, there was no actual loss of function because of the inaccuracies in the RWT level instrument calibrations. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the inspectors determined that the issue was of very low safety significance (Green) because there was no actual loss of safety function. Because the violation was determined to be of very low safety significance and has been entered into the corrective action program as condition report/disposition request (CRDR 2840920), this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy.
Inspection Report# : 2005012*(pdf)*

Significance: G Dec 16, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROPERLY IMPLEMENT STATION PROCEDURE FOR EQUIPMENT OPERABILITY (TECHNICAL SPECIFICATION 5.4.1.a)
The inspectors identified three examples of a (Green) noncited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings." Specifically, these examples involved the licensee's failure to follow a procedure and to provide appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished, consistent with the facility's administrative procedure for the operability determination process. In the first case an engineer evaluated a concern in a condition report/disposition request without notifying the control room so an operability assessment could be performed. In the other cases, there was inadequate guidance given to operators to address when an operability assessment would be required.

The inspectors considered this finding to be more than minor, in accordance with Manual Chapter 0612, since it potentially affected the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and it affected the attributes of procedure quality and human performance. However, subsequent evaluations completed by the licensee verified that actual safety functions were not lost in any of these examples. The inspectors performed a Phase 1 significance determination, using NRC Manual Chapter 0609, and determined this issue screens out as having very low safety significance (Green) because a safety function was not lost. Because the violation was determined to be of very low safety significance and has been entered into the corrective action program as Condition Report/Disposition Request 2838626, this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy. The inspectors also determined this issue had cross-cutting aspects of human performance. Specifically, the licensee's attention to detail was lacking and there was poor inter- and intra-group coordination.

The inspectors identified an additional example of the Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," described in NRC Supplemental Inspection Report 05000528; 05000529; 05000530/2005012, for the failure to establish an adequate procedure and implement existing procedures involving implementation of the operability determination process. The inspectors also identified examples where information provided to operations from engineering was not sufficiently accurate or complete to support operational decision making with respect to capacitor service life and the overall impact of the identified degraded or non-conforming capacitors. On November 1, 2005, the licensee inappropriately determined that the operability determination process was not applicable for a degraded capacitor condition that had the potential to impact Class 1E inverter operability. Consequently, the degraded condition was evaluated outside the operability determination process. Because the finding is of very low safety significance and has been entered into the corrective action program as Condition Report/Disposition Request 2838626. The cause of the finding is related to the crosscutting element of human performance in that communications between the engineering and operations organizations was inadequate.

Inspection Report# : 2005012*(pdf)*

Significance: N/A Dec 16, 2005
Identified By: NRC
Item Type: FIN Finding
SUMMARY FINDING. 95002 INSPECTORS ASSESSMENT OF IR2004-14 SEVERITY LEVEL III VIOLATION FOR 50.59 ISSUE
The U.S. Nuclear Regulatory Commission (NRC) performed this supplemental inspection, in part, to assess the licensee's evaluation and corrective actions associated with an inappropriate change to an emergency core cooling system procedure without prior NRC approval. This procedure change rendered portions of the system inoperable because of voiding. This performance issue was previously characterized as a Severity Level III violation of 10 CFR 50.59 and was originally identified in NRC Inspection Report 05000528; 529; 530/2004014. During this supplemental inspection, performed in accordance with Inspection Procedure 95002, the inspectors determined that the licensee's evaluation identified the primary root causes of the performance issue to be: (1) The site procedure revision process (01AC-0AP02) was inadequate, in that, the procedure allowed 'pre-screening' of changes that could potentially bypass performing a 10 CFR 50.59 screening for changes to the facility as described in the licensing basis; and (2) The corrective action program implementation was ineffective. The licensee also identified overlap and interface problems between the corrective action program, the engineering evaluation request program, and the instruction change request program. These issues, in conjunction with inadequate training to recognize a corrective action condition, contributed to the failure of station personnel to initiate a corrective action program input document in 1992 for the potential pipe voiding concern. The inspectors concluded that the licensee's evaluation and implemented corrective actions were appropriate to reasonably prevent repetition of the 10 CFR 50.59 violation.

Given the licensee's acceptable performance in addressing the inappropriate procedure change and 10 CFR 50.59 program deficiencies, the Severity Level III violation is closed.
Inspection Report# : 2005012*(pdf)*

Significance: N/A Dec 16, 2005
Identified By: NRC
Item Type: FIN Finding
SUMMARY FINDING. 95002 INSPECTORS ASSESSMENT OF IR2004-14 (YELLOW) 10CFR50, APP B, CRITERION III VIOLATION
The NRC performed this supplemental inspection, in part, to assess the licensee's evaluation and corrective actions associated with potential air entrainment into the emergency core cooling system. The licensee failed to incorporate original design requirements into the plant to maintain piping between the containment sump isolation valves filled with water. This performance issue was previously characterized as a 10 CFR 50, Appendix B, Criterion III, violation having substantial safety significance (Yellow), and was originally identified in NRC Inspection Report 05000528; 529; 530/2004014. The inspectors determined that the licensee's evaluation identified a direct cause, nine root causes, and nine contributing causes of the performance issue. The evaluation was also used to develop an extensive list of corrective actions. The inspectors found the licensee's methods of evaluation to be appropriate.

The NRC concluded that, while the licensee performed an adequate root cause evaluation of the Design Control violation, certain corrective actions were incomplete at the time of this inspection. Specifically, the team determined that for each of the root and contributing causes, not all corrective actions were sufficiently developed to ensure that the identified performance deficiencies were adequately addressed. In addition, some of the corrective actions were narrowly focused, or the implementation of those actions was not fully effective. Also, the team concluded that criteria and reviews were not established, for auditing or followup, to ensure that corrective actions were effective in improving performance in the affected areas. Consequently, the team did not have assurance that the planned corrective actions were sufficient to address the causes for the performance deficiencies associated with the violation. Therefore, the (Yellow) violation (VIO 2004/014-01) will remain open for further NRC review.
Inspection Report# : 2005012*(pdf)*

Significance: G Mar 16, 2005
Identified By: NRC
Item Type: FIN Finding
FAILURE TO TRACK CONTROL ROOM DISCREPANCIES
The inspectors identified a finding for the failure to follow administrative guidelines provided to operations personnel for identifying, documenting, and tracking main control room deficiencies. Specifically, approximately 75 control room

instrument and control room meter face plates in Units 1, 2, and 3 were degraded and were not individually tracked in the control room discrepancy log. Furthermore, discrepancy labels containing the control room discrepancy log number and description of the discrepancy were not placed adjacent to or as close as possible to each affected device. This issue was entered into the corrective action program as Condition Report/Disposition Request 2782501.

The finding is determined to be greater than minor because if left uncorrected, it could become a more significant safety concern in that the condition could cause an operator to take an inappropriate action based on expected plant response or conversely cause an operator not to take action when action is required. The senior reactor analyst determined that this finding was not appropriate to be evaluated using the significance determination process since this finding was associated with multiple human performance actions. Based on management review, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and there was no adverse impact to plant equipment.

Inspection Report# : 2005002*(pdf)*

Significance: Y Dec 09, 2004
Identified By: NRC
Item Type: VIO Violation
FAILURE TO MAINTAIN DESIGN CONTROL OF CONTAINMENT SUMP RECIRCULATION PIPING
The team identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to establish measures to assure design basis information was translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to maintain the safety injection sump suction piping full of water in accordance with the Updated Final Safety Analysis Report. This nonconformance had the potential to significantly affect the available net positive suction head described in the Updated Final Safety Analysis Report for the high pressure safety injection and containment spray pumps, since the analysis assumed the piping would be maintained full of water.
{NOTE: Finding remains open - IP 95002 results pending 12/16/2005}

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that the issue had substantial safety significance (Yellow). After considering the information developed during the inspection and the results of testing sponsored by the licensee, the NRC has concluded that this inspection finding is appropriately characterized as Yellow. The final Significance Determination Process letter was issued on April 8, 2005. This issue will be inspected within the scope of a supplemental 95002 inspection in August - September, 2005.
Inspection Report# : 2004014*(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance: G Mar 31, 2006
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW RADIATION EXPOSURE PERMIT INSTRUCTIONS

The inspector reviewed a self-revealing, noncited violation of Technical Specification 5.4.1.a, resulting from two radiation workers' failure to follow radiation exposure permit instructions. On November 22, 2005, two radiation workers, without notifying radiation protection staff, used a pneumatic grinder with a wire wheel inside of the Unit-1 Steam Generator No. 2 cold leg pipe. As a result of the wire wheel grinding, both workers were contaminated. Radiation protection staff members were not made aware of the contamination event until the workers alarmed the PM-7 portal monitor upon attempting egress from the 140-foot radiological controlled area. One worker received unplanned and unintended internal dose of 6 millirem. The other worker did not receive an internal dose. As corrective action, the licensee counseled the two workers and their supervision, and informed the contractor's management.

The finding was greater than minor because it was associated with one of the cornerstone attributes (exposure control) and the finding affected the occupational radiation safety cornerstone objective, in that a failure to follow radiation exposure permit instructions resulted in additional radiation dose. The inspector determined that the finding had no more than very low safety significance because: (1) it did not involve an ALARA finding, (2) there was no personnel overexposure, (3) there was no substantial potential for personnel overexposure, and (4) the finding did not compromise the licensee's ability to assess dose. The finding also had crosscutting aspects related to human performance, in that, radiation workers failed to follow the radiation exposure permit instructions, which directly resulted in the finding.

Inspection Report# : 2006002*(pdf)*

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Last modified : December 21, 2006

Palo Verde 2
4Q/2006 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: TBD Nov 30, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IMPLEMENT THE OPERABILITY DETERMINATION PROCESS
The team identified two examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the failure to perform operabilty determinations. In both examples, the licensee failed to perform an operability determination following identification of a degraded condition that had the potential to adversely affect the safety function of all emergency diesel generators. Specifically, an operability determination was not performed after identifying the failure of the Unit 3 Train A emergency diesel generator on July 25, 2006, was potentially the result of plastic debris affecting proper auxiliary contact operation of a K-1 relay. The licensee determined the debris most likely originated from a modification performed on all emergency diesel generator K-1 relays during initial plant startup. Following another failure of the Unit 3 Train A emergency diesel generator on September 22, 2006, an operability determination was not performed after identifying the failure was the result of the K-1 relay actuating arm not providing adequate compression of the auxiliary contacts. The licensee determined this degraded condition most likely originated during implementation a modification done to all emergency diesel generator K-1 relays during initial plant startup.

This finding is greater than minor because the failure to follow the operability determination process, if left uncorrected, would become a more significant safety concern in that degraded or nonconforming conditions would not be properly evaluated. Using the Phase 1 worksheet in NRC Inspection Manual Chapter 0609, “Significance Determination Process,” the finding was determined to have very low safety significance because unreliable K-1 relay operation resulted in no actual loss of safety function of the other five emergency diesel generators prior to corrective actions being implemented, and the finding did not represent a potential risk significant condition because of a seismic, flooding, or severe weather event. This issue is documented in the licensee’s corrective action program as Condition Report/Disposition Requests 2928389 and 2940558. The cause of this finding is related to the crosscutting element of problem identification and resolution in that engineering personnel failed to properly evaluate and perform operability determinations for identified degraded conditions affecting the emergency diesel generators.
Inspection Report# : 2006012 *(pdf)*

Significance:  Nov 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE CORRECTIVE ACTIONS TO PRECLUDE WATER INTRUSION AND CORROSION OF UNDERGROUND PIPING AT THE FACILITY
The inspectors identified multiple examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for failing to promptly correct water intrusion problems in multiple areas in the facility, that were identified and examined from January 1991 to April 2006. Specifically, the licensee failed to promptly correct the water intrusion problems in the facility piping vaults and manholes. This finding also had aspects of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for failing to maintain a vault in its watertight design condition and to coat exposed piping with its specified coating to ensure corrosion protection. This issue was entered into the licensee’s corrective action program as Condition Report/Disposition Requests 2885972, 2880283, and 2902572.

The finding is greater than minor because it is associated with the equipment performance cornerstone attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and

capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609," Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the condition only affected the mitigating systems cornerstone and there was no actual loss of piping material that exceeded the minimum allowable wall thickness or a loss of safety function that exceeded Technical Specification allowed outage times. This finding has a crosscutting aspect in the area of problem identification and resolution because the licensee failed to thoroughly evaluate a problem that existed from 1992 to April 2006. The failure to promptly correct this condition resulted in the degradation of the wall thickness of the spray pond piping and the Unit 3 emergency diesel generator Train A being declared inoperable after the fuel transfer pump did not meet the acceptance criteria during a surveillance
Inspection Report# : 2006004 *(pdf)*

Significance: G Nov 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IDENTIFY CONDITIONS ADVERSE TO QUALITY FOR THE EMERGENCY DIESEL GENERATORS
The inspectors identified multiple examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for failing to identify degraded material conditions on the emergency diesel generators. Between July and September 2006, operations and engineering personnel did not promptly identify and correct material conditions adverse to quality. Specifically, operations and engineering personnel did not identify numerous fluid leaks, and loose and missing fasteners on the emergency diesel generator skid, and did not enter them in the corrective action program. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2914886.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that unidentified conditions adverse to quality could challenge the operability of equipment important to safety. The finding affected the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the finding did not result in the actual loss of safety function to any component, train, or system. This finding has a crosscutting aspect in the area of problem identification and resolution because failing to implement the corrective action program with a low threshold for identifying adverse material conditions resulted in degradation of the emergency diesel generators which was not being tracked and evaluated
Inspection Report# : 2006004 *(pdf)*

Significance: N/A Nov 03, 2006
Identified By: NRC
Item Type: FIN Finding
FAILURE TO SUBMIT COMPLETE REVISIONS TO THE UPDATED FINAL SAFETY ANALYSIS REPORT FOR PERMANENT MODIFICATIONS
The inspectors identified a violation of 10 CFR 50.71(e)(4), for which enforcement discretion was exercised, that involved the failure to file revisions to the Updated Final Safety Analysis Report. Specifically, for the reporting period between January 2003 and December 2005, licensing personnel failed to submit a revision to the Updated Final Safety Analysis Report reflecting core protection calculator system modifications. The issued was entered into the licensee's corrective action program as Condition Report/Disposition Request 2894635.

The performance deficiency associated with this finding involved the failure of licensee personnel to submit revisions to the Updated Final Safety Analysis Report reflecting modifications installed in Unit 2 for more than 24 months. The finding was determined to be applicable to traditional enforcement because the NRC's ability to perform its regulatory function was potentially impacted by the licensee's failure to revise the Updated Final Safety Analysis Report in a timely manner. Normally, the violation would be categorized at Severity Level IV in accordance with Section D.4 of Supplement I of the NRC Enforcement Policy. However, in accordance with Section VII.B.6 of the NRC Enforcement Policy, the NRC is refraining from taking enforcement action because of the NRC action taken in 1993 to issue and then retract a similar occurrence and the low safety significance of the finding (EA-06-267). The finding is not suitable for evaluation using the significance determination process, but has been reviewed by NRC management and is determined to be a finding of very low safety significance.

Inspection Report# : 2006004 *(pdf)*

Significance: N/A Sep 30, 2006
Identified By: NRC
Item Type: FIN Finding
SUMMARY FINDING. 95002 TEAMS ASSESSMENT OF IR 2004-14 (YELLOW) 10 CFR PART 50, APPENDIX B, CRITERION III, VIOLATION
The NRC performed a followup supplemental inspection to assess the licensee's corrective actions associated with a Yellow design control finding involving the potential for air entrainment into the emergency core cooling system. The team concluded that the technical issues specifically associated with the voided emergency core cooling system piping have been addressed. However, the Yellow finding will remain open because the licensee did not implement effective corrective actions for all of the causes associated with the Yellow finding. Specifically, the licensee's actions to improve questioning attitude, technical rigor, and technical review were not fully effective. Also, the implementation of performance measures and metrics to monitor the effectiveness of corrective actions associated with the Yellow finding were not adequate to assess effectiveness. This performance issue was previously characterized as a 10 CFR Part 50, Appendix B, Criterion III, violation having substantial safety significance (Yellow), and was originally identified in NRC Inspection Report 05000528; 05000529; 05000530/2004014.

The licensee's corrective actions taken in response to the root causes and related programmatic concerns involving questioning attitude, technical rigor, and technical review have not been completely effective. Specifically, following implementation of corrective actions between September 2005 and March 2006, the licensee: (1) continued to conduct inadequate technical reviews of emerging issues; (2) did not routinely question the validity of engineering assumptions used to support operability decisions; (3) did not consistently implement a qualify, validate, and verify process; and (4) did not consistently notify operations personnel of immediate operability concerns.

The team concluded that adequate qualitative or quantitative measures for determining the effectiveness of the corrective actions to prevent recurrence have not been established. For example, not all relevant performance data was considered when performance monitoring measures were developed to assess the effectiveness of corrective actions. When the pertinent data was considered, or otherwise clarified, the performance measures suggested declining rather than improving performance in some areas.

The team also concluded that the licensee had not completed adequate reviews of the effectiveness of corrective actions prior to their notifying the NRC of their readiness for inspection of the Yellow finding. Specifically, several assessments were completed after the requested dated of the inspection (June 2006). Several of the assessments noted that insufficient progress in resolving some of the root and contributing causes had been made. Additionally, a standard guideline for metrics was not issued and implemented until July 2006.

Inspection Report# : 2006010 *(pdf)*

Significance:  Sep 26, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
TWO EXAMPLES OF FAILURE TO TRANSLATE SPRAY POND DESIGN ASSUMPTIONS INTO PLANT PROCEDURES CONTROL
Two examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," were identified involving the failure to adequately translate the design basis of the spray ponds into procedures. Design Calculation 13-MC-SP-0307, "SP/EW System Thermal Performance Design Basis Analysis," Revision 7, which demonstrated that the spray pond system could adequately limit spray pond temperature during a design basis accident did not account for any reduced heat capacity caused by sediment buildup. However, this fact was not translated into procedures, so approximately 400 cubic yards of sediment had built up in each of the six spray ponds when the team questioned the impact to the heat removal function. Also, the same calculation demonstrated that sufficient water was available to provide adequate cooling during a design basis accident, but did not account for any leakage from the ponds. The team determined that the licensee did not translate this into a procedure to ensure that the condition of the spray pond was maintained such that leakage did not occur. Procedure 81DP-0ZZ01, "Civil System, Structure, and Component Monitoring Program," Revision 11, was used to monitor the condition of the pond structures. The team identified that it examined only the exposed concrete surfaces, which constituted about 7 percent of the surface area and almost none of the water-containing volume. Cracks had been identified and repaired in this area, but the inspections were not expanded to the underwater surfaces. This issue was documented in Condition Report/Disposition Requests 2906671 and 2910912.

Failure to adequately translate the design basis of the spray ponds into procedures was a performance deficiency. This finding was determined to be more than minor because, if left uncorrected, the finding could become a more significant safety concern. This finding affected the Mitigating Systems Cornerstone. This performance deficiency screened as having very low safety significance in a Phase 1 significance determination process because the licensee was able to demonstrate that the sediment would not have resulted in a loss of safety function, and that significant leakage did not exist. The licensee was able to revise the calculation to take credit for heat absorption by the concrete walls, and scheduled inspections by divers of underwater portions of the ponds to follow sediment removal
Inspection Report# : 2006011 *(pdf)*

Significance: G Sep 26, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
MULTIPLE EXAMPLES OF INADEQUATE OPERABILITY ASSESSMENTS FOR HEAT EXCHANGER DEGRADATION
A noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," with multiple examples was identified for failure to adequately assess the impact to operability of degraded heat exchangers in the emergency diesel generators and essential cooling water system. Specifically, the licensee failed to follow Procedure 40DP-9OP26, "Operability Determination and Functional Assessment," Revision 16, in assessing indications of degraded heat exchanger performance, an activity affecting quality. Key support organizations were not always involving operations personnel with questions that had a potential to affect the operability of safety-related equipment, or were informing operators only after the support organization had fully evaluated the condition, delaying actions that were required to be prompt. Also, operations personnel did not always insist on a rigorous evaluation. This issue was documented in Condition Report/Disposition Requests 2918892, 2901815, and 2898237.

Failure to adequately implement the operability assessment process was a performance deficiency. This finding was more than minor because it impacted the equipment performance attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. This finding screened as having very low safety significance in a Phase 1 significance determination process, because the examples used for this violation were confirmed not to involve any loss of safety function. This finding had cross-cutting aspects in the area of human performance because the licensee did not follow their systematic process for operability decision making when information was not brought to the right decision makers
Inspection Report# : 2006011 *(pdf)*

Significance: G Sep 26, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
ESSENTIAL COOLING WATER TRAIN 2B INOPERABLE LONGER THAN ALLOWED OUTAGE TIME DUE TO FOULING - RECHARACTERIZED IN FINAL SIGNIFICANCE DETERMINATION LETTER TO BE A GREEN NCV.
Green. A noncited violation of Technical Specification 3.7.7 was identified because Train B of the essential cooling water system in Unit 2 was not capable of performing its safety function for approximately 78 days ending on September 27, 2003. The degraded performance was due to fouling caused by improper chemical addition in the associated spray pond.

Failure to ensure that this safety-related equipment was operable was a performance deficiency. This finding was more than minor because it impacted the equipment performance attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. Specifically, Essential Cooling Water Train B in Unit 2 was estimated to have been incapable of performing its function under existing conditions for approximately 78 days. A Phase 3 significance determination process concluded that this finding has very low safety significance. This finding had cross-cutting aspects in the area of Human Performance, under the Resource attribute, because the licensee failed to ensure that adequate procedures were available to maintain design margins. This issue was entered into the Corrective Action Program under CRDR 2905161. Because this violation was of very low safety significance and has been entered into the corrective action program, it is being treated as a noncited violation consistent with Section VI.A of the Enforcement Policy: NCV 05000529/2006011-01, EW Train 2B Inoperable Longer than Allowed Outage Time. This issue was re-characterized from an AV to an NCV as a result of the Regulatory Conference conducted

on November 20, 2006 and the final significance determination.

Inspection Report# : 2006011 *(pdf)*

Significance: G Sep 26, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE TEST CONTROL TO PROMPTLY IDENTIFY UNACCEPTABLE HEAT EXCHANGER PERFORMANCE TEST RESULTS - RECHARACTERIZED IN FINAL SIGNIFICANCE DETERMINATION LETTER TO BE A GREEN NCV.
Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," was identified. Test Procedure 70TI-9EW01, "Thermal Performance Testing of Essential Cooling Water Heat Exchangers," and Procedure 73DP-9ZZ10, "Guidelines for Heat Exchanger Thermal Performance Analysis," were inadequate to ensure the timely determination that the requirements and acceptance limits contained in applicable design documents were met. Specifically, performance testing for Essential Cooling Water Heat Exchanger 2B conducted on March 19, 2002, did not meet the design basis requirements specified in Calculation 13-MC-SP-0307, "SP/EW System Performance Design Bases Analysis," Revision 007, but this was not correctly evaluated to determine whether the system would be capable of performing its design function until August 22, 2002, due to incorrect procedure guidance and lack of requirements to ensure timely evaluation. As a result, this component continued to degrade for 18 months after demonstrating unacceptable performance. This finding had cross cutting aspects in the area of Human Performance, under the Resource attribute, because the licensee failed to ensure that adequate procedures were available to ensure nuclear safety.

Failure to properly control testing and properly identify unacceptable performance was a performance deficiency. This finding was more than minor because it impacted the procedure quality attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. Specifically, Essential Cooling Water Train B in Unit 2 was estimated to have been incapable of performing its function under existing conditions for approximately 78 days. A Phase 3 significance determination process concluded that this finding has a very low safety significance. This issue was entered into the Corrective Action Program under CRDR 2928230. Because this violation was of very low safety significance and has been entered into the corrective action program, it is being treated as a noncited violation consistent with Section VI.A of the Enforcement Policy: NCV 05000528; 05000529; 05000530/2006011-02, Inadequate Test Control to Promptly Identify Unacceptable Performance Test Results. This issue was re-characterized from an AV to an NCV as a result of the Regulatory Conference conducted on November 20, 2006 and the final significance determination.
Inspection Report# : 2006011 *(pdf)*

Significance: SL-IV Sep 26, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
10 CFR 50.59 REVIEWS NOT PERFORMED OR INADEQUATE FOR MULTIPLE CHANGES TO SPRAY POND CHEMISTRY CONTROL PROCEDURE - RECHARACTERIZED IN FINAL SIGNIFICANCE DETERMINATION LETTER TO BE A GREEN NCV.
SL-IV. A noncited violation of 10 CFR 50.59 was identified for making nine revisions to Procedure 74DP-9CY04, "System Chemistry Specification," a procedure described in the Updated Final Safety Analysis Report between 1998 and 2004. Specifically, the licensee failed to perform evaluations for Revisions 3, 6, 8, 10, 12, 24, 28, 32, and 36 and performed inadequate evaluations for Revisions 10 and 36, to assess the potential impact of the changes on the safety-related components in the spray pond system. Each of these changes revised spray pond chemistry parameter limits which were subsequently determined to have contributed to heat exchanger fouling.

Failure to adequately evaluate the impact of changes to the Chemistry Control Program was a performance deficiency. Because this violation had the potential to impact the NRC's regulatory function, and because the associated significance was determined to be Green using Phase 3 of the significance determination process, this violation is being treated as a Severity Level IV violation. This issue was entered into the Corrective Action Program under CRDR 2902498. Because this violation was of very low safety significance and has been entered into the corrective action program, it is being treated as a noncited violation consistent with Section VI.A of the Enforcement Policy: NCV 05000528; 05000529; 05000530/2006011-03, 50.59 Reviews Not Performed or Inadequate for Multiple Changes to Spray Pond Chemistry Control Procedure. This issue was re-characterized from an AV to an NCV as a result of the Regulatory Conference

conducted on November 20, 2006 and the final significance determination.
Inspection Report# : 2006011 *(pdf)*

Significance: G Sep 26, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE IDENTIFICATION AND CORRECTIVE ACTION FOR DEGRADED ESSENTIAL COOLING WATER HEAT EXCHANGER PERFORMANCE - RECHARACTERIZED IN FINAL SIGNIFICANCE DETERMINATION LETTER TO BE A GREEN NCV
Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," was identified. On March 19, 2002, performance testing for Essential Cooling Water Heat Exchanger 2B indicated that the system would not be capable of performing its design function, but this significant condition adverse to quality was not promptly identified, the cause determined, or corrective actions taken to restore the required heat exchanger performance. Specifically, the unacceptable performance was not promptly identified, because the test results were not correctly calculated until August 22, 2002, which was after operating mode changes and returning the unit to power following the outage. When the test results were finalized, the fact was that the design basis capability was not met, was not recognized or entered into the corrective action program. These failures to correct this degraded performance contributed to the continued degradation and eventual loss of function for a period of 78 days. The failure to correct this degraded performance contributed to the continued degradation and eventual loss of function. This finding had cross cutting aspects associated with the Corrective Action Program, for both inadequate identification of problems and inadequate evaluation of the cause, extent, and impact on operability.

Failure to properly assess the impact of scaling on safety-related heat exchangers cooled by the spray pond system was a performance deficiency. This finding was more than minor because it impacted the equipment performance attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. Specifically, the heat exchangers associated with emergency diesel generators and essential cooling water systems in both trains in all units were allowed to degrade and Essential Cooling Water Train B in Unit 2 was estimated to have been incapable of performing its function under existing conditions for approximately 78 days. A Phase 3 significance determination process concluded that this finding has very low safety significance. This issue was entered into the corrective action program under CRDR 2897810. Because this violation was of very low safety significance and has been entered into the corrective action program, it is being treated as a noncited violation consistent with Section VI.A of the Enforcement Policy: NCV 05000528; 05000529; 05000530/2006011-04, Inadequate Corrective Action for Degraded EW Heat Exchanger Performance. This issue was re-characterized from an AV to an NCV as a result of the Regulatory Conference conducted on November 20, 2006 and the final significance determination.
Inspection Report# : 2006011 *(pdf)*

Significance: G Sep 26, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE DESIGN CONTROL TO ENSURE NO ESSENTIAL COOLING WATER HEAT EXCHANGER SCALING - RECHARACTERIZED IN FINAL SIGNIFICANCE DETERMINATION LETTER TO BE A GREEN NCV.
Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified for failure to correctly evaluate the scaling potential of the safety-related heat exchangers cooled by the emergency spray pond during a design basis accident. An error in how the licensee interpreted the SEQUIL calculation caused the licensee to incorrectly conclude that scaling would not occur under the conditions established in the chemistry control program.

Failure to properly assess the impact of scaling on safety related heat exchangers cooled by the spray pond system was a performance deficiency. This finding was more than minor because it impacted the design control attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. Specifically, post accident scaling was determined to reduce heat exchanger performance by 2.3 percent of the design capability in the first 24 hours, and up to 4 percent during the design mission time. A Phase 3 significance determination process concluded that this finding has very low safety significance. This finding had cross-cutting aspects in the area of Human Performance, under the Resource attribute, because the licensee failed to ensure that adequate procedures were available to ensure nuclear safety. This issue was documented in CRDR 2913430. Because this violation

was of very low safety significance and has been entered into the corrective action program, it is being treated as a noncited violation consistent with Section VI.A of the Enforcement Policy: NCV 05000528; 05000529; 05000530/2006011-05, Inadequate Design Control to Ensure No EW Heat Exchanger Scaling. This issue was re-characterized from an AV to an NCV as a result of the Regulatory Conference conducted on November 20, 2006 and the final significance determination.
Inspection Report# : 2006011 *(pdf)*

Significance: G Mar 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE DIESEL FIRE PUMP BATTERY SURVEILLANCE
The inspectors identified a noncited violation of Technical Specification 5.4.1.d for an inadequate surveillance test for the diesel fire pump batteries. Specifically, since 1995, the method described in Procedure 38FT-9FP02, "Fire Protection System Monthly Diesel Fire Battery Test," Revision 4, to verify the specific gravity of the diesel fire pump batteries was inadequate in that the specific gravity was not directly measured, but was verified by a correlation to open circuit voltage. This methodology could result in a measured battery voltage that would be higher than the true specific gravity would provide. The cause was due to an inadequate engineering evaluation to develop the correlation used in the surveillance procedure. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2875906.

The finding is greater than minor because it is associated with the procedure quality cornerstone attribute of mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet and Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," the finding is determined to have very low safety significance because the fire pump battery performance and reliability is minimally affected since the batteries were replaced every two years, and the required capacity of the batteries is approximately 60 percent of a newly installed battery.
Inspection Report# : 2006002 *(pdf)*

Significance: G Feb 03, 2006
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
UNTIMELY CORRECTIVE ACTIONS FOR FEEDWATER PUMP RESISTOR FAILURES
A self-revealing, noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” was identified for failure to correct, and preclude repetition of, a significant condition adverse to quality involving the failure of the turbine driven auxiliary feedwater pump. Specifically, the licensee failed to perform a timely evaluation to determine the cause of the Units 2 and 3 turbine driven auxiliary feedwater pump governor power supply resistor failures. Approximately 7 months following the Unit 2 and 3 failures, the Unit 2 turbine driven auxiliary feedwater pump governor failed again due to the same resistor failure. The licensee entered the deficiency into their corrective action program as Condition Report Disposition Request 2871541 for resolution.

The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the availability of systems that respond to initiating events. The failure of the Unit 2 turbine driven auxiliary feedwater pump governor power supply resistor affected the availability of the auxiliary feedwater system. Using the Phase 1 worksheet in Manual Chapter 0609, “Significance Determination Process,” the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone and did not result in an actual loss of safety function. The cause of the finding is related to the cross-cutting element of problem identification and resolution, in that, delays in the evaluation of the resistors failures allowed a subsequent failure prior to completion of the corrective actions. (Section 4OA2e(2)(i)
Inspection Report# : 2006008 *(pdf)*

Significance: G Feb 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PROMPTLY CORRECT AN ADVERSE TREND OF CONTAMINATED OIL SAMPLES

A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to correct an adverse trend of contaminated oil samples in a timely manner. Specifically, on April 1, 2005, the licensee identified an increasing trend of incorrect lubricant oil additions and contaminated oil samples and entered the deficiency in their corrective action program. As of January 2006, the inspectors concluded that the corrective actions taken as a result of the identified oil control deficiency were untimely, in that, 9 months later the frequency of new instances of oil control problems documented in the corrective action program remained unchanged. The licensee entered the deficiency into their corrective action program as Condition Report Disposition Request 2785915 for resolution.

The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the reliability and availability of systems that respond to initiating events. Using Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheet, the finding was determined to have very low safety significance because it only affected the mitigating systems cornerstone and did not result in the loss-of-safety function of a single train or system. The cause of the finding is related to the cross-cutting element of problem identification and resolution, in that, poor work practices resulted in multiple oil contamination events and the corrective actions taken were ineffective in promptly correcting the condition. (Section 4OA2e(2)(ii))

Inspection Report# : 2006008 *(pdf)*

Significance: G Feb 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO MEET MAINTENANCE TEST REQUIREMENTS
A noncited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," was identified for failure to perform required testing of the Unit 3 essential cooling water system Pump EWP01 breaker in accordance with requirements and acceptance limits. Pump EWP01 breaker test procedure established tolerances and acceptance criteria for the breaker sub-component clearances that were documented as not being met. The licensee entered the deficiency into their corrective action program as Condition Report Disposition Request 2865792 for resolution.

This finding was more than minor since it affected the equipment performance attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The failure to meet recommended tolerances and acceptance limits specified was similar to Manual Chapter 0612, Appendix E, more than minor example 2.c., in that, the issue was repetitive and affected multiple breakers tested. Using Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheet, the finding was determined to have very low safety significance because the condition was a qualification deficiency confirmed not to result in loss of function. The cause of the finding is related to the cross-cutting element of human performance in that maintenance personnel failed to properly implement maintenance procedures, and the deficient conditions were not identified by supervisory review of the completed procedures. (Section 4OA2e(2)(iii))
Inspection Report# : 2006008 *(pdf)*

Significance: G Feb 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IDENTIFY A MAINTENANCE RULE FUNCTIONAL FAILURE
A noncited violation of 10 CFR 50.65(a)(2) was identified for the failure to demonstrate that the performance or condition of the low pressure safety injection/shutdown cooling Pump 2A was adequate. Specifically, in May 2005, the licensee failed to accurately account for 15 hours of unavailability time for the low pressure safety injection/shutdown cooling Pump 2A, which when re-evaluated, exceeded the performance trigger to enter (a)(1) monitoring. The licensee entered this deficiency into their corrective action program as Condition Report Disposition Request 2865315 for resolution.

The finding is more than minor because it affects the equipment performance attribute of the mitigating systems cornerstone objective to maintain availability and reliability of structures systems and components needed to respond to initiating events and had a credible impact on safety. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the finding is determined to have very low safety significance because there was no design deficiency and the low pressure safety injection/shutdown cooling Pump 2A failure did not exceed the allowed technical specification outage time. The cause of the finding is related to the cross-cutting element of human performance in that the

initial evaluation and subsequent supervisory reviews failed to identify the need for additional monitoring of the low pressure safety injection/shutdown cooling Pump 2A. (Section 4OA2e(2)(v))

Inspection Report# : 2006008 *(pdf)*

Significance: N/A Feb 03, 2006
Identified By: NRC
Item Type: FIN Finding
PERFORMANCE DECLINE IN PROBLEM IDENTIFICATION AND RESOLUTION
The inspectors reviewed approximately 175 condition reports, 65 work orders, associated root and apparent cause evaluations, and other supporting documentation to assess problem identification and resolution activities. Overall, performance declined when compared to the previous problem identification and resolution assessment. Significant delays in evaluation of the significance of an identified problem, as well as identification of appropriate corrective actions, resulted in large corrective action backlogs, some repeat events, and examples of continued noncompliance. The delays in completion of corrective actions continued to result in a significant number of self-disclosing and NRC-identified violations and findings. While the licensee initiated actions to address the substantive cross-cutting issues in human performance and problem identification and resolution, the majority of the corrective actions were not complete and some of the initial completed actions were not effective. Also, competing priorities between resources and the backlog of corrective actions created a condition where many corrective actions were significantly delayed in their completion, contributing to failures to adequately implement the corrective action process.

The team concluded that while a safety-conscious work environment exists at your facility, isolated concerns were raised by your staff during the interviews. These concerns were associated with not having sufficient personnel to accomplish long-term improvements, a loss of trust that management would not subject the staff to negative consequences for raising issues, some confusion about when to place an adverse condition into your corrective action program, and a decrease in confidence that the corrective action program will adequately address problems. (Section 4OA2).
Inspection Report# : 2006008 *(pdf)*

Significance: G Mar 16, 2005
Identified By: NRC
Item Type: FIN Finding
FAILURE TO TRACK CONTROL ROOM DISCREPANCIES
The inspectors identified a finding for the failure to follow administrative guidelines provided to operations personnel for identifying, documenting, and tracking main control room deficiencies. Specifically, approximately 75 control room instrument and control room meter face plates in Units 1, 2, and 3 were degraded and were not individually tracked in the control room discrepancy log. Furthermore, discrepancy labels containing the control room discrepancy log number and description of the discrepancy were not placed adjacent to or as close as possible to each affected device. This issue was entered into the corrective action program as Condition Report/Disposition Request 2782501.

The finding is determined to be greater than minor because if left uncorrected, it could become a more significant safety concern in that the condition could cause an operator to take an inappropriate action based on expected plant response or conversely cause an operator not to take action when action is required. The senior reactor analyst determined that this finding was not appropriate to be evaluated using the significance determination process since this finding was associated with multiple human performance actions. Based on management review, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and there was no adverse impact to plant equipment.

Inspection Report# : 2005002 *(pdf)*

Significance: Y Dec 09, 2004
Identified By: NRC
Item Type: VIO Violation
FAILURE TO MAINTAIN DESIGN CONTROL OF CONTAINMENT SUMP RECIRCULATION PIPING
The team identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to establish measures to assure design basis information was translated into specifications, drawings, procedures, and

instructions. Specifically, the licensee failed to maintain the safety injection sump suction piping full of water in accordance with the Updated Final Safety Analysis Report. This nonconformance had the potential to significantly affect the available net positive suction head described in the Updated Final Safety Analysis Report for the high pressure safety injection and containment spray pumps, since the analysis assumed the piping would be maintained full of water.
{Note: Finding remains open - IP 95002 results pending 12/16/2005}

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that the issue had substantial safety significance (Yellow). After considering the information developed during the inspection and the results of testing sponsored by the licensee, the NRC has concluded that this inspection finding is appropriately characterized as Yellow. The final Significance Determination Process letter was issued on April 8, 2005. This issue was inspected within the scope of a Supplemental 95002 Inspection in August - September 2005.

{NOTE: Yellow finding remains open because the corrective actions taken in response to the root causes and related programmatic concerns involving questioning attitude, technical rigor, and operability determinations have not been fully effective. - IP 95002 Supplemental Inspection completed December 2005, IR 05000528/20050112, 05000529/20050112 and 05000530/2005012, IP 95002 Followup Supplemental Inspection completed August 2006, IR 05000528/2006010, 05000529/2006010 and 05000530/2006010}
Inspection Report# : 2004014 *(pdf)*

Barrier Integrity

Emergency Preparedness

Significance: N/A Mar 28, 2006
Identified By: NRC
Item Type: FIN Finding
Emergency Preparedness Assessment
The inspectors assessed the licensee's evaluation associated with the change to radiological emergency action levels, which decreased the effectiveness of the emergency plan. This performance deficiency was previously characterized as a Severity Level III violation of 10 CFR 50.54(q) in NRC Inspection Report 05000528,529,530/2005011. The inspectors determined that the licensee satisfactorily evaluated the Severity Level-III violation. The licensee's evaluation identified two root causes of the performance deficiency: (1) failure to ensure adequate radiation protection expertise review of the emergency action levels changes that were made to Procedure EPIP-99, "Standard Appendices," Revision 2, because of inadequate radiation protection expertise within the emergency planning organization and failure to conduct a required cross-organizational review, and (2) failure of management to address knowledge and ability challenges within the emergency planning organization resulting from attrition of health physics/radiation protection experienced personnel, inadequate training on procedure change requirements, and inadequate management of workload. The inspectors concluded that the licensee's evaluation and implemented corrective actions were appropriate to reasonably prevent recurrence of the 10 CFR 50.54(q) violation.

Given the licensee's acceptable performance in addressing the performance deficiency, the Severity Level III violation is closed.
Inspection Report# : 2006008 *(pdf)*

Occupational Radiation Safety

Significance: G Mar 31, 2006
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW RADIATION EXPOSURE PERMIT INSTRUCTIONS
The inspector reviewed a self-revealing, noncited violation of Technical Specification 5.4.1.a, resulting from two radiation workers' failure to follow radiation exposure permit instructions. On November 22, 2005, two radiation workers, without notifying radiation protection staff, used a pneumatic grinder with a wire wheel inside of the Unit-1 Steam Generator No. 2 cold leg pipe. As a result of the wire wheel grinding, both workers were contaminated. Radiation protection staff members were not made aware of the contamination event until the workers alarmed the PM-7 portal monitor upon attempting egress from the 140-foot radiological controlled area. One worker received unplanned and unintended internal dose of 6 millirem. The other worker did not receive an internal dose. As corrective action, the licensee counseled the two workers and their supervision, and informed the contractor's management.

The finding was greater than minor because it was associated with one of the cornerstone attributes (exposure control) and the finding affected the occupational radiation safety cornerstone objective, in that a failure to follow radiation exposure permit instructions resulted in additional radiation dose. The inspector determined that the finding had no more than very low safety significance because: (1) it did not involve an ALARA finding, (2) there was no personnel overexposure, (3) there was no substantial potential for personnel overexposure, and (4) the finding did not compromise the licensee's ability to assess dose. The finding also had crosscutting aspects related to human performance, in that, radiation workers failed to follow the radiation exposure permit instructions, which directly resulted in the finding.

Inspection Report# : 2006002 *(pdf)*

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Last modified : March 01, 2007

Palo Verde 2
1Q/2007 Plant Inspection Findings

Initiating Events

Significance: G Dec 31, 2006
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
INADEQUATE PROCEDURE USED FOR MAINTENANCE RESULTS IN REACTOR TRIP
A self-revealing noncited violation of Technical Specification 5.4.1.a was identified for the failure of maintenance personnel to use an adequate procedure for the repairs and restoration of control Valve 2, resulting in a reactor trip during main turbine control valve restoration. Specifically, on July 26, 2006, maintenance personnel used Procedure 40OP-9MT02, "Main Turbine," Revision 53, for performing repairs and restoring control Valve 2 in a way that was beyond the scope of the procedure. The use of the inadequate procedure resulted in a plant transient and reactor trip. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2913232.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that more significant consequences would occur if inadequate procedures are used for plant maintenance. The finding affected the initiating events cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the condition only affected the initiating events cornerstone and did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. This finding has a crosscutting aspect in the area of human performance associated with work control because the licensee did not appropriately coordinate work activities by incorporating actions to address the impact of changes to the work scope of the maintenance procedure
Inspection Report# : 2006005 *(pdf)*

Mitigating Systems

Significance: G Mar 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Change to Emergency Diesel Generator Intake Air Oil Bath Filter Standby Oil Level Specification
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure of engineering personnel to verify or check the adequacy of design for maintaining the emergency diesel generator air intake oil bath filters' oil level below the "add oil" mark. Specifically, from approximately November 1994 to January 24, 2007, engineering personnel failed to translate vendor requirements for the Air Maze oil bath air filter oil level into an appropriate operating band. This issue was entered into the corrective action program as Condition Report/Disposition Request 2963525.

The finding is greater than minor because it is associated with the design control attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to be of very low safety significance because it did not represent an actual loss of system safety function, did not represent an actual loss of a single train for greater than its technical specification allowed outage time, and the finding did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event.
Inspection Report# : 2007002 *(pdf)*

Significance: G Mar 31, 2007

Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify Misalignment of Spring Cans
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure of inservice inspection personnel to promptly identify misalignment of spring cans on safety-related piping. Specifically, between April 2005 and May 2006, inservice inspection personnel failed to identify misalignment of spring cans associated with the auxiliary feedwater system and the emergency diesel generators. Section 8.3.5 of Procedure 73TI-9ZZ18 required that the examination of piping systems should be directed to detect any relevant conditions, including misalignment of supports. This issue was entered into the corrective action program as Palo Verde Action Request 2980767.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that the failure to identify degraded and non-conforming equipment conditions could impact the availability of mitigating equipment. The finding affected the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance since it did not represent a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic flooding, or severe weather initiating event. The finding has a crosscutting aspect in the area of problem identification and resolution, associated with corrective action program, since inservice inspection personnel had an inappropriately high threshold for recognizing the misalignment of spring cans on safety-related piping.
Inspection Report# : 2007002 *(pdf)*

Significance:  Mar 31, 2007
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate Monitoring of CEA Position Results in Technical Specification Violation
A self-revealing noncited violation of Technical Specification 3.1.6 was identified during the performance of surveillance testing of the control element assemblies when more than one shutdown control element assembly was less than 144.75 inches withdrawn. Specifically, on February 3, 2007, while performing surveillance Procedure 40ST-9SF01, “CEA Operability Checks," Revision 21, more than one control element assembly was less than 144.75 inches withdrawn. Operations personnel did not use all available control element assembly position indications while verifying movement of the four control element assemblies in shutdown Subgroup 6 to ensure that each control element assembly was withdrawn greater than 144.75 prior to movement of the next control element assembly. This issue was entered into the corrective action program as Condition Report/Disposition Request 2967976.

The finding is greater than minor because it is associated with the mitigating systems cornerstone attribute of procedure quality and affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding is also associated with the barrier integrity cornerstone attribute of configuration control and affects the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radio nuclide releases caused by accidents or events. Using the Manual Chapter 0609, “Significance Determination Process," Phase 1 Worksheet, a Phase 2 analysis is required since two cornerstones are degraded. Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," was used since the Significance Determination Process methods and tools were not adequate to determine the significance of the finding. The finding is determined to have very low safety significance through management review since it did not represent a loss of system safety function, in that the control element assemblies were still capable of shutting down the reactor in response to any postulated accident. This finding has a crosscutting aspect in the area of a problem identification and resolution associated with corrective action program, because the licensee failed to thoroughly evaluate the problem described in Condition Report/Disposition Request 2760855 such that the issue was resolved. This finding also has a crosscutting aspect in the area of human performance associated with work practices because operations personnel did not appropriately self and peer check all available control element assembly position indications to ensure proper system response.
Inspection Report# : 2007002 *(pdf)*

Significance:  Mar 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation

Failure to Maintain EDG Train B Operable
The inspectors identified a noncited violation of Technical Specification 3.8.1 for exceeding the allowed outage time for the Unit 2 emergency diesel generator, Train B. Specifically, for the period between May 14, 2005 and November 3, 2005, the licensee failed to maintain the emergency diesel generator Train B operable. The licensee did not identify a condition in which the associated fuel oil suction strainers and discharge filters were fouling, resulting in the emergency diesel generator Train B being unable to supply Train B of the onsite Class 1E AC Electrical Power Distribution System without significant operations and maintenance personnel actions. The licensee entered this into their corrective action program as Condition Report/Disposition Request 2963482.

This finding is more than minor because the failure to identify and correct this deficiency would become a more significant safety concern in that the performance of emergency diesel generator Train B could be reduced, due to fuel starvation to the engine, to the point that the unit would not be able to carry essential electrical loads in the event of a loss of off-site electrical power. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding was determined to have very low safety significance because it did not result in an actual loss of safety function for greater than its technical specification allowed outage time. The finding has a crosscutting aspect in the area of problem identification and resolution, associated with corrective action program, since the licensee failed to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.
Inspection Report# : 2007002 *(pdf)*

Significance:  Feb 09, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Technical Evaluation of HPSI Pump Bearing Oil Leaks
A noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," with two examples was identified for two inadequate operability evaluations. Prompt operability determinations in CRDRs 2941494 and 2303499 incorrectly concluded that High Pressure Safety Injection Pumps 2A and 3A, respectively, could meet their mission time with existing oil leakage from the bearings. The team concluded that these evaluations relied upon unverified and incorrect assumptions and non-conservative volumes. The apparent cause evaluation for the leakage identified contributing causes that were common to all pumps, but the operability of the other pumps was not assessed. The team identified a history of small oil leaks in high pressure safety injection pumps since 2000, but the licensee was unaware of this trend. Subsequent testing confirmed that five of the six high pressure safety injection pumps had oil leakage which would not allow running those pumps for the full mission time, but sufficient oil was available to run for at least 94 days. This finding was determined to have cross-cutting aspects in the human performance area of decision-making, because the licensee did not use conservative assumptions and demonstrate that the proposed course of action was safe.

Failure to adequately evaluate and correct oil leakage in High Pressure Safety Injection Pumps 2A and 3A, and failure to assess the extent of condition for similar pumps, was a performance deficiency. The finding was more than minor because it affected the equipment performance attribute of the mitigating systems cornerstone objective of ensuring the availability and reliability of a system that responds to initiating events. This finding screened as Green during Phase 1 of the significance determination process because it did not involve a loss of safety function. This issue was entered into the corrective action program under Condition Report/Disposition Report 2973682.
Inspection Report# : 2007007 *(pdf)*

Significance:  Feb 09, 2007
Identified By: NRC
Item Type: FIN Finding
Preventive Maintenance Change Backlog Was Not Tracking Due Dates
A finding was identified for failure to schedule and perform preventive maintenance tasks that were in the preventive maintenance change process. The team identified that a backlog of over 2500 preventive maintenance changes existed which resulted in these preventive maintenance tasks not being scheduled or performed, potentially challenging completion within the specified frequency. The team found 438 examples of preventive maintenance tasks that were overdue, and an additional 2113 that had no due date assigned yet. This program was used to revise both safety-related and non-safety preventive maintenance tasks. Because these preventive maintenance tasks were in the change process, the tasks were not scheduled or tracked in a way that would show when they became overdue. This was contrary to Procedure 30DP-9MP08, “Preventive Maintenance Program,” Revision 17, which required that “no preventive maintenance on operational equipment shall pass that late date without an approved deferral which will address a technical justification for the

identified issue." This finding had human performance cross-cutting aspects associated with resources because the large backlog of preventive maintenance tasks was contrary to maintaining long-term equipment reliability.

Failure to track, schedule, and perform preventive maintenance activities within their specified frequencies in accordance with their preventive maintenance program was a performance deficiency. This finding was determined to be more than minor because, if left uncorrected, it could become a more significant safety concern in that the lack of preventive maintenance would affect the reliability of plant equipment which could impact the initiating events or mitigating systems cornerstones. Because of the large number of preventive maintenance tasks (over 2500) in this category, the team reviewed a sample of 79 tasks associated with safety-related or quality-class components to assess the significance. The team did not identify any examples of overdue safety-related tasks. Based on the lack of risk significant examples and the fact that this finding is not suitable for significance determination process evaluation, this issue was reviewed by NRC management and was determined to be a finding of very low safety significance. This issue was entered into the corrective action program under Palo Verde Action Request 2970076.
Inspection Report# : 2007007 *(pdf)*

Significance:  Dec 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
SCAFFOLDING ERECTED WITH INADEQUATE CLEARANCES AND NO ENGINEERING EVALUATION
The inspectors identified a noncited violation of Technical Specification 5.4.1.a for the failure of maintenance and engineering personnel to follow Procedure 30DP-9WP11, "Scaffolding Instructions," Revision 13, and associated engineering specifications governing scaffold erection near safety-related components. Specifically, on September 13, 2006, inspectors identified three scaffolds that were within 2 inches of safety-related components. The scaffolding did not have an engineering evaluation in place, nor were there any documented records of engineering evaluations for any other scaffolding on site. Again on October 3, 2006, the inspectors identified two scaffolds that were directly attached to the fuel and auxiliary building essential air handling units, without the required evaluations. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Requests 2924707 and 2929770.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that improperly installed scaffolding could impact the availability of mitigating equipment. The finding affected the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and all subsequent engineering evaluations determined that there was no adverse effect to mitigating equipment. This finding has a crosscutting aspect in the area of human performance associated with work control because the licensee did not appropriately coordinate work activities to keep personnel apprised of the operational impact of work activities. Additionally, this finding has a crosscutting aspect in the area of problem identification and resolution associated with corrective actions in that the licensee did not take appropriate corrective actions to address safety issues in a timely manner
Inspection Report# : 2006005 *(pdf)*

Significance:  Dec 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO MAINTAIN SEISMIC QUALIFICATION OF POST ACCIDENT MONITORING INSTRUMENTATION
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the improper control of design parameters for post accident monitoring instrumentation by operations personnel. Specifically, prior to November 22, 2006, operations personnel did not maintain the seismic qualification of post accident monitoring instrumentation, by pulling recorders out from the fully inserted position for extended periods. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2945259.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that safety-related equipment that is not maintained in a seismically qualified condition may not be available to perform its safety function under certain accident conditions. The finding affected the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it did not affect the loss or degradation of equipment specifically designed to mitigate a seismic event, and it did not involve the total loss of any safety function that contributes to external event initiated core

damage accident sequences
Inspection Report# : 2006005 *(pdf)*

Significance: G Dec 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM AN ADEQUATE ROOT CAUSE ANALYSIS FOR VALVE SI-225
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure of the licensee to adequately evaluate and identify the cause for a degraded material condition associated with Unit 2 Valve SI-225 following a failure of the valve to fully close on November 30, 2000. Specifically, the licensee did not have any data to support their root cause evaluation and could not validate the failure mechanism that prevented Valve SI-225 from fully closing. The failure to identify the cause and implement corrective actions resulted in the failure of Valve SI-134 in October 2006 and the continued degradation of additional safety injection system check valves. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2942970.

The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the condition only affected the mitigating systems cornerstone and did not result in the actual loss of safety function to any component, train, or system. This finding has a crosscutting aspect in the area of problem identification and resolution because the licensee failed to thoroughly evaluate a problem that was known to exist since November 2000
Inspection Report# : 2006005 *(pdf)*

Significance: G Dec 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO MAINTAIN PROCEDURES AND INSTRUCTIONS
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Actions,” for the failure to promptly identify and correct a condition adverse to quality. Specifically, since 1992, the licensee failed to maintain procedures and written instructions in accordance with quality assurance program requirements, including, periodic procedural reviews and implementation of the procedure feedback process. These issues resulted in a significant number of deficient procedures and instructions not being corrected in a timely manner and not receiving adequate reviews. One example involved the failure to provide adequate instructions for mounting temperature element housings adversely affecting seismic qualifications required to protect the functionality of safety related equipment. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2952142.

This finding is greater than minor because the failure to identify and correct deficient procedures, if left uncorrected, would become a more significant safety concern in that quality related systems, structures, and components could be adversely affected by implementing inadequate instructions. Using the Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheet, the finding is determined to have very low safety significance because it did not result in loss of operability per, “Part 9900, Technical Guidance, Operability Determination Process for Operability and Functional Assessment.” This finding involved problem identification and resolution crosscutting aspects associated with the failure to promptly identify and correct deficient procedures/instructions resulting in the potential to adversely affect quality related systems, structures, and components
Inspection Report# : 2006005 *(pdf)*

Significance: G Dec 31, 2006
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW PROCEDURES RESULTS IN LOSS OF PLANT CONFIGURATION CONTROL
Two examples of a self-revealing noncited violation of Technical Specification 5.4.1.a were identified for the failure of operations personnel to properly implement procedures to ensure the correct configuration of equipment during plant evolutions. Specifically, twice on November 4, 2006, operations personnel failed to restore the containment spray system to standby operations for shutdown cooling per Procedures 73ST-9XI33, "HPSI Pump and Check Valve Full Flow Test," and

40ST-9SI09, "ECCS System leak Test," following surveillance testing to satisfy the entry conditions for Procedure 40OP-9SI01, "Shutdown Cooling Initiation." This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2939686.

The finding is greater than minor because it is associated with the configuration control cornerstone attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609, "Significance Determination Process," Appendix G, "Shutdown Operations Significance Determination Process," Checklist 3, and is determined to have very low safety significance because the finding did not result in an increase of the likelihood of a loss of decay heat removal due to failure of the system, nor did it degrade the ability of containment to remain intact following an accident. Additionally, the finding did not degrade the licensee's ability to terminate a leak path, add reactor coolant system inventory, recover decay heat removal once it is lost, or establish an alternate core cooling path. Lastly, the finding did not increase the likelihood of a loss of reactor coolant system inventory, or offsite power. This finding has a crosscutting aspect in the area of human performance associated with work control because the licensee did not appropriately coordinate work activities by communicating, coordinating, and cooperating with each other during surveillance testing activities
Inspection Report# : 2006005 *(pdf)*

Significance: TBD Nov 30, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IMPLEMENT THE OPERABILITY DETERMINATION PROCESS
The team identified two examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the failure to perform operabilty determinations. In both examples, the licensee failed to perform an operability determination following identification of a degraded condition that had the potential to adversely affect the safety function of all emergency diesel generators. Specifically, an operability determination was not performed after identifying the failure of the Unit 3 Train A emergency diesel generator on July 25, 2006, was potentially the result of plastic debris affecting proper auxiliary contact operation of a K-1 relay. The licensee determined the debris most likely originated from a modification performed on all emergency diesel generator K-1 relays during initial plant startup. Following another failure of the Unit 3 Train A emergency diesel generator on September 22, 2006, an operability determination was not performed after identifying the failure was the result of the K-1 relay actuating arm not providing adequate compression of the auxiliary contacts. The licensee determined this degraded condition most likely originated during implementation a modification done to all emergency diesel generator K-1 relays during initial plant startup.

This finding is greater than minor because the failure to follow the operability determination process, if left uncorrected, would become a more significant safety concern in that degraded or nonconforming conditions would not be properly evaluated. Using the Phase 1 worksheet in NRC Inspection Manual Chapter 0609, “Significance Determination Process,” the finding was determined to have very low safety significance because unreliable K-1 relay operation resulted in no actual loss of safety function of the other five emergency diesel generators prior to corrective actions being implemented, and the finding did not represent a potential risk significant condition because of a seismic, flooding, or severe weather event. This issue is documented in the licensee’s corrective action program as Condition Report/Disposition Requests 2928389 and 2940558. The cause of this finding is related to the crosscutting element of problem identification and resolution in that engineering personnel failed to properly evaluate and perform operability determinations for identified degraded conditions affecting the emergency diesel generators.
Inspection Report# : 2006012 *(pdf)*

Significance: G Nov 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE CORRECTIVE ACTIONS TO PRECLUDE WATER INTRUSION AND CORROSION OF UNDERGROUND PIPING AT THE FACILITY
The inspectors identified multiple examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for failing to promptly correct water intrusion problems in multiple areas in the facility, that were identified and examined from January 1991 to April 2006. Specifically, the licensee failed to promptly correct the water intrusion problems in the facility piping vaults and manholes. This finding also had aspects of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for failing to maintain a vault in its watertight design condition and to coat exposed piping with its specified coating to ensure corrosion protection. This issue was entered into the licensee’s corrective action

program as Condition Report/Disposition Requests 2885972, 2880283, and 2902572.

The finding is greater than minor because it is associated with the equipment performance cornerstone attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609," Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the condition only affected the mitigating systems cornerstone and there was no actual loss of piping material that exceeded the minimum allowable wall thickness or a loss of safety function that exceeded Technical Specification allowed outage times. This finding has a crosscutting aspect in the area of problem identification and resolution because the licensee failed to thoroughly evaluate a problem that existed from 1992 to April 2006. The failure to promptly correct this condition resulted in the degradation of the wall thickness of the spray pond piping and the Unit 3 emergency diesel generator Train A being declared inoperable after the fuel transfer pump did not meet the acceptance criteria during a surveillance
Inspection Report# : 2006004 *(pdf)*

Significance: G Nov 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IDENTIFY CONDITIONS ADVERSE TO QUALITY FOR THE EMERGENCY DIESEL GENERATORS
The inspectors identified multiple examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for failing to identify degraded material conditions on the emergency diesel generators. Between July and September 2006, operations and engineering personnel did not promptly identify and correct material conditions adverse to quality. Specifically, operations and engineering personnel did not identify numerous fluid leaks, and loose and missing fasteners on the emergency diesel generator skid, and did not enter them in the corrective action program. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2914886.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that unidentified conditions adverse to quality could challenge the operability of equipment important to safety. The finding affected the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the finding did not result in the actual loss of safety function to any component, train, or system. This finding has a crosscutting aspect in the area of problem identification and resolution because failing to implement the corrective action program with a low threshold for identifying adverse material conditions resulted in degradation of the emergency diesel generators which was not being tracked and evaluated
Inspection Report# : 2006004 *(pdf)*

Significance: N/A Nov 03, 2006
Identified By: NRC
Item Type: FIN Finding
FAILURE TO SUBMIT COMPLETE REVISIONS TO THE UPDATED FINAL SAFETY ANALYSIS REPORT FOR PERMANENT MODIFICATIONS
The inspectors identified a violation of 10 CFR 50.71(e)(4), for which enforcement discretion was exercised, that involved the failure to file revisions to the Updated Final Safety Analysis Report. Specifically, for the reporting period between January 2003 and December 2005, licensing personnel failed to submit a revision to the Updated Final Safety Analysis Report reflecting core protection calculator system modifications. The issued was entered into the licensee's corrective action program as Condition Report/Disposition Request 2894635.

The performance deficiency associated with this finding involved the failure of licensee personnel to submit revisions to the Updated Final Safety Analysis Report reflecting modifications installed in Unit 2 for more than 24 months. The finding was determined to be applicable to traditional enforcement because the NRC's ability to perform its regulatory function was potentially impacted by the licensee's failure to revise the Updated Final Safety Analysis Report in a timely manner. Normally, the violation would be categorized at Severity Level IV in accordance with Section D.4 of Supplement I of the NRC Enforcement Policy. However, in accordance with Section VII.B.6 of the NRC Enforcement Policy, the NRC is refraining from taking enforcement action because of the NRC action taken in 1993 to issue and then retract a similar occurrence and the low safety significance of the finding (EA-06-267). The finding is not suitable for evaluation using the significance determination process, but has been reviewed by NRC management and is determined to be a finding of very

low safety significance.

Inspection Report# : 2006004 *(pdf)*

Significance: N/A Sep 30, 2006
Identified By: NRC
Item Type: FIN Finding
SUMMARY FINDING. 95002 TEAMS ASSESSMENT OF IR 2004-14 (YELLOW) 10 CFR PART 50, APPENDIX B, CRITERION III, VIOLATION
The NRC performed a followup supplemental inspection to assess the licensee's corrective actions associated with a Yellow design control finding involving the potential for air entrainment into the emergency core cooling system. The team concluded that the technical issues specifically associated with the voided emergency core cooling system piping have been addressed. However, the Yellow finding will remain open because the licensee did not implement effective corrective actions for all of the causes associated with the Yellow finding. Specifically, the licensee's actions to improve questioning attitude, technical rigor, and technical review were not fully effective. Also, the implementation of performance measures and metrics to monitor the effectiveness of corrective actions associated with the Yellow finding were not adequate to assess effectiveness. This performance issue was previously characterized as a 10 CFR Part 50, Appendix B, Criterion III, violation having substantial safety significance (Yellow), and was originally identified in NRC Inspection Report 05000528; 05000529; 05000530/2004014.

The licensee's corrective actions taken in response to the root causes and related programmatic concerns involving questioning attitude, technical rigor, and technical review have not been completely effective. Specifically, following implementation of corrective actions between September 2005 and March 2006, the licensee: (1) continued to conduct inadequate technical reviews of emerging issues; (2) did not routinely question the validity of engineering assumptions used to support operability decisions; (3) did not consistently implement a qualify, validate, and verify process; and (4) did not consistently notify operations personnel of immediate operability concerns.

The team concluded that adequate qualitative or quantitative measures for determining the effectiveness of the corrective actions to prevent recurrence have not been established. For example, not all relevant performance data was considered when performance monitoring measures were developed to assess the effectiveness of corrective actions. When the pertinent data was considered, or otherwise clarified, the performance measures suggested declining rather than improving performance in some areas.

The team also concluded that the licensee had not completed adequate reviews of the effectiveness of corrective actions prior to their notifying the NRC of their readiness for inspection of the Yellow finding. Specifically, several assessments were completed after the requested dated of the inspection (June 2006). Several of the assessments noted that insufficient progress in resolving some of the root and contributing causes had been made. Additionally, a standard guideline for metrics was not issued and implemented until July 2006.

Inspection Report# : 2006010 *(pdf)*

Significance: G Sep 26, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
TWO EXAMPLES OF FAILURE TO TRANSLATE SPRAY POND DESIGN ASSUMPTIONS INTO PLANT PROCEDURES CONTROL
Two examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," were identified involving the failure to adequately translate the design basis of the spray ponds into procedures. Design Calculation 13-MC-SP-0307, "SP/EW System Thermal Performance Design Basis Analysis," Revision 7, which demonstrated that the spray pond system could adequately limit spray pond temperature during a design basis accident did not account for any reduced heat capacity caused by sediment buildup. However, this fact was not translated into procedures, so approximately 400 cubic yards of sediment had built up in each of the six spray ponds when the team questioned the impact to the heat removal function. Also, the same calculation demonstrated that sufficient water was available to provide adequate cooling during a design basis accident, but did not account for any leakage from the ponds. The team determined that the licensee did not translate this into a procedure to ensure that the condition of the spray pond was maintained such that leakage did not occur. Procedure 81DP-0ZZ01, "Civil System, Structure, and Component Monitoring Program," Revision 11, was used to monitor the condition of the pond structures. The team identified that it examined only the exposed concrete surfaces,

which constituted about 7 percent of the surface area and almost none of the water-containing volume. Cracks had been identified and repaired in this area, but the inspections were not expanded to the underwater surfaces. This issue was documented in Condition Report/Disposition Requests 2906671 and 2910912.

Failure to adequately translate the design basis of the spray ponds into procedures was a performance deficiency. This finding was determined to be more than minor because, if left uncorrected, the finding could become a more significant safety concern. This finding affected the Mitigating Systems Cornerstone. This performance deficiency screened as having very low safety significance in a Phase 1 significance determination process because the licensee was able to demonstrate that the sediment would not have resulted in a loss of safety function, and that significant leakage did not exist. The licensee was able to revise the calculation to take credit for heat absorption by the concrete walls, and scheduled inspections by divers of underwater portions of the ponds to follow sediment removal
Inspection Report# : 2006011 *(pdf)*

Significance: G Sep 26, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
MULTIPLE EXAMPLES OF INADEQUATE OPERABILITY ASSESSMENTS FOR HEAT EXCHANGER DEGRADATION
A noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," with multiple examples was identified for failure to adequately assess the impact to operability of degraded heat exchangers in the emergency diesel generators and essential cooling water system. Specifically, the licensee failed to follow Procedure 40DP-9OP26, "Operability Determination and Functional Assessment," Revision 16, in assessing indications of degraded heat exchanger performance, an activity affecting quality. Key support organizations were not always involving operations personnel with questions that had a potential to affect the operability of safety-related equipment, or were informing operators only after the support organization had fully evaluated the condition, delaying actions that were required to be prompt. Also, operations personnel did not always insist on a rigorous evaluation. This issue was documented in Condition Report/Disposition Requests 2918892, 2901815, and 2898237.

Failure to adequately implement the operability assessment process was a performance deficiency. This finding was more than minor because it impacted the equipment performance attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. This finding screened as having very low safety significance in a Phase 1 significance determination process, because the examples used for this violation were confirmed not to involve any loss of safety function. This finding had cross-cutting aspects in the area of human performance because the licensee did not follow their systematic process for operability decision making when information was not brought to the right decision makers
Inspection Report# : 2006011 *(pdf)*

Significance: G Sep 26, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
ESSENTIAL COOLING WATER TRAIN 2B INOPERABLE LONGER THAN ALLOWED OUTAGE TIME DUE TO FOULING - RECHARACTERIZED IN FINAL SIGNIFICANCE DETERMINATION LETTER TO BE A GREEN NCV.
Green. A noncited violation of Technical Specification 3.7.7 was identified because Train B of the essential cooling water system in Unit 2 was not capable of performing its safety function for approximately 78 days ending on September 27, 2003. The degraded performance was due to fouling caused by improper chemical addition in the associated spray pond.

Failure to ensure that this safety-related equipment was operable was a performance deficiency. This finding was more than minor because it impacted the equipment performance attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. Specifically, Essential Cooling Water Train B in Unit 2 was estimated to have been incapable of performing its function under existing conditions for approximately 78 days. A Phase 3 significance determination process concluded that this finding has very low safety significance. This finding had cross-cutting aspects in the area of Human Performance, under the Resource attribute, because the licensee failed to ensure that adequate procedures were available to maintain design margins. This issue was entered into the Corrective Action Program under CRDR 2905161. Because this violation was of very low safety significance and has been entered into the corrective action program, it is being treated as a noncited violation consistent

with Section VI.A of the Enforcement Policy: NCV 05000529/2006011-01, EW Train 2B Inoperable Longer than Allowed Outage Time. This issue was re-characterized from an AV to an NCV as a result of the Regulatory Conference conducted on November 20, 2006 and the final significance determination.

Inspection Report# : 2006011 *(pdf)*

Significance: G Sep 26, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE TEST CONTROL TO PROMPTLY IDENTIFY UNACCEPTABLE HEAT EXCHANGER PERFORMANCE TEST RESULTS - RECHARACTERIZED IN FINAL SIGNIFICANCE DETERMINATION LETTER TO BE A GREEN NCV.
Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," was identified. Test Procedure 70TI-9EW01, "Thermal Performance Testing of Essential Cooling Water Heat Exchangers," and Procedure 73DP-9ZZ10, "Guidelines for Heat Exchanger Thermal Performance Analysis," were inadequate to ensure the timely determination that the requirements and acceptance limits contained in applicable design documents were met. Specifically, performance testing for Essential Cooling Water Heat Exchanger 2B conducted on March 19, 2002, did not meet the design basis requirements specified in Calculation 13-MC-SP-0307, "SP/EW System Performance Design Bases Analysis," Revision 007, but this was not correctly evaluated to determine whether the system would be capable of performing its design function until August 22, 2002, due to incorrect procedure guidance and lack of requirements to ensure timely evaluation. As a result, this component continued to degrade for 18 months after demonstrating unacceptable performance. This finding had cross cutting aspects in the area of Human Performance, under the Resource attribute, because the licensee failed to ensure that adequate procedures were available to ensure nuclear safety.

Failure to properly control testing and properly identify unacceptable performance was a performance deficiency. This finding was more than minor because it impacted the procedure quality attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. Specifically, Essential Cooling Water Train B in Unit 2 was estimated to have been incapable of performing its function under existing conditions for approximately 78 days. A Phase 3 significance determination process concluded that this finding has a very low safety significance. This issue was entered into the Corrective Action Program under CRDR 2928230. Because this violation was of very low safety significance and has been entered into the corrective action program, it is being treated as a noncited violation consistent with Section VI.A of the Enforcement Policy: NCV 05000528; 05000529; 05000530/2006011-02, Inadequate Test Control to Promptly Identify Unacceptable Performance Test Results. This issue was re-characterized from an AV to an NCV as a result of the Regulatory Conference conducted on November 20, 2006 and the final significance determination.
Inspection Report# : 2006011 *(pdf)*

Significance: SL-IV Sep 26, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
10 CFR 50.59 REVIEWS NOT PERFORMED OR INADEQUATE FOR MULTIPLE CHANGES TO SPRAY POND CHEMISTRY CONTROL PROCEDURE - RECHARACTERIZED IN FINAL SIGNIFICANCE DETERMINATION LETTER TO BE A GREEN NCV.
SL-IV. A noncited violation of 10 CFR 50.59 was identified for making nine revisions to Procedure 74DP-9CY04, "System Chemistry Specification," a procedure described in the Updated Final Safety Analysis Report between 1998 and 2004. Specifically, the licensee failed to perform evaluations for Revisions 3, 6, 8, 10, 12, 24, 28, 32, and 36 and performed inadequate evaluations for Revisions 10 and 36, to assess the potential impact of the changes on the safety-related components in the spray pond system. Each of these changes revised spray pond chemistry parameter limits which were subsequently determined to have contributed to heat exchanger fouling.

Failure to adequately evaluate the impact of changes to the Chemistry Control Program was a performance deficiency. Because this violation had the potential to impact the NRC's regulatory function, and because the associated significance was determined to be Green using Phase 3 of the significance determination process, this violation is being treated as a Severity Level IV violation. This issue was entered into the Corrective Action Program under CRDR 2902498. Because this violation was of very low safety significance and has been entered into the corrective action program, it is being treated as a noncited violation consistent with Section VI.A of the Enforcement Policy: NCV 05000528; 05000529; 05000530/2006011-03, 50.59 Reviews Not Performed or Inadequate for Multiple Changes to Spray Pond Chemistry

Control Procedure. This issue was re-characterized from an AV to an NCV as a result of the Regulatory Conference conducted on November 20, 2006 and the final significance determination.
Inspection Report# : 2006011 *(pdf)*

Significance: G Sep 26, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE IDENTIFICATION AND CORRECTIVE ACTION FOR DEGRADED ESSENTIAL COOLING WATER HEAT EXCHANGER PERFORMANCE - RECHARACTERIZED IN FINAL SIGNIFICANCE DETERMINATION LETTER TO BE A GREEN NCV
Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," was identified. On March 19, 2002, performance testing for Essential Cooling Water Heat Exchanger 2B indicated that the system would not be capable of performing its design function, but this significant condition adverse to quality was not promptly identified, the cause determined, or corrective actions taken to restore the required heat exchanger performance. Specifically, the unacceptable performance was not promptly identified, because the test results were not correctly calculated until August 22, 2002, which was after operating mode changes and returning the unit to power following the outage. When the test results were finalized, the fact was that the design basis capability was not met, was not recognized or entered into the corrective action program. These failures to correct this degraded performance contributed to the continued degradation and eventual loss of function for a period of 78 days. The failure to correct this degraded performance contributed to the continued degradation and eventual loss of function. This finding had cross cutting aspects associated with the Corrective Action Program, for both inadequate identification of problems and inadequate evaluation of the cause, extent, and impact on operability.

Failure to properly assess the impact of scaling on safety-related heat exchangers cooled by the spray pond system was a performance deficiency. This finding was more than minor because it impacted the equipment performance attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. Specifically, the heat exchangers associated with emergency diesel generators and essential cooling water systems in both trains in all units were allowed to degrade and Essential Cooling Water Train B in Unit 2 was estimated to have been incapable of performing its function under existing conditions for approximately 78 days. A Phase 3 significance determination process concluded that this finding has very low safety significance. This issue was entered into the corrective action program under CRDR 2897810. Because this violation was of very low safety significance and has been entered into the corrective action program, it is being treated as a noncited violation consistent with Section VI.A of the Enforcement Policy: NCV 05000528; 05000529; 05000530/2006011-04, Inadequate Corrective Action for Degraded EW Heat Exchanger Performance. This issue was re-characterized from an AV to an NCV as a result of the Regulatory Conference conducted on November 20, 2006 and the final significance determination.
Inspection Report# : 2006011 *(pdf)*

Significance: G Sep 26, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE DESIGN CONTROL TO ENSURE NO ESSENTIAL COOLING WATER HEAT EXCHANGER SCALING - RECHARACTERIZED IN FINAL SIGNIFICANCE DETERMINATION LETTER TO BE A GREEN NCV.
Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified for failure to correctly evaluate the scaling potential of the safety-related heat exchangers cooled by the emergency spray pond during a design basis accident. An error in how the licensee interpreted the SEQUIL calculation caused the licensee to incorrectly conclude that scaling would not occur under the conditions established in the chemistry control program.

Failure to properly assess the impact of scaling on safety related heat exchangers cooled by the spray pond system was a performance deficiency. This finding was more than minor because it impacted the design control attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. Specifically, post accident scaling was determined to reduce heat exchanger performance by 2.3 percent of the design capability in the first 24 hours, and up to 4 percent during the design mission time. A Phase 3 significance determination process concluded that this finding has very low safety significance. This finding had cross-cutting aspects in the area of Human Performance, under the Resource attribute, because the licensee failed to ensure that adequate procedures were available to ensure nuclear safety. This issue was documented in CRDR 2913430. Because this violation

was of very low safety significance and has been entered into the corrective action program, it is being treated as a noncited violation consistent with Section VI.A of the Enforcement Policy: NCV 05000528; 05000529; 05000530/2006011-05, Inadequate Design Control to Ensure No EW Heat Exchanger Scaling. This issue was re-characterized from an AV to an NCV as a result of the Regulatory Conference conducted on November 20, 2006 and the final significance determination.
Inspection Report# : 2006011 *(pdf)*

Significance: G Mar 16, 2005
Identified By: NRC
Item Type: FIN Finding
FAILURE TO TRACK CONTROL ROOM DISCREPANCIES
The inspectors identified a finding for the failure to follow administrative guidelines provided to operations personnel for identifying, documenting, and tracking main control room deficiencies. Specifically, approximately 75 control room instrument and control room meter face plates in Units 1, 2, and 3 were degraded and were not individually tracked in the control room discrepancy log. Furthermore, discrepancy labels containing the control room discrepancy log number and description of the discrepancy were not placed adjacent to or as close as possible to each affected device. This issue was entered into the corrective action program as Condition Report/Disposition Request 2782501.

The finding is determined to be greater than minor because if left uncorrected, it could become a more significant safety concern in that the condition could cause an operator to take an inappropriate action based on expected plant response or conversely cause an operator not to take action when action is required. The senior reactor analyst determined that this finding was not appropriate to be evaluated using the significance determination process since this finding was associated with multiple human performance actions. Based on management review, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and there was no adverse impact to plant equipment.

Inspection Report# : 2005002 *(pdf)*

Significance: Y Dec 09, 2004
Identified By: NRC
Item Type: VIO Violation
FAILURE TO MAINTAIN DESIGN CONTROL OF CONTAINMENT SUMP RECIRCULATION PIPING
The team identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to establish measures to assure design basis information was translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to maintain the safety injection sump suction piping full of water in accordance with the Updated Final Safety Analysis Report. This nonconformance had the potential to significantly affect the available net positive suction head described in the Updated Final Safety Analysis Report for the high pressure safety injection and containment spray pumps, since the analysis assumed the piping would be maintained full of water.
{Note: Finding remains open - IP 95002 results pending 12/16/2005}

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that the issue had substantial safety significance (Yellow). After considering the information developed during the inspection and the results of testing sponsored by the licensee, the NRC has concluded that this inspection finding is appropriately characterized as Yellow. The final Significance Determination Process letter was issued on April 8, 2005. This issue was inspected within the scope of a Supplemental 95002 Inspection in August - September 2005.

{NOTE: Yellow finding remains open because the corrective actions taken in response to the root causes and related programmatic concerns involving questioning attitude, technical rigor, and operability determinations have not been fully effective. - IP 95002 Supplemental Inspection completed December 2005, IR 05000528/20050112, 05000529/20050112 and 05000530/2005012, IP 95002 Followup Supplemental Inspection completed August 2006, IR 05000528/2006010, 05000529/2006010 and 05000530/2006010}
Inspection Report# : 2004014 *(pdf)*

Barrier Integrity

Significance: G Dec 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE ACCEPTANCE TESTING FOR THE UPGRADED REFUELING EQUIPMENT
The inspectors identified a noncited violation of 10 CFR Part 50, Criterion III, "Design Control," for the failure of engineering personnel to implement an adequate procedure for acceptance testing of the upgraded refueling equipment resulting in several malfunctions, including one that resulted in a fuel assembly contacting one of the storage baskets in the spent fuel pool at a higher than designed speed. Specifically, between October 8 and October 13, 2006, the site acceptance test procedures were not adequate to identify and prevent several malfunctions of the refueling equipment due to design and installation inadequacies of Design Modification Work Order 2778582. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Requests 2931991 and 2937420.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that refueling equipment malfunctions could result in damaged fuel. The finding affected the barrier integrity cornerstone. This finding cannot be evaluated by the significance determination process because Manual Chapter 0609, "Significance Determination Process," Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," and Appendix G, "Shutdown Operations Significance Determination Process," do not apply to the spent fuel pool or the refueling pool. This finding is determined to be of very low safety significance by NRC management review because it was a deficiency that did not result in the actual degradation of spent fuel
Inspection Report# : 2006005 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance: N/A Mar 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to follow a radiation exposure permit requirement
A self-revealing noncited violation of Technical Specification 5.7.1 was identified for the failure to follow a radiation exposure permit requirement. Specifically, on October 3, 2006, a mechanic entered a high radiation area without direct authorization and a specific briefing from radiation protection personnel. As a corrective action for this isolated case, the mechanic and his coworker were restricted from the radiologically controlled area until re-authorized by the director of radiation protection and appropriate disciplinary actions were taken. The licensee entered this into their corrective action program as Condition Report/Disposition Request 2929853.

The finding was greater than minor because it is associated with the occupational radiation safety exposure control attribute and affected the cornerstone objective to ensure the adequate protection of the worker health and safety from exposure to radiation. The failure to follow a radiation exposure permit requirement for a high radiation area led to unintended and additional personnel dose. The finding was determined to be of very low safety significance because it did not involve: (1) as low as reasonably achievable (ALARA) planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. This finding had a crosscutting aspect in human performance associated with work practices because the mechanics did not use human error prevention techniques such as self and peer checking so that work activities were performed safely.
Inspection Report# : 2007002 *(pdf)*

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Significance: N/A Feb 09, 2007
Identified By: NRC
Item Type: FIN Finding
Summary Finding. Biennial PI&R Assessment
The team concluded that the thresholds for identifying and classifying issues were appropriately low, although several instances were identified where new aspects to complex problems were identified but not broken out and addressed properly. Numerous changes were made to the corrective action program and some improvement was evident, but some of the changes were not yet fully effective. The new Palo Verde Action Request was introduced, and senior managers were assigned to determine which actions were required in order to improve the consistency of problem treatment. Problems involving operability questions were getting to control room operators more consistently, but NRC inspectors continued to identify operability concerns that were missed by the licensee. However, having the Action Request Review Committee review all problem reports created a bottleneck in the process, creating delays in getting problems from the identification to a working stage. Problems continue to exist in the quality of problem description and significance determination. The timeliness of problem cause evaluations were improving due to management attention, but were still several times longer than station goals and industry standards.

Palo Verde Nuclear Generating Station continued to have a large number of latent equipment issues. Numerous longstanding material conditions exist which have received limited assessments and get added to the backlog with routine priority. The NRC continued to identify examples where the significance was underestimated by the licensee and were not being addressed with the timeliness commensurate with the actual safety significance until the NRC gets involved.

The team noted that significant challenges have been created because there are large backlogs of work affecting work control, maintenance support, and a variety of engineering activities. These backlogs are affecting the site's ability to address problems in a timely manner. It is apparent that these backlogs have built up over a period of years with the knowledge of management.

The Nuclear Assurance Department was active in the internal oversight role and focused on current performance problems, issuing reports that provided useful assessments. Other self-assessments reviewed were frequently narrow in scope and of limited depth. Interviews with site workers indicated that a safety-conscious work environment exists at Palo Verde Nuclear Generating Station, and that workers had an improved confidence in the strength of the safety culture. However, there was less confidence that routine priority issues will get addressed in a timely manner.
Inspection Report# : 2007007 *(pdf)*

Last modified : June 01, 2007

Palo Verde 2
2Q/2007 Plant Inspection Findings

Initiating Events

Significance: G Jun 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO SCOPE CONDENSATE DEMINERALIZER VALVE INTO MAINTENANCE RULE
A self-revealing noncited violation of 10 CFR 50.65(b) was identified for the failure of engineering personnel to place some components of the condensate demineralizer system into the scope of its program for monitoring the effectiveness of maintenance. Specifically, on October 19, 2006, Unit 3 reactor was manually tripped when condenser vacuum was degraded due to the failure of condensate demineralizer vessel waste drain Valve 3JSCNUV0232. Prior operating experience at Palo Verde demonstrated that the failure of Valve 3JSCNUV0232 could result in a reactor trip. However, the licensee did not appropriately scope Valve 3JSCNUV0232 into its program for monitoring the effectiveness of maintenance. This issue was entered into the corrective action program as Condition Report/Disposition Request 3035444.

The finding is greater than minor because it is associated with the initiating events cornerstone attribute of equipment performance and affects the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance since it does not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available.
Inspection Report# : 2007003 *(pdf)*

Significance: G Jun 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO APPLY INDUSTRY OPERATING EXPERIENCE TO MAINTENANCE ACTIVITIES RESULTS IN A PLANT TRANSIENT
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," for the failure of inservice inspection personnel to promptly identify and correct a condition adverse to quality. Specifically, since April 19, 2006, floor-welded spray pond pipe Supports 13-SP-030-H-007 and 13-SP-030-H-008 in the essential pipe density tunnel became degraded at the weld due to long term standing water in the tunnel. The licensee thought these supports had been previously identified and placed in the corrective action program, but that was not the case. This issue was entered into the corrective action program as Palo Verde Action Request 2989960.

The finding is greater than minor because if left uncorrected the degradation would have led to a more significant safety concern. The finding is associated with the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance since it only affected the mitigating systems cornerstone and did not represent a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. The cause of the finding is also related to the crosscutting aspect of problem identification and resolution with a corrective action program causal factor because the threshold for identifying issues was not sufficiently low and the degraded supports were not identified completely, accurately, and in a timely manner commensurate with their safety significance (P.1. (a)).
Inspection Report# : 2007003 *(pdf)*

Significance: G Dec 31, 2006

Identified By: Self-Revealing
Item Type: NCV NonCited Violation
INADEQUATE PROCEDURE USED FOR MAINTENANCE RESULTS IN REACTOR TRIP
A self-revealing noncited violation of Technical Specification 5.4.1.a was identified for the failure of maintenance personnel to use an adequate procedure for the repairs and restoration of control Valve 2, resulting in a reactor trip during main turbine control valve restoration. Specifically, on July 26, 2006, maintenance personnel used Procedure 40OP-9MT02, "Main Turbine," Revision 53, for performing repairs and restoring control Valve 2 in a way that was beyond the scope of the procedure. The use of the inadequate procedure resulted in a plant transient and reactor trip. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2913232.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that more significant consequences would occur if inadequate procedures are used for plant maintenance. The finding affected the initiating events cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the condition only affected the initiating events cornerstone and did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. This finding has a crosscutting aspect in the area of human performance associated with work control because the licensee did not appropriately coordinate work activities by incorporating actions to address the impact of changes to the work scope of the maintenance procedure
Inspection Report# : 2006005 *(pdf)*

Mitigating Systems

Significance: G May 25, 2007
Identified By: NRC
Item Type: FIN Finding
Ineffective Demonstration of Conformance to Design for the Alternate ac Power Sources
The team identified a finding involving the implementation of Regulatory Guide 1.155, Station Blackout, Appendix A, for the demonstration of the station backout generator design and system readiness requirements. Specifically, established preventive maintenance tasks did not demonstrate that the coping requirements for the station blackout generator would be met for the approved increase from the 4-hour to 16-hour coping duration that, at the time this finding was identified, would become effective the following month. The licensee has entered this finding into their corrective action program as Palo Verde Action Request PVAR 2982699.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected following the implementation of the 16-hour coping duration. The finding affected the mitigating systems cornerstone attributes to ensure the availability of the station blackout generators to respond to initiating events necessary to prevent undesirable consequences. Using the NRC Inspection Manual Chapter 0609, Significance Determination Process, Phase 1 Worksheet, the team determined that this finding had very low safety significance because there was not a loss of system function and it did not involve an external event. The cause of the finding was related to the crosscutting element of decision making associated with human performance for the failure to adequately evaluate the design and system readiness requirements for the station blackout generators for the approved license amendment that, at the time the finding was identified, would, increase the coping period to 16-hours.
Inspection Report# : 2007011 *(pdf)*

Significance: G May 25, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Control of Design Information for the Station Blackout System
The team identified a noncited violation of very low safety significance for the failure to implement the design control requirements of Regulatory Guide 1.155, Station Blackout, Appendix A, Criterion 1, Design Control and Procurement Control, to 10 CFR 50.63, Loss of All Alternating Current. Specifically, approved Design Change DMWO 2827452 did not account for key station blackout generator performance parameters that included fuel and lubricating oil

consumption rates and required station blackout battery capacity for an increase in the station blackout coping period from 4 to16-hours.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that the critical performance parameters for ensuring the station blackout generators would meet the 16-hour coping requirement were not established. The finding affected the mitigating systems cornerstone attributes to ensure the availability of the station blackout generators to respond to initiating events necessary to prevent undesirable consequences. Using the NRC Inspection Manual Chapter 0609, Significance Determination Process, Phase 1 Worksheet, the team determined that this finding had very low safety significance because there was not a loss of system function and it did not involve an external event. The cause of the finding was related to the crosscutting element of decision making associated with human performance for the failure to evaluate the key performance parameters for the station blackout generators for the approved license amendment that increased the coping period to 16-hours. (Section 1R21b.2.)

Inspection Report# : 2007011 *(pdf)*

Significance: G May 25, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Non-conservative Containment Sump Level Analysis
The team identified a noncited violation of very low safety significance of 10 CFR Part 50, Appendix B, Criterion III, Design Control. Specifically, the design calculation that determined the minimum containment flood level following a loss-of-coolant accident was not based on the most limiting reactor coolant system break location. The calculated containment flood level was used to verify the adequacy of the available net positive suction head for the emergency core cooling pumps that would take suction from the containment sump during the recirculation phase of a postulated loss-of-coolant accident. The licensee has entered this issue into their corrective action program as Palo Verde Action Request PVAR 2981257.

This finding is greater than minor because this issue required accident analysis calculations to be re-performed to assure the accident requirements were met. The finding affected the mitigating systems cornerstone as related to the availability, reliability, and capability of the emergency core cooling system for post-loss-of-cooling accident. In accordance with Inspection Manual Chapter 0609, Significance Determination Process, Appendix A, Significance Determination of Reactor Inspection Findings for At-Power Situations, the team conducted a Phase 1 screening and determined the finding was of very low safety significance because it did not represent an actual loss of safety function. This deficiency would not have resulted in the emergency core cooling pumps becoming inoperable under the most limiting postulated accident conditions. This finding has cross-cutting aspects associated with corrective action of the problem identification and resolution area to ensure that issues potentially impacting nuclear safety are promptly identified, fully evaluated and that actions are taken to address safety issues in a timely manner.
Inspection Report# : 2007011 *(pdf)*

Significance: G May 25, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Ineffective Maintenance on Target Rock Solenoid-Operated Valves
The team identified a noncited violation of very low safety significance of 10 CFR Part 50, Criterion XVI, Corrective Actions, for the failure to identify and correct significant conditions adverse to quality involving Target Rock valve failures. The licensee has entered this issue into their corrective action program as Palo Verde Nuclear Generating Station Action Requests PVAR 2984832 and 2985372.

The failure to identify and correct the cause(s) of turbine-driven auxiliary feedwater pump Target Rock solenoid-operated valves was a performance deficiency. This issue is more than minor because it is associated separately with the mitigating systems cornerstone and on one occasion affected the containment barrier integrity cornerstone. This finding has cross-cutting aspects associated with corrective action of the problem identification and resolution area to ensure that issues potentially impacting nuclear safety are promptly identified, fully evaluated and that actions are taken to address safety issues in a timely manner.
Inspection Report# : 2007011 *(pdf)*

Significance: G Mar 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Change to Emergency Diesel Generator Intake Air Oil Bath Filter Standby Oil Level Specification
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure of engineering personnel to verify or check the adequacy of design for maintaining the emergency diesel generator air intake oil bath filters' oil level below the "add oil" mark. Specifically, from approximately November 1994 to January 24, 2007, engineering personnel failed to translate vendor requirements for the Air Maze oil bath air filter oil level into an appropriate operating band. This issue was entered into the corrective action program as Condition Report/Disposition Request 2963525.

The finding is greater than minor because it is associated with the design control attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to be of very low safety significance because it did not represent an actual loss of system safety function, did not represent an actual loss of a single train for greater than its technical specification allowed outage time, and the finding did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event.
Inspection Report# : 2007002 *(pdf)*

Significance: G Mar 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify Misalignment of Spring Cans
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure of inservice inspection personnel to promptly identify misalignment of spring cans on safety-related piping. Specifically, between April 2005 and May 2006, inservice inspection personnel failed to identify misalignment of spring cans associated with the auxiliary feedwater system and the emergency diesel generators. Section 8.3.5 of Procedure 73TI-9ZZ18 required that the examination of piping systems should be directed to detect any relevant conditions, including misalignment of supports. This issue was entered into the corrective action program as Palo Verde Action Request 2980767.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that the failure to identify degraded and non-conforming equipment conditions could impact the availability of mitigating equipment. The finding affected the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance since it did not represent a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic flooding, or severe weather initiating event. The finding has a crosscutting aspect in the area of problem identification and resolution, associated with corrective action program, since inservice inspection personnel had an inappropriately high threshold for recognizing the misalignment of spring cans on safety-related piping.
Inspection Report# : 2007002 *(pdf)*

Significance: G Mar 31, 2007
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate Monitoring of CEA Position Results in Technical Specification Violation
A self-revealing noncited violation of Technical Specification 3.1.6 was identified during the performance of surveillance testing of the control element assemblies when more than one shutdown control element assembly was less than 144.75 inches withdrawn. Specifically, on February 3, 2007, while performing surveillance Procedure 40ST-9SF01, "CEA Operability Checks," Revision 21, more than one control element assembly was less than 144.75 inches withdrawn. Operations personnel did not use all available control element assembly position indications while verifying movement of the four control element assemblies in shutdown Subgroup 6 to ensure that each control element assembly was withdrawn greater than 144.75 prior to movement of the next control element assembly. This issue was entered into the corrective action program as Condition Report/Disposition Request 2967976.

The finding is greater than minor because it is associated with the mitigating systems cornerstone attribute of procedure quality and affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding is also associated with the barrier integrity cornerstone attribute of configuration control and affects the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radio nuclide releases caused by accidents or events. Using the Manual Chapter 0609, “Significance Determination Process," Phase 1 Worksheet, a Phase 2 analysis is required since two cornerstones are degraded. Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," was used since the Significance Determination Process methods and tools were not adequate to determine the significance of the finding. The finding is determined to have very low safety significance through management review since it did not represent a loss of system safety function, in that the control element assemblies were still capable of shutting down the reactor in response to any postulated accident. This finding has a crosscutting aspect in the area of a problem identification and resolution associated with corrective action program, because the licensee failed to thoroughly evaluate the problem described in Condition Report/Disposition Request 2760855 such that the issue was resolved. This finding also has a crosscutting aspect in the area of human performance associated with work practices because operations personnel did not appropriately self and peer check all available control element assembly position indications to ensure proper system response.
Inspection Report# : 2007002 *(pdf)*

Significance: G Mar 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain EDG Train B Operable
The inspectors identified a noncited violation of Technical Specification 3.8.1 for exceeding the allowed outage time for the Unit 2 emergency diesel generator, Train B. Specifically, for the period between May 14, 2005 and November 3, 2005, the licensee failed to maintain the emergency diesel generator Train B operable. The licensee did not identify a condition in which the associated fuel oil suction strainers and discharge filters were fouling, resulting in the emergency diesel generator Train B being unable to supply Train B of the onsite Class 1E AC Electrical Power Distribution System without significant operations and maintenance personnel actions. The licensee entered this into their corrective action program as Condition Report/Disposition Request 2963482.

This finding is more than minor because the failure to identify and correct this deficiency would become a more significant safety concern in that the performance of emergency diesel generator Train B could be reduced, due to fuel starvation to the engine, to the point that the unit would not be able to carry essential electrical loads in the event of a loss of off-site electrical power. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding was determined to have very low safety significance because it did not result in an actual loss of safety function for greater than its technical specification allowed outage time. The finding has a crosscutting aspect in the area of problem identification and resolution, associated with corrective action program, since the licensee failed to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.
Inspection Report# : 2007002 *(pdf)*

Significance: G Feb 09, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Technical Evaluation of HPSI Pump Bearing Oil Leaks
A noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," with two examples was identified for two inadequate operability evaluations. Prompt operability determinations in CRDRs 2941494 and 2303499 incorrectly concluded that High Pressure Safety Injection Pumps 2A and 3A, respectively, could meet their mission time with existing oil leakage from the bearings. The team concluded that these evaluations relied upon unverified and incorrect assumptions and non-conservative volumes. The apparent cause evaluation for the leakage identified contributing causes that were common to all pumps, but the operability of the other pumps was not assessed. The team identified a history of small oil leaks in high pressure safety injection pumps since 2000, but the licensee was unaware of this trend. Subsequent testing confirmed that five of the six high pressure safety injection pumps had oil leakage which would not allow running those pumps for the full mission time, but sufficient oil was available to run for at least 94 days. This finding was determined to have cross-cutting aspects in the human

performance area of decision-making, because the licensee did not use conservative assumptions and demonstrate that the proposed course of action was safe.

Failure to adequately evaluate and correct oil leakage in High Pressure Safety Injection Pumps 2A and 3A, and failure to assess the extent of condition for similar pumps, was a performance deficiency. The finding was more than minor because it affected the equipment performance attribute of the mitigating systems cornerstone objective of ensuring the availability and reliability of a system that responds to initiating events. This finding screened as Green during Phase 1 of the significance determination process because it did not involve a loss of safety function. This issue was entered into the corrective action program under Condition Report/Disposition Report 2973682.
Inspection Report# : 2007007 *(pdf)*

Significance: G Feb 09, 2007
Identified By: NRC
Item Type: FIN Finding
Preventive Maintenance Change Backlog Was Not Tracking Due Dates
A finding was identified for failure to schedule and perform preventive maintenance tasks that were in the preventive maintenance change process. The team identified that a backlog of over 2500 preventive maintenance changes existed which resulted in these preventive maintenance tasks not being scheduled or performed, potentially challenging completion within the specified frequency. The team found 438 examples of preventive maintenance tasks that were overdue, and an additional 2113 that had no due date assigned yet. This program was used to revise both safety-related and non-safety preventive maintenance tasks. Because these preventive maintenance tasks were in the change process, the tasks were not scheduled or tracked in a way that would show when they became overdue. This was contrary to Procedure 30DP-9MP08, “Preventive Maintenance Program,” Revision 17, which required that “no preventive maintenance on operational equipment shall pass that late date without an approved deferral which will address a technical justification for the identified issue.” This finding had human performance cross-cutting aspects associated with resources because the large backlog of preventive maintenance tasks was contrary to maintaining long-term equipment reliability.

Failure to track, schedule, and perform preventive maintenance activities within their specified frequencies in accordance with their preventive maintenance program was a performance deficiency. This finding was determined to be more than minor because, if left uncorrected, it could become a more significant safety concern in that the lack of preventive maintenance would affect the reliability of plant equipment which could impact the initiating events or mitigating systems cornerstones. Because of the large number of preventive maintenance tasks (over 2500) in this category, the team reviewed a sample of 79 tasks associated with safety-related or quality-class components to assess the significance. The team did not identify any examples of overdue safety-related tasks. Based on the lack of risk significant examples and the fact that this finding is not suitable for significance determination process evaluation, this issue was reviewed by NRC management and was determined to be a finding of very low safety significance. This issue was entered into the corrective action program under Palo Verde Action Request 2970076.
Inspection Report# : 2007007 *(pdf)*

Significance: G Dec 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
SCAFFOLDING ERECTED WITH INADEQUATE CLEARANCES AND NO ENGINEERING EVALUATION
The inspectors identified a noncited violation of Technical Specification 5.4.1.a for the failure of maintenance and engineering personnel to follow Procedure 30DP-9WP11, "Scaffolding Instructions," Revision 13, and associated engineering specifications governing scaffold erection near safety-related components. Specifically, on September 13, 2006, inspectors identified three scaffolds that were within 2 inches of safety-related components. The scaffolding did not have an engineering evaluation in place, nor were there any documented records of engineering evaluations for any other scaffolding on site. Again on October 3, 2006, the inspectors identified two scaffolds that were directly attached to the fuel and auxiliary building essential air handling units, without the required evaluations. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Requests 2924707 and 2929770.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that

improperly installed scaffolding could impact the availability of mitigating equipment. The finding affected the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and all subsequent engineering evaluations determined that there was no adverse effect to mitigating equipment. This finding has a crosscutting aspect in the area of human performance associated with work control because the licensee did not appropriately coordinate work activities to keep personnel apprised of the operational impact of work activities. Additionally, this finding has a crosscutting aspect in the area of problem identification and resolution associated with corrective actions in that the licensee did not take appropriate corrective actions to address safety issues in a timely manner
Inspection Report# : 2006005 *(pdf)*

Significance: G Dec 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO MAINTAIN SEISMIC QUALIFICATION OF POST ACCIDENT MONITORING INSTRUMENTATION
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the improper control of design parameters for post accident monitoring instrumentation by operations personnel. Specifically, prior to November 22, 2006, operations personnel did not maintain the seismic qualification of post accident monitoring instrumentation, by pulling recorders out from the fully inserted position for extended periods. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2945259.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that safety-related equipment that is not maintained in a seismically qualified condition may not be available to perform its safety function under certain accident conditions. The finding affected the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it did not affect the loss or degradation of equipment specifically designed to mitigate a seismic event, and it did not involve the total loss of any safety function that contributes to external event initiated core damage accident sequences
Inspection Report# : 2006005 *(pdf)*

Significance: G Dec 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM AN ADEQUATE ROOT CAUSE ANALYSIS FOR VALVE SI-225
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure of the licensee to adequately evaluate and identify the cause for a degraded material condition associated with Unit 2 Valve SI-225 following a failure of the valve to fully close on November 30, 2000. Specifically, the licensee did not have any data to support their root cause evaluation and could not validate the failure mechanism that prevented Valve SI-225 from fully closing. The failure to identify the cause and implement corrective actions resulted in the failure of Valve SI-134 in October 2006 and the continued degradation of additional safety injection system check valves. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2942970.

The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the condition only affected the mitigating systems cornerstone and did not result in the actual loss of safety function to any component, train, or system. This finding has a crosscutting aspect in the area of problem identification and resolution because the licensee failed to thoroughly evaluate a problem that was known to exist since November 2000
Inspection Report# : 2006005 *(pdf)*

Significance: G Dec 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO MAINTAIN PROCEDURES AND INSTRUCTIONS
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Actions,” for the failure to promptly identify and correct a condition adverse to quality. Specifically, since 1992, the licensee failed to maintain procedures and written instructions in accordance with quality assurance program requirements, including, periodic procedural reviews and implementation of the procedure feedback process. These issues resulted in a significant number of deficient procedures and instructions not being corrected in a timely manner and not receiving adequate reviews. One example involved the failure to provide adequate instructions for mounting temperature element housings adversely affecting seismic qualifications required to protect the functionality of safety related equipment. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2952142.

This finding is greater than minor because the failure to identify and correct deficient procedures, if left uncorrected, would become a more significant safety concern in that quality related systems, structures, and components could be adversely affected by implementing inadequate instructions. Using the Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheet, the finding is determined to have very low safety significance because it did not result in loss of operability per, “Part 9900, Technical Guidance, Operability Determination Process for Operability and Functional Assessment.” This finding involved problem identification and resolution crosscutting aspects associated with the failure to promptly identify and correct deficient procedures/instructions resulting in the potential to adversely affect quality related systems, structures, and components
Inspection Report# : 2006005 *(pdf)*

Significance: G Dec 31, 2006
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW PROCEDURES RESULTS IN LOSS OF PLANT CONFIGURATION CONTROL
Two examples of a self-revealing noncited violation of Technical Specification 5.4.1.a were identified for the failure of operations personnel to properly implement procedures to ensure the correct configuration of equipment during plant evolutions. Specifically, twice on November 4, 2006, operations personnel failed to restore the containment spray system to standby operations for shutdown cooling per Procedures 73ST-9XI33, "HPSI Pump and Check Valve Full Flow Test," and 40ST-9SI09, "ECCS System leak Test," following surveillance testing to satisfy the entry conditions for Procedure 40OP-9SI01, "Shutdown Cooling Initiation." This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2939686.

The finding is greater than minor because it is associated with the configuration control cornerstone attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609, "Significance Determination Process," Appendix G, "Shutdown Operations Significance Determination Process," Checklist 3, and is determined to have very low safety significance because the finding did not result in an increase of the likelihood of a loss of decay heat removal due to failure of the system, nor did it degrade the ability of containment to remain intact following an accident. Additionally, the finding did not degrade the licensee's ability to terminate a leak path, add reactor coolant system inventory, recover decay heat removal once it is lost, or establish an alternate core cooling path. Lastly, the finding did not increase the likelihood of a loss of reactor coolant system inventory, or offsite power. This finding has a crosscutting aspect in the area of human performance associated with work control because the licensee did not appropriately coordinate work activities by communicating, coordinating, and cooperating with each other during surveillance testing activities
Inspection Report# : 2006005 *(pdf)*

Significance: G Nov 30, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IMPLEMENT THE OPERABILITY DETERMINATION PROCESS
The team identified two examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions,

Procedures, and Drawings," for the failure to perform operabilty determinations. In both examples, the licensee failed to perform an operability determination following identification of a degraded condition that had the potential to adversely affect the safety function of all emergency diesel generators. Specifically, an operability determination was not performed after identifying the failure of the Unit 3 Train A emergency diesel generator on July 25, 2006, was potentially the result of plastic debris affecting proper auxiliary contact operation of a K-1 relay. The licensee determined the debris most likely originated from a modification performed on all emergency diesel generator K-1 relays during initial plant startup. Following another failure of the Unit 3 Train A emergency diesel generator on September 22, 2006, an operability determination was not performed after identifying the failure was the result of the K-1 relay actuating arm not providing adequate compression of the auxiliary contacts. The licensee determined this degraded condition most likely originated during implementation a modification done to all emergency diesel generator K-1 relays during initial plant startup.

This finding is greater than minor because the failure to follow the operability determination process, if left uncorrected, would become a more significant safety concern in that degraded or nonconforming conditions would not be properly evaluated. Using the Phase 1 worksheet in NRC Inspection Manual Chapter 0609, "Significance Determination Process," the finding was determined to have very low safety significance because unreliable K-1 relay operation resulted in no actual loss of safety function of the other five emergency diesel generators prior to corrective actions being implemented, and the finding did not represent a potential risk significant condition because of a seismic, flooding, or severe weather event. This issue is documented in the licensee's corrective action program as Condition Report/Disposition Requests 2928389 and 2940558. The cause of this finding is related to the crosscutting element of problem identification and resolution in that engineering personnel failed to properly evaluate and perform operability determinations for identified degraded conditions affecting the emergency diesel generators.
Inspection Report# : 2006012 *(pdf)*

Significance: G Nov 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE CORRECTIVE ACTIONS TO PRECLUDE WATER INTRUSION AND CORROSION OF UNDERGROUND PIPING AT THE FACILITY
The inspectors identified multiple examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for failing to promptly correct water intrusion problems in multiple areas in the facility, that were identified and examined from January 1991 to April 2006. Specifically, the licensee failed to promptly correct the water intrusion problems in the facility piping vaults and manholes. This finding also had aspects of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for failing to maintain a vault in its watertight design condition and to coat exposed piping with its specified coating to ensure corrosion protection. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Requests 2885972, 2880283, and 2902572.

The finding is greater than minor because it is associated with the equipment performance cornerstone attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609," Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the condition only affected the mitigating systems cornerstone and there was no actual loss of piping material that exceeded the minimum allowable wall thickness or a loss of safety function that exceeded Technical Specification allowed outage times. This finding has a crosscutting aspect in the area of problem identification and resolution because the licensee failed to thoroughly evaluate a problem that existed from 1992 to April 2006. The failure to promptly correct this condition resulted in the degradation of the wall thickness of the spray pond piping and the Unit 3 emergency diesel generator Train A being declared inoperable after the fuel transfer pump did not meet the acceptance criteria during a surveillance
Inspection Report# : 2006004 *(pdf)*

Significance: G Nov 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IDENTIFY CONDITIONS ADVERSE TO QUALITY FOR THE EMERGENCY DIESEL GENERATORS
The inspectors identified multiple examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI,

"Corrective Action," for failing to identify degraded material conditions on the emergency diesel generators. Between July and September 2006, operations and engineering personnel did not promptly identify and correct material conditions adverse to quality. Specifically, operations and engineering personnel did not identify numerous fluid leaks, and loose and missing fasteners on the emergency diesel generator skid, and did not enter them in the corrective action program. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2914886.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that unidentified conditions adverse to quality could challenge the operability of equipment important to safety. The finding affected the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the finding did not result in the actual loss of safety function to any component, train, or system. This finding has a crosscutting aspect in the area of problem identification and resolution because failing to implement the corrective action program with a low threshold for identifying adverse material conditions resulted in degradation of the emergency diesel generators which was not being tracked and evaluated
Inspection Report# : 2006004 *(pdf)*

Significance: N/A Nov 03, 2006
Identified By: NRC
Item Type: FIN Finding
FAILURE TO SUBMIT COMPLETE REVISIONS TO THE UPDATED FINAL SAFETY ANALYSIS REPORT FOR PERMANENT MODIFICATIONS
The inspectors identified a violation of 10 CFR 50.71(e)(4), for which enforcement discretion was exercised, that involved the failure to file revisions to the Updated Final Safety Analysis Report. Specifically, for the reporting period between January 2003 and December 2005, licensing personnel failed to submit a revision to the Updated Final Safety Analysis Report reflecting core protection calculator system modifications. The issued was entered into the licensee's corrective action program as Condition Report/Disposition Request 2894635.

The performance deficiency associated with this finding involved the failure of licensee personnel to submit revisions to the Updated Final Safety Analysis Report reflecting modifications installed in Unit 2 for more than 24 months. The finding was determined to be applicable to traditional enforcement because the NRC's ability to perform its regulatory function was potentially impacted by the licensee's failure to revise the Updated Final Safety Analysis Report in a timely manner. Normally, the violation would be categorized at Severity Level IV in accordance with Section D.4 of Supplement I of the NRC Enforcement Policy. However, in accordance with Section VII.B.6 of the NRC Enforcement Policy, the NRC is refraining from taking enforcement action because of the NRC action taken in 1993 to issue and then retract a similar occurrence and the low safety significance of the finding (EA-06-267). The finding is not suitable for evaluation using the significance determination process, but has been reviewed by NRC management and is determined to be a finding of very low safety significance.

Inspection Report# : 2006004 *(pdf)*

Significance: N/A Sep 30, 2006
Identified By: NRC
Item Type: FIN Finding
SUMMARY FINDING. 95002 TEAMS ASSESSMENT OF IR 2004-14 (YELLOW) 10 CFR PART 50, APPENDIX B, CRITERION III, VIOLATION
The NRC performed a followup supplemental inspection to assess the licensee's corrective actions associated with a Yellow design control finding involving the potential for air entrainment into the emergency core cooling system. The team concluded that the technical issues specifically associated with the voided emergency core cooling system piping have been addressed. However, the Yellow finding will remain open because the licensee did not implement effective corrective actions for all of the causes associated with the Yellow finding. Specifically, the licensee's actions to improve questioning attitude, technical rigor, and technical review were not fully effective. Also, the implementation of performance measures and metrics to monitor the effectiveness of corrective actions associated with the Yellow finding were not adequate to assess effectiveness. This performance issue was previously characterized as a 10 CFR Part 50, Appendix B, Criterion III, violation having substantial safety significance (Yellow), and was originally identified in NRC Inspection Report 05000528; 05000529; 05000530/2004014.

The licensee's corrective actions taken in response to the root causes and related programmatic concerns involving

questioning attitude, technical rigor, and technical review have not been completely effective. Specifically, following implementation of corrective actions between September 2005 and March 2006, the licensee: (1) continued to conduct inadequate technical reviews of emerging issues; (2) did not routinely question the validity of engineering assumptions used to support operability decisions; (3) did not consistently implement a qualify, validate, and verify process; and (4) did not consistently notify operations personnel of immediate operability concerns.

The team concluded that adequate qualitative or quantitative measures for determining the effectiveness of the corrective actions to prevent recurrence have not been established. For example, not all relevant performance data was considered when performance monitoring measures were developed to assess the effectiveness of corrective actions. When the pertinent data was considered, or otherwise clarified, the performance measures suggested declining rather than improving performance in some areas.

The team also concluded that the licensee had not completed adequate reviews of the effectiveness of corrective actions prior to their notifying the NRC of their readiness for inspection of the Yellow finding. Specifically, several assessments were completed after the requested dated of the inspection (June 2006). Several of the assessments noted that insufficient progress in resolving some of the root and contributing causes had been made. Additionally, a standard guideline for metrics was not issued and implemented until July 2006.

Inspection Report# : 2006010 *(pdf)*

Significance:  Sep 26, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
TWO EXAMPLES OF FAILURE TO TRANSLATE SPRAY POND DESIGN ASSUMPTIONS INTO PLANT PROCEDURES CONTROL
Two examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," were identified involving the failure to adequately translate the design basis of the spray ponds into procedures. Design Calculation 13-MC-SP-0307, "SP/EW System Thermal Performance Design Basis Analysis," Revision 7, which demonstrated that the spray pond system could adequately limit spray pond temperature during a design basis accident did not account for any reduced heat capacity caused by sediment buildup. However, this fact was not translated into procedures, so approximately 400 cubic yards of sediment had built up in each of the six spray ponds when the team questioned the impact to the heat removal function. Also, the same calculation demonstrated that sufficient water was available to provide adequate cooling during a design basis accident, but did not account for any leakage from the ponds. The team determined that the licensee did not translate this into a procedure to ensure that the condition of the spray pond was maintained such that leakage did not occur. Procedure 81DP-0ZZ01, "Civil System, Structure, and Component Monitoring Program," Revision 11, was used to monitor the condition of the pond structures. The team identified that it examined only the exposed concrete surfaces, which constituted about 7 percent of the surface area and almost none of the water-containing volume. Cracks had been identified and repaired in this area, but the inspections were not expanded to the underwater surfaces. This issue was documented in Condition Report/Disposition Requests 2906671 and 2910912.

Failure to adequately translate the design basis of the spray ponds into procedures was a performance deficiency. This finding was determined to be more than minor because, if left uncorrected, the finding could become a more significant safety concern. This finding affected the Mitigating Systems Cornerstone. This performance deficiency screened as having very low safety significance in a Phase 1 significance determination process because the licensee was able to demonstrate that the sediment would not have resulted in a loss of safety function, and that significant leakage did not exist. The licensee was able to revise the calculation to take credit for heat absorption by the concrete walls, and scheduled inspections by divers of underwater portions of the ponds to follow sediment removal
Inspection Report# : 2006011 *(pdf)*

Significance:  Sep 26, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
MULTIPLE EXAMPLES OF INADEQUATE OPERABILITY ASSESSMENTS FOR HEAT EXCHANGER DEGRADATION
A noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," with

multiple examples was identified for failure to adequately assess the impact to operability of degraded heat exchangers in the emergency diesel generators and essential cooling water system. Specifically, the licensee failed to follow Procedure 40DP-9OP26, "Operability Determination and Functional Assessment," Revision 16, in assessing indications of degraded heat exchanger performance, an activity affecting quality. Key support organizations were not always involving operations personnel with questions that had a potential to affect the operability of safety-related equipment, or were informing operators only after the support organization had fully evaluated the condition, delaying actions that were required to be prompt. Also, operations personnel did not always insist on a rigorous evaluation. This issue was documented in Condition Report/Disposition Requests 2918892, 2901815, and 2898237.

Failure to adequately implement the operability assessment process was a performance deficiency. This finding was more than minor because it impacted the equipment performance attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. This finding screened as having very low safety significance in a Phase 1 significance determination process, because the examples used for this violation were confirmed not to involve any loss of safety function. This finding had cross-cutting aspects in the area of human performance because the licensee did not follow their systematic process for operability decision making when information was not brought to the right decision makers
Inspection Report# : 2006011 *(pdf)*

Significance: G Sep 26, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
ESSENTIAL COOLING WATER TRAIN 2B INOPERABLE LONGER THAN ALLOWED OUTAGE TIME DUE TO FOULING - RECHARACTERIZED IN FINAL SIGNIFICANCE DETERMINATION LETTER TO BE A GREEN NCV.
Green. A noncited violation of Technical Specification 3.7.7 was identified because Train B of the essential cooling water system in Unit 2 was not capable of performing its safety function for approximately 78 days ending on September 27, 2003. The degraded performance was due to fouling caused by improper chemical addition in the associated spray pond.

Failure to ensure that this safety-related equipment was operable was a performance deficiency. This finding was more than minor because it impacted the equipment performance attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. Specifically, Essential Cooling Water Train B in Unit 2 was estimated to have been incapable of performing its function under existing conditions for approximately 78 days. A Phase 3 significance determination process concluded that this finding has very low safety significance. This finding had cross-cutting aspects in the area of Human Performance, under the Resource attribute, because the licensee failed to ensure that adequate procedures were available to maintain design margins. This issue was entered into the Corrective Action Program under CRDR 2905161. Because this violation was of very low safety significance and has been entered into the corrective action program, it is being treated as a noncited violation consistent with Section VI.A of the Enforcement Policy: NCV 05000529/2006011-01, EW Train 2B Inoperable Longer than Allowed Outage Time. This issue was re-characterized from an AV to an NCV as a result of the Regulatory Conference conducted on November 20, 2006 and the final significance determination.

Inspection Report# : 2006011 *(pdf)*

Significance: G Sep 26, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE TEST CONTROL TO PROMPTLY IDENTIFY UNACCEPTABLE HEAT EXCHANGER PERFORMANCE TEST RESULTS - RECHARACTERIZED IN FINAL SIGNIFICANCE DETERMINATION LETTER TO BE A GREEN NCV.
Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," was identified. Test Procedure 70TI-9EW01, "Thermal Performance Testing of Essential Cooling Water Heat Exchangers," and Procedure 73DP-9ZZ10, "Guidelines for Heat Exchanger Thermal Performance Analysis," were inadequate to ensure the timely determination that the requirements and acceptance limits contained in applicable design documents were met. Specifically, performance testing for Essential Cooling Water Heat Exchanger 2B conducted on March 19, 2002, did not meet the design basis requirements specified in Calculation 13-MC-SP-0307, "SP/EW System Performance

Design Bases Analysis," Revision 007, but this was not correctly evaluated to determine whether the system would be capable of performing its design function until August 22, 2002, due to incorrect procedure guidance and lack of requirements to ensure timely evaluation. As a result, this component continued to degrade for 18 months after demonstrating unacceptable performance. This finding had cross cutting aspects in the area of Human Performance, under the Resource attribute, because the licensee failed to ensure that adequate procedures were available to ensure nuclear safety.

Failure to properly control testing and properly identify unacceptable performance was a performance deficiency. This finding was more than minor because it impacted the procedure quality attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. Specifically, Essential Cooling Water Train B in Unit 2 was estimated to have been incapable of performing its function under existing conditions for approximately 78 days. A Phase 3 significance determination process concluded that this finding has a very low safety significance. This issue was entered into the Corrective Action Program under CRDR 2928230. Because this violation was of very low safety significance and has been entered into the corrective action program, it is being treated as a noncited violation consistent with Section VI.A of the Enforcement Policy: NCV 05000528; 05000529; 05000530/2006011-02, Inadequate Test Control to Promptly Identify Unacceptable Performance Test Results. This issue was re-characterized from an AV to an NCV as a result of the Regulatory Conference conducted on November 20, 2006 and the final significance determination.
Inspection Report# : 2006011 *(pdf)*

Significance: SL-IV Sep 26, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
10 CFR 50.59 REVIEWS NOT PERFORMED OR INADEQUATE FOR MULTIPLE CHANGES TO SPRAY POND CHEMISTRY CONTROL PROCEDURE - RECHARACTERIZED IN FINAL SIGNIFICANCE DETERMINATION LETTER TO BE A GREEN NCV.
SL-IV. A noncited violation of 10 CFR 50.59 was identified for making nine revisions to Procedure 74DP-9CY04, "System Chemistry Specification," a procedure described in the Updated Final Safety Analysis Report between 1998 and 2004. Specifically, the licensee failed to perform evaluations for Revisions 3, 6, 8, 10, 12, 24, 28, 32, and 36 and performed inadequate evaluations for Revisions 10 and 36, to assess the potential impact of the changes on the safety-related components in the spray pond system. Each of these changes revised spray pond chemistry parameter limits which were subsequently determined to have contributed to heat exchanger fouling.

Failure to adequately evaluate the impact of changes to the Chemistry Control Program was a performance deficiency. Because this violation had the potential to impact the NRC's regulatory function, and because the associated significance was determined to be Green using Phase 3 of the significance determination process, this violation is being treated as a Severity Level IV violation. This issue was entered into the Corrective Action Program under CRDR 2902498. Because this violation was of very low safety significance and has been entered into the corrective action program, it is being treated as a noncited violation consistent with Section VI.A of the Enforcement Policy: NCV 05000528; 05000529; 05000530/2006011-03, 50.59 Reviews Not Performed or Inadequate for Multiple Changes to Spray Pond Chemistry Control Procedure. This issue was re-characterized from an AV to an NCV as a result of the Regulatory Conference conducted on November 20, 2006 and the final significance determination.
Inspection Report# : 2006011 *(pdf)*

Significance: G Sep 26, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE IDENTIFICATION AND CORRECTIVE ACTION FOR DEGRADED ESSENTIAL COOLING WATER HEAT EXCHANGER PERFORMANCE - RECHARACTERIZED IN FINAL SIGNIFICANCE DETERMINATION LETTER TO BE A GREEN NCV
Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," was identified. On March 19, 2002, performance testing for Essential Cooling Water Heat Exchanger 2B indicated that the system would not be capable of performing its design function, but this significant condition adverse to quality was not promptly identified, the cause determined, or corrective actions taken to restore the required heat exchanger performance. Specifically, the unacceptable performance was not promptly identified, because the test results were not correctly calculated until August 22, 2002, which was after operating mode changes and returning the unit to power following the outage. When the test results were finalized, the fact was that the design basis capability was not met, was not

recognized or entered into the corrective action program. These failures to correct this degraded performance contributed to the continued degradation and eventual loss of function for a period of 78 days. The failure to correct this degraded performance contributed to the continued degradation and eventual loss of function. This finding had cross cutting aspects associated with the Corrective Action Program, for both inadequate identification of problems and inadequate evaluation of the cause, extent, and impact on operability.

Failure to properly assess the impact of scaling on safety-related heat exchangers cooled by the spray pond system was a performance deficiency. This finding was more than minor because it impacted the equipment performance attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. Specifically, the heat exchangers associated with emergency diesel generators and essential cooling water systems in both trains in all units were allowed to degrade and Essential Cooling Water Train B in Unit 2 was estimated to have been incapable of performing its function under existing conditions for approximately 78 days. A Phase 3 significance determination process concluded that this finding has very low safety significance. This issue was entered into the corrective action program under CRDR 2897810. Because this violation was of very low safety significance and has been entered into the corrective action program, it is being treated as a noncited violation consistent with Section VI.A of the Enforcement Policy: NCV 05000528; 05000529; 05000530/2006011-04, Inadequate Corrective Action for Degraded EW Heat Exchanger Performance. This issue was re-characterized from an AV to an NCV as a result of the Regulatory Conference conducted on November 20, 2006 and the final significance determination.
Inspection Report# : 2006011 *(pdf)*

Significance: G Sep 26, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE DESIGN CONTROL TO ENSURE NO ESSENTIAL COOLING WATER HEAT EXCHANGER SCALING - RECHARACTERIZED IN FINAL SIGNIFICANCE DETERMINATION LETTER TO BE A GREEN NCV.
Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified for failure to correctly evaluate the scaling potential of the safety-related heat exchangers cooled by the emergency spray pond during a design basis accident. An error in how the licensee interpreted the SEQUIL calculation caused the licensee to incorrectly conclude that scaling would not occur under the conditions established in the chemistry control program.

Failure to properly assess the impact of scaling on safety related heat exchangers cooled by the spray pond system was a performance deficiency. This finding was more than minor because it impacted the design control attribute of the Mitigating Systems Cornerstone objective to maintain the availability and reliability of systems needed to mitigate accidents. Specifically, post accident scaling was determined to reduce heat exchanger performance by 2.3 percent of the design capability in the first 24 hours, and up to 4 percent during the design mission time. A Phase 3 significance determination process concluded that this finding has very low safety significance. This finding had cross-cutting aspects in the area of Human Performance, under the Resource attribute, because the licensee failed to ensure that adequate procedures were available to ensure nuclear safety. This issue was documented in CRDR 2913430. Because this violation was of very low safety significance and has been entered into the corrective action program, it is being treated as a noncited violation consistent with Section VI.A of the Enforcement Policy: NCV 05000528; 05000529; 05000530/2006011-05, Inadequate Design Control to Ensure No EW Heat Exchanger Scaling. This issue was re-characterized from an AV to an NCV as a result of the Regulatory Conference conducted on November 20, 2006 and the final significance determination.
Inspection Report# : 2006011 *(pdf)*

Significance: G Mar 16, 2005
Identified By: NRC
Item Type: FIN Finding
FAILURE TO TRACK CONTROL ROOM DISCREPANCIES
The inspectors identified a finding for the failure to follow administrative guidelines provided to operations personnel for identifying, documenting, and tracking main control room deficiencies. Specifically, approximately 75 control room instrument and control room meter face plates in Units 1, 2, and 3 were degraded and were not individually tracked in the control room discrepancy log. Furthermore, discrepancy labels containing the control room discrepancy log number and description of the discrepancy were not placed adjacent to or as close as possible to each affected

device. This issue was entered into the corrective action program as Condition Report/Disposition Request 2782501.

The finding is determined to be greater than minor because if left uncorrected, it could become a more significant safety concern in that the condition could cause an operator to take an inappropriate action based on expected plant response or conversely cause an operator not to take action when action is required. The senior reactor analyst determined that this finding was not appropriate to be evaluated using the significance determination process since this finding was associated with multiple human performance actions. Based on management review, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and there was no adverse impact to plant equipment.

Inspection Report# : 2005002 *(pdf)*

Significance: Y Dec 09, 2004
Identified By: NRC
Item Type: VIO Violation
FAILURE TO MAINTAIN DESIGN CONTROL OF CONTAINMENT SUMP RECIRCULATION PIPING
The team identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to establish measures to assure design basis information was translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to maintain the safety injection sump suction piping full of water in accordance with the Updated Final Safety Analysis Report. This nonconformance had the potential to significantly affect the available net positive suction head described in the Updated Final Safety Analysis Report for the high pressure safety injection and containment spray pumps, since the analysis assumed the piping would be maintained full of water.
{Note: Finding remains open - IP 95002 results pending 12/16/2005}

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that the issue had substantial safety significance (Yellow). After considering the information developed during the inspection and the results of testing sponsored by the licensee, the NRC has concluded that this inspection finding is appropriately characterized as Yellow. The final Significance Determination Process letter was issued on April 8, 2005. This issue was inspected within the scope of a Supplemental 95002 Inspection in August - September 2005.

{NOTE: Yellow finding remains open because the corrective actions taken in response to the root causes and related programmatic concerns involving questioning attitude, technical rigor, and operability determinations have not been fully effective. - IP 95002 Supplemental Inspection completed December 2005, IR 05000528/20050112, 05000529/20050112 and 05000530/2005012, IP 95002 Followup Supplemental Inspection completed August 2006, IR 05000528/2006010, 05000529/2006010 and 05000530/2006010}
Inspection Report# : 2004014 *(pdf)*

Barrier Integrity

Significance: G Dec 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE ACCEPTANCE TESTING FOR THE UPGRADED REFUELING EQUIPMENT
The inspectors identified a noncited violation of 10 CFR Part 50, Criterion III, "Design Control," for the failure of engineering personnel to implement an adequate procedure for acceptance testing of the upgraded refueling equipment resulting in several malfunctions, including one that resulted in a fuel assembly contacting one of the storage baskets in the spent fuel pool at a higher than designed speed. Specifically, between October 8 and October 13, 2006, the site acceptance test procedures were not adequate to identify and prevent several malfunctions of the refueling equipment due to design and installation inadequacies of Design Modification Work Order 2778582. This issue was entered into

the licensee's corrective action program as Condition Report/Disposition Requests 2931991 and 2937420.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that refueling equipment malfunctions could result in damaged fuel. The finding affected the barrier integrity cornerstone. This finding cannot be evaluated by the significance determination process because Manual Chapter 0609, "Significance Determination Process," Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," and Appendix G, "Shutdown Operations Significance Determination Process," do not apply to the spent fuel pool or the refueling pool. This finding is determined to be of very low safety significance by NRC management review because it was a deficiency that did not result in the actual degradation of spent fuel
Inspection Report# : 2006005 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance: N/A Mar 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to follow a radiation exposure permit requirement
A self-revealing noncited violation of Technical Specification 5.7.1 was identified for the failure to follow a radiation exposure permit requirement. Specifically, on October 3, 2006, a mechanic entered a high radiation area without direct authorization and a specific briefing from radiation protection personnel. As a corrective action for this isolated case, the mechanic and his coworker were restricted from the radiologically controlled area until re-authorized by the director of radiation protection and appropriate disciplinary actions were taken. The licensee entered this into their corrective action program as Condition Report/Disposition Request 2929853.

The finding was greater than minor because it is associated with the occupational radiation safety exposure control attribute and affected the cornerstone objective to ensure the adequate protection of the worker health and safety from exposure to radiation. The failure to follow a radiation exposure permit requirement for a high radiation area led to unintended and additional personnel dose. The finding was determined to be of very low safety significance because it did not involve: (1) as low as reasonably achievable (ALARA) planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. This finding had a crosscutting aspect in human performance associated with work practices because the mechanics did not use human error prevention techniques such as self and peer checking so that work activities were performed safely.
Inspection Report# : 2007002 *(pdf)*

Public Radiation Safety

Significance:  Feb 22, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to control the release of radioactive material
A self-revealing, noncited violation of Technical Specification 5.4.1 was reviewed regarding the failure to control the release of radioactive material. On February 2, 2006, the licensee was notified by another site that equipment received was labeled as radioactive material. Specifically, five items, with a maximum activity of 280 counts per minute, were inappropriately released from the radiologically controlled area and subsequently the protected area. The licensee's corrective actions include evaluating and implementing changes to the material release program and processes.

The finding is greater than minor because it was associated with the Public Radiation Safety cornerstone attribute of

human performance and affected the associated cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation. Using the Public Radiation Safety Significance Determination Process, the team determined that the finding had very low safety significance because: (1) it was a radioactive material control finding, (2) it was not a transportation finding, (3) it did not result in public dose greater than 0.005 rem, and (4) the number of occurrences was not greater than five. In addition, this finding had a human performance cross-cutting aspect associated with work practices because the licensee failed to ensure supervisory and management oversight of work activities, including contractors
Inspection Report# : 2007010 *(pdf)*

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Feb 09, 2007
Identified By: NRC
Item Type: FIN Finding
Summary Finding. Biennial PI&R Assessment
The team concluded that the thresholds for identifying and classifying issues were appropriately low, although several instances were identified where new aspects to complex problems were identified but not broken out and addressed properly. Numerous changes were made to the corrective action program and some improvement was evident, but some of the changes were not yet fully effective. The new Palo Verde Action Request was introduced, and senior managers were assigned to determine which actions were required in order to improve the consistency of problem treatment. Problems involving operability questions were getting to control room operators more consistently, but NRC inspectors continued to identify operability concerns that were missed by the licensee. However, having the Action Request Review Committee review all problem reports created a bottleneck in the process, creating delays in getting problems from the identification to a working stage. Problems continue to exist in the quality of problem description and significance determination. The timeliness of problem cause evaluations were improving due to management attention, but were still several times longer than station goals and industry standards.

Palo Verde Nuclear Generating Station continued to have a large number of latent equipment issues. Numerous longstanding material conditions exist which have received limited assessments and get added to the backlog with routine priority. The NRC continued to identify examples where the significance was underestimated by the licensee and were not being addressed with the timeliness commensurate with the actual safety significance until the NRC gets involved.

The team noted that significant challenges have been created because there are large backlogs of work affecting work control, maintenance support, and a variety of engineering activities. These backlogs are affecting the site's ability to address problems in a timely manner. It is apparent that these backlogs have built up over a period of years with the knowledge of management.

The Nuclear Assurance Department was active in the internal oversight role and focused on current performance problems, issuing reports that provided useful assessments. Other self-assessments reviewed were frequently narrow in scope and of limited depth. Interviews with site workers indicated that a safety-conscious work environment exists at Palo Verde Nuclear Generating Station, and that workers had an improved confidence in the strength of the safety culture. However, there was less confidence that routine priority issues will get addressed in a timely manner.
Inspection Report# : 2007007 *(pdf)*

Last modified : August 24, 2007

Palo Verde 2
3Q/2007 Plant Inspection Findings

Initiating Events

Significance: G Jun 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO SCOPE CONDENSATE DEMINERALIZER VALVE INTO MAINTENANCE RULE
A self-revealing noncited violation of 10 CFR 50.65(b) was identified for the failure of engineering personnel to place some components of the condensate demineralizer system into the scope of its program for monitoring the effectiveness of maintenance. Specifically, on October 19, 2006, Unit 3 reactor was manually tripped when condenser vacuum was degraded due to the failure of condensate demineralizer vessel waste drain Valve 3JSCNUV0232. Prior operating experience at Palo Verde demonstrated that the failure of Valve 3JSCNUV0232 could result in a reactor trip. However, the licensee did not appropriately scope Valve 3JSCNUV0232 into its program for monitoring the effectiveness of maintenance. This issue was entered into the corrective action program as Condition Report/Disposition Request 3035444.

The finding is greater than minor because it is associated with the initiating events cornerstone attribute of equipment performance and affects the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance since it does not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available.
Inspection Report# : 2007003 *(pdf)*

Significance: G Jun 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO APPLY INDUSTRY OPERATING EXPERIENCE TO MAINTENANCE ACTIVITIES RESULTS IN A PLANT TRANSIENT
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," for the failure of inservice inspection personnel to promptly identify and correct a condition adverse to quality. Specifically, since April 19, 2006, floor-welded spray pond pipe Supports 13-SP-030-H-007 and 13-SP-030-H-008 in the essential pipe density tunnel became degraded at the weld due to long term standing water in the tunnel. The licensee thought these supports had been previously identified and placed in the corrective action program, but that was not the case. This issue was entered into the corrective action program as Palo Verde Action Request 2989960.

The finding is greater than minor because if left uncorrected the degradation would have led to a more significant safety concern. The finding is associated with the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance since it only affected the mitigating systems cornerstone and did not represent a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. The cause of the finding is also related to the crosscutting aspect of problem identification and resolution with a corrective action program causal factor because the threshold for identifying issues was not sufficiently low and the degraded supports were not identified completely, accurately, and in a timely manner commensurate with their safety significance (P.1. (a)).
Inspection Report# : 2007003 *(pdf)*

Significance: G Dec 31, 2006

Identified By: Self-Revealing
Item Type: NCV NonCited Violation
INADEQUATE PROCEDURE USED FOR MAINTENANCE RESULTS IN REACTOR TRIP
A self-revealing noncited violation of Technical Specification 5.4.1.a was identified for the failure of maintenance personnel to use an adequate procedure for the repairs and restoration of control Valve 2, resulting in a reactor trip during main turbine control valve restoration. Specifically, on July 26, 2006, maintenance personnel used Procedure 40OP-9MT02, "Main Turbine," Revision 53, for performing repairs and restoring control Valve 2 in a way that was beyond the scope of the procedure. The use of the inadequate procedure resulted in a plant transient and reactor trip. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2913232.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that more significant consequences would occur if inadequate procedures are used for plant maintenance. The finding affected the initiating events cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the condition only affected the initiating events cornerstone and did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. This finding has a crosscutting aspect in the area of human performance associated with work control because the licensee did not appropriately coordinate work activities by incorporating actions to address the impact of changes to the work scope of the maintenance procedure
Inspection Report# : 2006005 *(pdf)*

Mitigating Systems

Significance: G May 25, 2007
Identified By: NRC
Item Type: FIN Finding
Ineffective Demonstration of Conformance to Design for the Alternate ac Power Sources
The team identified a finding involving the implementation of Regulatory Guide 1.155, Station Blackout, Appendix A, for the demonstration of the station backout generator design and system readiness requirements. Specifically, established preventive maintenance tasks did not demonstrate that the coping requirements for the station blackout generator would be met for the approved increase from the 4-hour to 16-hour coping duration that, at the time this finding was identified, would become effective the following month. The licensee has entered this finding into their corrective action program as Palo Verde Action Request PVAR 2982699.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected following the implementation of the 16-hour coping duration. The finding affected the mitigating systems cornerstone attributes to ensure the availability of the station blackout generators to respond to initiating events necessary to prevent undesirable consequences. Using the NRC Inspection Manual Chapter 0609, Significance Determination Process, Phase 1 Worksheet, the team determined that this finding had very low safety significance because there was not a loss of system function and it did not involve an external event. The cause of the finding was related to the crosscutting element of decision making associated with human performance for the failure to adequately evaluate the design and system readiness requirements for the station blackout generators for the approved license amendment that, at the time the finding was identified, would, increase the coping period to 16-hours.
Inspection Report# : 2007011 *(pdf)*

Significance: G May 25, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Control of Design Information for the Station Blackout System
The team identified a noncited violation of very low safety significance for the failure to implement the design control requirements of Regulatory Guide 1.155, Station Blackout, Appendix A, Criterion 1, Design Control and Procurement Control, to 10 CFR 50.63, Loss of All Alternating Current. Specifically, approved Design Change DMWO 2827452 did not account for key station blackout generator performance parameters that included fuel and lubricating oil

consumption rates and required station blackout battery capacity for an increase in the station blackout coping period from 4 to16-hours.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that the critical performance parameters for ensuring the station blackout generators would meet the 16-hour coping requirement were not established. The finding affected the mitigating systems cornerstone attributes to ensure the availability of the station blackout generators to respond to initiating events necessary to prevent undesirable consequences. Using the NRC Inspection Manual Chapter 0609, Significance Determination Process, Phase 1 Worksheet, the team determined that this finding had very low safety significance because there was not a loss of system function and it did not involve an external event. The cause of the finding was related to the crosscutting element of decision making associated with human performance for the failure to evaluate the key performance parameters for the station blackout generators for the approved license amendment that increased the coping period to 16-hours. (Section 1R21b.2.)

Inspection Report# : 2007011 *(pdf)*

Significance: G May 25, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Non-conservative Containment Sump Level Analysis
The team identified a noncited violation of very low safety significance of 10 CFR Part 50, Appendix B, Criterion III, Design Control. Specifically, the design calculation that determined the minimum containment flood level following a loss-of-coolant accident was not based on the most limiting reactor coolant system break location. The calculated containment flood level was used to verify the adequacy of the available net positive suction head for the emergency core cooling pumps that would take suction from the containment sump during the recirculation phase of a postulated loss-of-coolant accident. The licensee has entered this issue into their corrective action program as Palo Verde Action Request PVAR 2981257.

This finding is greater than minor because this issue required accident analysis calculations to be re-performed to assure the accident requirements were met. The finding affected the mitigating systems cornerstone as related to the availability, reliability, and capability of the emergency core cooling system for post-loss-of-cooling accident. In accordance with Inspection Manual Chapter 0609, Significance Determination Process, Appendix A, Significance Determination of Reactor Inspection Findings for At-Power Situations, the team conducted a Phase 1 screening and determined the finding was of very low safety significance because it did not represent an actual loss of safety function. This deficiency would not have resulted in the emergency core cooling pumps becoming inoperable under the most limiting postulated accident conditions. This finding has cross-cutting aspects associated with corrective action of the problem identification and resolution area to ensure that issues potentially impacting nuclear safety are promptly identified, fully evaluated and that actions are taken to address safety issues in a timely manner.
Inspection Report# : 2007011 *(pdf)*

Significance: G May 25, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Ineffective Maintenance on Target Rock Solenoid-Operated Valves
The team identified a noncited violation of very low safety significance of 10 CFR Part 50, Criterion XVI, Corrective Actions, for the failure to identify and correct significant conditions adverse to quality involving Target Rock valve failures. The licensee has entered this issue into their corrective action program as Palo Verde Nuclear Generating Station Action Requests PVAR 2984832 and 2985372.

The failure to identify and correct the cause(s) of turbine-driven auxiliary feedwater pump Target Rock solenoid-operated valves was a performance deficiency. This issue is more than minor because it is associated separately with the mitigating systems cornerstone and on one occasion affected the containment barrier integrity cornerstone. This finding has cross-cutting aspects associated with corrective action of the problem identification and resolution area to ensure that issues potentially impacting nuclear safety are promptly identified, fully evaluated and that actions are taken to address safety issues in a timely manner.
Inspection Report# : 2007011 *(pdf)*

Significance: G Mar 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Change to Emergency Diesel Generator Intake Air Oil Bath Filter Standby Oil Level Specification
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure of engineering personnel to verify or check the adequacy of design for maintaining the emergency diesel generator air intake oil bath filters' oil level below the "add oil" mark. Specifically, from approximately November 1994 to January 24, 2007, engineering personnel failed to translate vendor requirements for the Air Maze oil bath air filter oil level into an appropriate operating band. This issue was entered into the corrective action program as Condition Report/Disposition Request 2963525.

The finding is greater than minor because it is associated with the design control attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to be of very low safety significance because it did not represent an actual loss of system safety function, did not represent an actual loss of a single train for greater than its technical specification allowed outage time, and the finding did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event.
Inspection Report# : 2007002 *(pdf)*

Significance: G Mar 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify Misalignment of Spring Cans
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure of inservice inspection personnel to promptly identify misalignment of spring cans on safety-related piping. Specifically, between April 2005 and May 2006, inservice inspection personnel failed to identify misalignment of spring cans associated with the auxiliary feedwater system and the emergency diesel generators. Section 8.3.5 of Procedure 73TI-9ZZ18 required that the examination of piping systems should be directed to detect any relevant conditions, including misalignment of supports. This issue was entered into the corrective action program as Palo Verde Action Request 2980767.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that the failure to identify degraded and non-conforming equipment conditions could impact the availability of mitigating equipment. The finding affected the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance since it did not represent a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic flooding, or severe weather initiating event. The finding has a crosscutting aspect in the area of problem identification and resolution, associated with corrective action program, since inservice inspection personnel had an inappropriately high threshold for recognizing the misalignment of spring cans on safety-related piping.
Inspection Report# : 2007002 *(pdf)*

Significance: G Mar 31, 2007
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate Monitoring of CEA Position Results in Technical Specification Violation
A self-revealing noncited violation of Technical Specification 3.1.6 was identified during the performance of surveillance testing of the control element assemblies when more than one shutdown control element assembly was less than 144.75 inches withdrawn. Specifically, on February 3, 2007, while performing surveillance Procedure 40ST-9SF01, "CEA Operability Checks," Revision 21, more than one control element assembly was less than 144.75 inches withdrawn. Operations personnel did not use all available control element assembly position indications while verifying movement of the four control element assemblies in shutdown Subgroup 6 to ensure that each control element assembly was withdrawn greater than 144.75 prior to movement of the next control element assembly. This issue was entered into the corrective action program as Condition Report/Disposition Request 2967976.

The finding is greater than minor because it is associated with the mitigating systems cornerstone attribute of procedure quality and affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding is also associated with the barrier integrity cornerstone attribute of configuration control and affects the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radio nuclide releases caused by accidents or events. Using the Manual Chapter 0609, “Significance Determination Process," Phase 1 Worksheet, a Phase 2 analysis is required since two cornerstones are degraded. Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," was used since the Significance Determination Process methods and tools were not adequate to determine the significance of the finding. The finding is determined to have very low safety significance through management review since it did not represent a loss of system safety function, in that the control element assemblies were still capable of shutting down the reactor in response to any postulated accident. This finding has a crosscutting aspect in the area of a problem identification and resolution associated with corrective action program, because the licensee failed to thoroughly evaluate the problem described in Condition Report/Disposition Request 2760855 such that the issue was resolved. This finding also has a crosscutting aspect in the area of human performance associated with work practices because operations personnel did not appropriately self and peer check all available control element assembly position indications to ensure proper system response.
Inspection Report# : 2007002 *(pdf)*

Significance: G Mar 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain EDG Train B Operable
The inspectors identified a noncited violation of Technical Specification 3.8.1 for exceeding the allowed outage time for the Unit 2 emergency diesel generator, Train B. Specifically, for the period between May 14, 2005 and November 3, 2005, the licensee failed to maintain the emergency diesel generator Train B operable. The licensee did not identify a condition in which the associated fuel oil suction strainers and discharge filters were fouling, resulting in the emergency diesel generator Train B being unable to supply Train B of the onsite Class 1E AC Electrical Power Distribution System without significant operations and maintenance personnel actions. The licensee entered this into their corrective action program as Condition Report/Disposition Request 2963482.

This finding is more than minor because the failure to identify and correct this deficiency would become a more significant safety concern in that the performance of emergency diesel generator Train B could be reduced, due to fuel starvation to the engine, to the point that the unit would not be able to carry essential electrical loads in the event of a loss of off-site electrical power. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding was determined to have very low safety significance because it did not result in an actual loss of safety function for greater than its technical specification allowed outage time. The finding has a crosscutting aspect in the area of problem identification and resolution, associated with corrective action program, since the licensee failed to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.
Inspection Report# : 2007002 *(pdf)*

Significance: G Feb 09, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Technical Evaluation of HPSI Pump Bearing Oil Leaks
A noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," with two examples was identified for two inadequate operability evaluations. Prompt operability determinations in CRDRs 2941494 and 2303499 incorrectly concluded that High Pressure Safety Injection Pumps 2A and 3A, respectively, could meet their mission time with existing oil leakage from the bearings. The team concluded that these evaluations relied upon unverified and incorrect assumptions and non-conservative volumes. The apparent cause evaluation for the leakage identified contributing causes that were common to all pumps, but the operability of the other pumps was not assessed. The team identified a history of small oil leaks in high pressure safety injection pumps since 2000, but the licensee was unaware of this trend. Subsequent testing confirmed that five of the six high pressure safety injection pumps had oil leakage which would not allow running those pumps for the full mission time, but sufficient oil was available to run for at least 94 days. This finding was determined to have cross-cutting aspects in the human

performance area of decision-making, because the licensee did not use conservative assumptions and demonstrate that the proposed course of action was safe.

Failure to adequately evaluate and correct oil leakage in High Pressure Safety Injection Pumps 2A and 3A, and failure to assess the extent of condition for similar pumps, was a performance deficiency. The finding was more than minor because it affected the equipment performance attribute of the mitigating systems cornerstone objective of ensuring the availability and reliability of a system that responds to initiating events. This finding screened as Green during Phase 1 of the significance determination process because it did not involve a loss of safety function. This issue was entered into the corrective action program under Condition Report/Disposition Report 2973682.
Inspection Report# : 2007007 *(pdf)*

Significance: G Feb 09, 2007
Identified By: NRC
Item Type: FIN Finding
Preventive Maintenance Change Backlog Was Not Tracking Due Dates
A finding was identified for failure to schedule and perform preventive maintenance tasks that were in the preventive maintenance change process. The team identified that a backlog of over 2500 preventive maintenance changes existed which resulted in these preventive maintenance tasks not being scheduled or performed, potentially challenging completion within the specified frequency. The team found 438 examples of preventive maintenance tasks that were overdue, and an additional 2113 that had no due date assigned yet. This program was used to revise both safety-related and non-safety preventive maintenance tasks. Because these preventive maintenance tasks were in the change process, the tasks were not scheduled or tracked in a way that would show when they became overdue. This was contrary to Procedure 30DP-9MP08, “Preventive Maintenance Program,” Revision 17, which required that “no preventive maintenance on operational equipment shall pass that late date without an approved deferral which will address a technical justification for the identified issue.” This finding had human performance cross-cutting aspects associated with resources because the large backlog of preventive maintenance tasks was contrary to maintaining long-term equipment reliability.

Failure to track, schedule, and perform preventive maintenance activities within their specified frequencies in accordance with their preventive maintenance program was a performance deficiency. This finding was determined to be more than minor because, if left uncorrected, it could become a more significant safety concern in that the lack of preventive maintenance would affect the reliability of plant equipment which could impact the initiating events or mitigating systems cornerstones. Because of the large number of preventive maintenance tasks (over 2500) in this category, the team reviewed a sample of 79 tasks associated with safety-related or quality-class components to assess the significance. The team did not identify any examples of overdue safety-related tasks. Based on the lack of risk significant examples and the fact that this finding is not suitable for significance determination process evaluation, this issue was reviewed by NRC management and was determined to be a finding of very low safety significance. This issue was entered into the corrective action program under Palo Verde Action Request 2970076.
Inspection Report# : 2007007 *(pdf)*

Significance: G Dec 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
SCAFFOLDING ERECTED WITH INADEQUATE CLEARANCES AND NO ENGINEERING EVALUATION
The inspectors identified a noncited violation of Technical Specification 5.4.1.a for the failure of maintenance and engineering personnel to follow Procedure 30DP-9WP11, "Scaffolding Instructions," Revision 13, and associated engineering specifications governing scaffold erection near safety-related components. Specifically, on September 13, 2006, inspectors identified three scaffolds that were within 2 inches of safety-related components. The scaffolding did not have an engineering evaluation in place, nor were there any documented records of engineering evaluations for any other scaffolding on site. Again on October 3, 2006, the inspectors identified two scaffolds that were directly attached to the fuel and auxiliary building essential air handling units, without the required evaluations. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Requests 2924707 and 2929770.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that

improperly installed scaffolding could impact the availability of mitigating equipment. The finding affected the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and all subsequent engineering evaluations determined that there was no adverse effect to mitigating equipment. This finding has a crosscutting aspect in the area of human performance associated with work control because the licensee did not appropriately coordinate work activities to keep personnel apprised of the operational impact of work activities. Additionally, this finding has a crosscutting aspect in the area of problem identification and resolution associated with corrective actions in that the licensee did not take appropriate corrective actions to address safety issues in a timely manner
Inspection Report# : 2006005 *(pdf)*

Significance: G Dec 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO MAINTAIN SEISMIC QUALIFICATION OF POST ACCIDENT MONITORING INSTRUMENTATION
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the improper control of design parameters for post accident monitoring instrumentation by operations personnel. Specifically, prior to November 22, 2006, operations personnel did not maintain the seismic qualification of post accident monitoring instrumentation, by pulling recorders out from the fully inserted position for extended periods. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2945259.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that safety-related equipment that is not maintained in a seismically qualified condition may not be available to perform its safety function under certain accident conditions. The finding affected the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it did not affect the loss or degradation of equipment specifically designed to mitigate a seismic event, and it did not involve the total loss of any safety function that contributes to external event initiated core damage accident sequences
Inspection Report# : 2006005 *(pdf)*

Significance: G Dec 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM AN ADEQUATE ROOT CAUSE ANALYSIS FOR VALVE SI-225
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure of the licensee to adequately evaluate and identify the cause for a degraded material condition associated with Unit 2 Valve SI-225 following a failure of the valve to fully close on November 30, 2000. Specifically, the licensee did not have any data to support their root cause evaluation and could not validate the failure mechanism that prevented Valve SI-225 from fully closing. The failure to identify the cause and implement corrective actions resulted in the failure of Valve SI-134 in October 2006 and the continued degradation of additional safety injection system check valves. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2942970.

The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the condition only affected the mitigating systems cornerstone and did not result in the actual loss of safety function to any component, train, or system. This finding has a crosscutting aspect in the area of problem identification and resolution because the licensee failed to thoroughly evaluate a problem that was known to exist since November 2000
Inspection Report# : 2006005 *(pdf)*

Significance: G Dec 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO MAINTAIN PROCEDURES AND INSTRUCTIONS
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Actions,” for the failure to promptly identify and correct a condition adverse to quality. Specifically, since 1992, the licensee failed to maintain procedures and written instructions in accordance with quality assurance program requirements, including, periodic procedural reviews and implementation of the procedure feedback process. These issues resulted in a significant number of deficient procedures and instructions not being corrected in a timely manner and not receiving adequate reviews. One example involved the failure to provide adequate instructions for mounting temperature element housings adversely affecting seismic qualifications required to protect the functionality of safety related equipment. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2952142.

This finding is greater than minor because the failure to identify and correct deficient procedures, if left uncorrected, would become a more significant safety concern in that quality related systems, structures, and components could be adversely affected by implementing inadequate instructions. Using the Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheet, the finding is determined to have very low safety significance because it did not result in loss of operability per, “Part 9900, Technical Guidance, Operability Determination Process for Operability and Functional Assessment.” This finding involved problem identification and resolution crosscutting aspects associated with the failure to promptly identify and correct deficient procedures/instructions resulting in the potential to adversely affect quality related systems, structures, and components
Inspection Report# : 2006005 *(pdf)*

Significance: G Dec 31, 2006
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW PROCEDURES RESULTS IN LOSS OF PLANT CONFIGURATION CONTROL
Two examples of a self-revealing noncited violation of Technical Specification 5.4.1.a were identified for the failure of operations personnel to properly implement procedures to ensure the correct configuration of equipment during plant evolutions. Specifically, twice on November 4, 2006, operations personnel failed to restore the containment spray system to standby operations for shutdown cooling per Procedures 73ST-9XI33, "HPSI Pump and Check Valve Full Flow Test," and 40ST-9SI09, "ECCS System leak Test," following surveillance testing to satisfy the entry conditions for Procedure 40OP-9SI01, "Shutdown Cooling Initiation." This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2939686.

The finding is greater than minor because it is associated with the configuration control cornerstone attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609, "Significance Determination Process," Appendix G, "Shutdown Operations Significance Determination Process," Checklist 3, and is determined to have very low safety significance because the finding did not result in an increase of the likelihood of a loss of decay heat removal due to failure of the system, nor did it degrade the ability of containment to remain intact following an accident. Additionally, the finding did not degrade the licensee's ability to terminate a leak path, add reactor coolant system inventory, recover decay heat removal once it is lost, or establish an alternate core cooling path. Lastly, the finding did not increase the likelihood of a loss of reactor coolant system inventory, or offsite power. This finding has a crosscutting aspect in the area of human performance associated with work control because the licensee did not appropriately coordinate work activities by communicating, coordinating, and cooperating with each other during surveillance testing activities
Inspection Report# : 2006005 *(pdf)*

Significance: G Nov 30, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IMPLEMENT THE OPERABILITY DETERMINATION PROCESS
The team identified two examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions,

Procedures, and Drawings," for the failure to perform operabilty determinations. In both examples, the licensee failed to perform an operability determination following identification of a degraded condition that had the potential to adversely affect the safety function of all emergency diesel generators. Specifically, an operability determination was not performed after identifying the failure of the Unit 3 Train A emergency diesel generator on July 25, 2006, was potentially the result of plastic debris affecting proper auxiliary contact operation of a K-1 relay. The licensee determined the debris most likely originated from a modification performed on all emergency diesel generator K-1 relays during initial plant startup. Following another failure of the Unit 3 Train A emergency diesel generator on September 22, 2006, an operability determination was not performed after identifying the failure was the result of the K-1 relay actuating arm not providing adequate compression of the auxiliary contacts. The licensee determined this degraded condition most likely originated during implementation a modification done to all emergency diesel generator K-1 relays during initial plant startup.

This finding is greater than minor because the failure to follow the operability determination process, if left uncorrected, would become a more significant safety concern in that degraded or nonconforming conditions would not be properly evaluated. Using the Phase 1 worksheet in NRC Inspection Manual Chapter 0609, "Significance Determination Process," the finding was determined to have very low safety significance because unreliable K-1 relay operation resulted in no actual loss of safety function of the other five emergency diesel generators prior to corrective actions being implemented, and the finding did not represent a potential risk significant condition because of a seismic, flooding, or severe weather event. This issue is documented in the licensee's corrective action program as Condition Report/Disposition Requests 2928389 and 2940558. The cause of this finding is related to the crosscutting element of problem identification and resolution in that engineering personnel failed to properly evaluate and perform operability determinations for identified degraded conditions affecting the emergency diesel generators.
Inspection Report# : 2006012 *(pdf)*

Significance: G Nov 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE CORRECTIVE ACTIONS TO PRECLUDE WATER INTRUSION AND CORROSION OF UNDERGROUND PIPING AT THE FACILITY
The inspectors identified multiple examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for failing to promptly correct water intrusion problems in multiple areas in the facility, that were identified and examined from January 1991 to April 2006. Specifically, the licensee failed to promptly correct the water intrusion problems in the facility piping vaults and manholes. This finding also had aspects of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for failing to maintain a vault in its watertight design condition and to coat exposed piping with its specified coating to ensure corrosion protection. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Requests 2885972, 2880283, and 2902572.

The finding is greater than minor because it is associated with the equipment performance cornerstone attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609," Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the condition only affected the mitigating systems cornerstone and there was no actual loss of piping material that exceeded the minimum allowable wall thickness or a loss of safety function that exceeded Technical Specification allowed outage times. This finding has a crosscutting aspect in the area of problem identification and resolution because the licensee failed to thoroughly evaluate a problem that existed from 1992 to April 2006. The failure to promptly correct this condition resulted in the degradation of the wall thickness of the spray pond piping and the Unit 3 emergency diesel generator Train A being declared inoperable after the fuel transfer pump did not meet the acceptance criteria during a surveillance
Inspection Report# : 2006004 *(pdf)*

Significance: G Nov 03, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IDENTIFY CONDITIONS ADVERSE TO QUALITY FOR THE EMERGENCY DIESEL GENERATORS
The inspectors identified multiple examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI,

"Corrective Action," for failing to identify degraded material conditions on the emergency diesel generators. Between July and September 2006, operations and engineering personnel did not promptly identify and correct material conditions adverse to quality. Specifically, operations and engineering personnel did not identify numerous fluid leaks, and loose and missing fasteners on the emergency diesel generator skid, and did not enter them in the corrective action program. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2914886.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that unidentified conditions adverse to quality could challenge the operability of equipment important to safety. The finding affected the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the finding did not result in the actual loss of safety function to any component, train, or system. This finding has a crosscutting aspect in the area of problem identification and resolution because failing to implement the corrective action program with a low threshold for identifying adverse material conditions resulted in degradation of the emergency diesel generators which was not being tracked and evaluated
Inspection Report# : 2006004 *(pdf)*

Significance: N/A Nov 03, 2006
Identified By: NRC
Item Type: FIN Finding
FAILURE TO SUBMIT COMPLETE REVISIONS TO THE UPDATED FINAL SAFETY ANALYSIS REPORT FOR PERMANENT MODIFICATIONS
The inspectors identified a violation of 10 CFR 50.71(e)(4), for which enforcement discretion was exercised, that involved the failure to file revisions to the Updated Final Safety Analysis Report. Specifically, for the reporting period between January 2003 and December 2005, licensing personnel failed to submit a revision to the Updated Final Safety Analysis Report reflecting core protection calculator system modifications. The issued was entered into the licensee's corrective action program as Condition Report/Disposition Request 2894635.

The performance deficiency associated with this finding involved the failure of licensee personnel to submit revisions to the Updated Final Safety Analysis Report reflecting modifications installed in Unit 2 for more than 24 months. The finding was determined to be applicable to traditional enforcement because the NRC's ability to perform its regulatory function was potentially impacted by the licensee's failure to revise the Updated Final Safety Analysis Report in a timely manner. Normally, the violation would be categorized at Severity Level IV in accordance with Section D.4 of Supplement I of the NRC Enforcement Policy. However, in accordance with Section VII.B.6 of the NRC Enforcement Policy, the NRC is refraining from taking enforcement action because of the NRC action taken in 1993 to issue and then retract a similar occurrence and the low safety significance of the finding (EA-06-267). The finding is not suitable for evaluation using the significance determination process, but has been reviewed by NRC management and is determined to be a finding of very low safety significance.

Inspection Report# : 2006004 *(pdf)*

Significance: N/A Sep 30, 2006
Identified By: NRC
Item Type: FIN Finding
SUMMARY FINDING. 95002 TEAMS ASSESSMENT OF IR 2004-14 (YELLOW) 10 CFR PART 50, APPENDIX B, CRITERION III, VIOLATION
The NRC performed a followup supplemental inspection to assess the licensee's corrective actions associated with a Yellow design control finding involving the potential for air entrainment into the emergency core cooling system. The team concluded that the technical issues specifically associated with the voided emergency core cooling system piping have been addressed. However, the Yellow finding will remain open because the licensee did not implement effective corrective actions for all of the causes associated with the Yellow finding. Specifically, the licensee's actions to improve questioning attitude, technical rigor, and technical review were not fully effective. Also, the implementation of performance measures and metrics to monitor the effectiveness of corrective actions associated with the Yellow finding were not adequate to assess effectiveness. This performance issue was previously characterized as a 10 CFR Part 50, Appendix B, Criterion III, violation having substantial safety significance (Yellow), and was originally identified in NRC Inspection Report 05000528; 05000529; 05000530/2004014.

The licensee's corrective actions taken in response to the root causes and related programmatic concerns involving

questioning attitude, technical rigor, and technical review have not been completely effective. Specifically, following implementation of corrective actions between September 2005 and March 2006, the licensee: (1) continued to conduct inadequate technical reviews of emerging issues; (2) did not routinely question the validity of engineering assumptions used to support operability decisions; (3) did not consistently implement a qualify, validate, and verify process; and (4) did not consistently notify operations personnel of immediate operability concerns.

The team concluded that adequate qualitative or quantitative measures for determining the effectiveness of the corrective actions to prevent recurrence have not been established. For example, not all relevant performance data was considered when performance monitoring measures were developed to assess the effectiveness of corrective actions. When the pertinent data was considered, or otherwise clarified, the performance measures suggested declining rather than improving performance in some areas.

The team also concluded that the licensee had not completed adequate reviews of the effectiveness of corrective actions prior to their notifying the NRC of their readiness for inspection of the Yellow finding. Specifically, several assessments were completed after the requested dated of the inspection (June 2006). Several of the assessments noted that insufficient progress in resolving some of the root and contributing causes had been made. Additionally, a standard guideline for metrics was not issued and implemented until July 2006.

Inspection Report# : 2006010 *(pdf)*

Significance:  Mar 16, 2005
Identified By: NRC
Item Type: FIN Finding
FAILURE TO TRACK CONTROL ROOM DISCREPANCIES
The inspectors identified a finding for the failure to follow administrative guidelines provided to operations personnel for identifying, documenting, and tracking main control room deficiencies. Specifically, approximately 75 control room instrument and control room meter face plates in Units 1, 2, and 3 were degraded and were not individually tracked in the control room discrepancy log. Furthermore, discrepancy labels containing the control room discrepancy log number and description of the discrepancy were not placed adjacent to or as close as possible to each affected device. This issue was entered into the corrective action program as Condition Report/Disposition Request 2782501.

The finding is determined to be greater than minor because if left uncorrected, it could become a more significant safety concern in that the condition could cause an operator to take an inappropriate action based on expected plant response or conversely cause an operator not to take action when action is required. The senior reactor analyst determined that this finding was not appropriate to be evaluated using the significance determination process since this finding was associated with multiple human performance actions. Based on management review, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and there was no adverse impact to plant equipment.

Inspection Report# : 2005002 *(pdf)*

Significance:  Dec 09, 2004
Identified By: NRC
Item Type: VIO Violation
FAILURE TO MAINTAIN DESIGN CONTROL OF CONTAINMENT SUMP RECIRCULATION PIPING
The team identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to establish measures to assure design basis information was translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to maintain the safety injection sump suction piping full of water in accordance with the Updated Final Safety Analysis Report. This nonconformance had the potential to significantly affect the available net positive suction head described in the Updated Final Safety Analysis Report for the high pressure safety injection and containment spray pumps, since the analysis assumed the piping would be maintained full of water.
{Note: Finding remains open - IP 95002 results pending 12/16/2005}

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and

capability of systems that respond to initiating events. The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that the issue had substantial safety significance (Yellow). After considering the information developed during the inspection and the results of testing sponsored by the licensee, the NRC has concluded that this inspection finding is appropriately characterized as Yellow. The final Significance Determination Process letter was issued on April 8, 2005. This issue was inspected within the scope of a Supplemental 95002 Inspection in August - September 2005.

{NOTE: Yellow finding remains open because the corrective actions taken in response to the root causes and related programmatic concerns involving questioning attitude, technical rigor, and operability determinations have not been fully effective. - IP 95002 Supplemental Inspection completed December 2005, IR 05000528/20050112, 05000529/20050112 and 05000530/2005012, IP 95002 Followup Supplemental Inspection completed August 2006, IR 05000528/2006010, 05000529/2006010 and 05000530/2006010}
Inspection Report# : 2004014 *(pdf)*

Barrier Integrity

Significance: G Dec 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE ACCEPTANCE TESTING FOR THE UPGRADED REFUELING EQUIPMENT
The inspectors identified a noncited violation of 10 CFR Part 50, Criterion III, "Design Control," for the failure of engineering personnel to implement an adequate procedure for acceptance testing of the upgraded refueling equipment resulting in several malfunctions, including one that resulted in a fuel assembly contacting one of the storage baskets in the spent fuel pool at a higher than designed speed. Specifically, between October 8 and October 13, 2006, the site acceptance test procedures were not adequate to identify and prevent several malfunctions of the refueling equipment due to design and installation inadequacies of Design Modification Work Order 2778582. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Requests 2931991 and 2937420.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that refueling equipment malfunctions could result in damaged fuel. The finding affected the barrier integrity cornerstone. This finding cannot be evaluated by the significance determination process because Manual Chapter 0609, "Significance Determination Process," Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," and Appendix G, "Shutdown Operations Significance Determination Process," do not apply to the spent fuel pool or the refueling pool. This finding is determined to be of very low safety significance by NRC management review because it was a deficiency that did not result in the actual degradation of spent fuel
Inspection Report# : 2006005 *(pdf)*

Emergency Preparedness

Significance: G Sep 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IDENTIFY AND CRITIQUE AN EVENT CLASSIFICATION WEAKNESS
The inspectors identified a noncited violation of 10 CFR 50.54(q) for failure of the emergency planning organization's emergency exercise critique process to identify for correction an emergency plan weakness associated with a risk significant planning standard. Specifically, during the critique of the Emergency Preparedness portion of the August 22, 2007, Force-On-Force exercise, the licensee failed to identify for correction an event classification weakness. The weakness occurred during the exercise when the shift manager did not recognize a credible security threat notification was made to the facility. As a result, the shift manager did not declare a Notice of Unusual Event as required by EPIP-99, Appendix A, "Emergency Actions Levels - EAL 7-1." This issue was entered into the licensee’s corrective action program as Condition Report/Disposition Request 3056153.

This finding is greater than minor because it is associated with the Emergency Response Organization Performance attribute of the Emergency Preparedness Cornerstone and affects the cornerstone objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. In accordance with Manual Chapter 0609, "Significance Determination Process," Appendix B, Emergency Preparedness Significance Determination Process, this finding is determined to have very low safety significance because, although it was a failure to comply with NRC requirements, it did not involve the risk-significant aspects of a planning standard as defined in Manual Chapter 0609, Appendix B, Section 2.0; and was not a planning standard functional failure because the critique failure occurred in a small scale drill with limited emergency response organization participation and evaluation. This finding has a crosscutting aspect in the area of problem identification and resolution associated with corrective action program because the threshold for identifying issues was not sufficiently low. Specifically, the emergency planning evaluator did not recognize the shift manager's failure to make the Notice of Unusual Event classification during the Force-On-Force exercise. Therefore, the exercise critique did not identify and correct the event classification deficiency as required (P.1(a)).
Inspection Report# : 2007004 *(pdf)*

Occupational Radiation Safety

Significance: N/A Mar 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to follow a radiation exposure permit requirement
A self-revealing noncited violation of Technical Specification 5.7.1 was identified for the failure to follow a radiation exposure permit requirement. Specifically, on October 3, 2006, a mechanic entered a high radiation area without direct authorization and a specific briefing from radiation protection personnel. As a corrective action for this isolated case, the mechanic and his coworker were restricted from the radiologically controlled area until re-authorized by the director of radiation protection and appropriate disciplinary actions were taken. The licensee entered this into their corrective action program as Condition Report/Disposition Request 2929853.

The finding was greater than minor because it is associated with the occupational radiation safety exposure control attribute and affected the cornerstone objective to ensure the adequate protection of the worker health and safety from exposure to radiation. The failure to follow a radiation exposure permit requirement for a high radiation area led to unintended and additional personnel dose. The finding was determined to be of very low safety significance because it did not involve: (1) as low as reasonably achievable (ALARA) planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. This finding had a crosscutting aspect in human performance associated with work practices because the mechanics did not use human error prevention techniques such as self and peer checking so that work activities were performed safely.
Inspection Report# : 2007002 *(pdf)*

Public Radiation Safety

Significance:  Feb 22, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to control the release of radioactive material
A self-revealing, noncited violation of Technical Specification 5.4.1 was reviewed regarding the failure to control the release of radioactive material. On February 2, 2006, the licensee was notified by another site that equipment received was labeled as radioactive material. Specifically, five items, with a maximum activity of 280 counts per minute, were inappropriately released from the radiologically controlled area and subsequently the protected area. The licensee's corrective actions include evaluating and implementing changes to the material release program and processes.

The finding is greater than minor because it was associated with the Public Radiation Safety cornerstone attribute of

human performance and affected the associated cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation. Using the Public Radiation Safety Significance Determination Process, the team determined that the finding had very low safety significance because: (1) it was a radioactive material control finding, (2) it was not a transportation finding, (3) it did not result in public dose greater than 0.005 rem, and (4) the number of occurrences was not greater than five. In addition, this finding had a human performance cross-cutting aspect associated with work practices because the licensee failed to ensure supervisory and management oversight of work activities, including contractors
Inspection Report# : 2007010 *(pdf)*

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Feb 09, 2007
Identified By: NRC
Item Type: FIN Finding
Summary Finding. Biennial PI&R Assessment
The team concluded that the thresholds for identifying and classifying issues were appropriately low, although several instances were identified where new aspects to complex problems were identified but not broken out and addressed properly. Numerous changes were made to the corrective action program and some improvement was evident, but some of the changes were not yet fully effective. The new Palo Verde Action Request was introduced, and senior managers were assigned to determine which actions were required in order to improve the consistency of problem treatment. Problems involving operability questions were getting to control room operators more consistently, but NRC inspectors continued to identify operability concerns that were missed by the licensee. However, having the Action Request Review Committee review all problem reports created a bottleneck in the process, creating delays in getting problems from the identification to a working stage. Problems continue to exist in the quality of problem description and significance determination. The timeliness of problem cause evaluations were improving due to management attention, but were still several times longer than station goals and industry standards.

Palo Verde Nuclear Generating Station continued to have a large number of latent equipment issues. Numerous longstanding material conditions exist which have received limited assessments and get added to the backlog with routine priority. The NRC continued to identify examples where the significance was underestimated by the licensee and were not being addressed with the timeliness commensurate with the actual safety significance until the NRC gets involved.

The team noted that significant challenges have been created because there are large backlogs of work affecting work control, maintenance support, and a variety of engineering activities. These backlogs are affecting the site's ability to address problems in a timely manner. It is apparent that these backlogs have built up over a period of years with the knowledge of management.

The Nuclear Assurance Department was active in the internal oversight role and focused on current performance problems, issuing reports that provided useful assessments. Other self-assessments reviewed were frequently narrow in scope and of limited depth. Interviews with site workers indicated that a safety-conscious work environment exists at Palo Verde Nuclear Generating Station, and that workers had an improved confidence in the strength of the safety culture. However, there was less confidence that routine priority issues will get addressed in a timely manner.
Inspection Report# : 2007007 *(pdf)*

Last modified : December 07, 2007

Palo Verde 2
4Q/2007 Plant Inspection Findings

Initiating Events

Significance: G Jun 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO SCOPE CONDENSATE DEMINERALIZER VALVE INTO MAINTENANCE RULE
A self-revealing noncited violation of 10 CFR 50.65(b) was identified for the failure of engineering personnel to place some components of the condensate demineralizer system into the scope of its program for monitoring the effectiveness of maintenance. Specifically, on October 19, 2006, Unit 3 reactor was manually tripped when condenser vacuum was degraded due to the failure of condensate demineralizer vessel waste drain Valve 3JSCNUV0232. Prior operating experience at Palo Verde demonstrated that the failure of Valve 3JSCNUV0232 could result in a reactor trip. However, the licensee did not appropriately scope Valve 3JSCNUV0232 into its program for monitoring the effectiveness of maintenance. This issue was entered into the corrective action program as Condition Report/Disposition Request 3035444.

The finding is greater than minor because it is associated with the initiating events cornerstone attribute of equipment performance and affects the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance since it does not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available.
Inspection Report# : 2007003 *(pdf)*

Significance: G Jun 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO APPLY INDUSTRY OPERATING EXPERIENCE TO MAINTENANCE ACTIVITIES RESULTS IN A PLANT TRANSIENT
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," for the failure of inservice inspection personnel to promptly identify and correct a condition adverse to quality. Specifically, since April 19, 2006, floor-welded spray pond pipe Supports 13-SP-030-H-007 and 13-SP-030-H-008 in the essential pipe density tunnel became degraded at the weld due to long term standing water in the tunnel. The licensee thought these supports had been previously identified and placed in the corrective action program, but that was not the case. This issue was entered into the corrective action program as Palo Verde Action Request 2989960.

The finding is greater than minor because if left uncorrected the degradation would have led to a more significant safety concern. The finding is associated with the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance since it only affected the mitigating systems cornerstone and did not represent a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. The cause of the finding is also related to the crosscutting aspect of problem identification and resolution with a corrective action program causal factor because the threshold for identifying issues was not sufficiently low and the degraded supports were not identified completely, accurately, and in a timely manner commensurate with their safety significance (P.1. (a)).
Inspection Report# : 2007003 *(pdf)*

Mitigating Systems

Significance: G Aug 17, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate procedure for safe shutdown from outside the control room
Green. The team identified a noncited violation of License Conditions 2.C.(7), 2.F and 2.C.(6) for Units 1, 2, and 3, respectively. Specifically, procedures required by 10 CFR Part 50, Appendix R, Section III.G.3 and III.L.3 had deficiencies that might impact the ability to complete a number of time-critical steps required to safely shutdown the facility following a fire in the control room. This was because the licensee failed to provide a number of tools necessary to complete the procedure as written. The team determined that, although operators did not use the equipment during time-critical steps, the lack of tools could negatively impact the ability to accomplish subsequent time-critical steps.

This deficiency was more than minor because the finding is associated with the Protection Against External Factors attribute of the Mitigating Systems Cornerstone since it could affect the the availability, reliability, and capability of systems that respond to a fire events to prevent undesirable consequences. Using the guidance of Manual Chapter 0609, Appendix F, Attachment 2, the deficiency was determined to have a low degradation rating because it involved a procedural deficiency that was compensated by operator experience/familiarity, and revised calculations demonstrated that there was sufficient time margin available to complete the actions. Based on this, the finding screened as having very low safety significance (Green) during a Phase 1 significance determination. This finding had cross-cutting aspects in the area of human performance because the licensee failed to ensure that personnel, equipment, procedures, and other resources were available and adequate to assure nuclear safety. Specifically, the licensee did not ensure that adequate emergency equipment was available to support procedure completion. (H.2(d)).
Inspection Report# : 2007008 *(pdf)*

Significance: G May 25, 2007
Identified By: NRC
Item Type: FIN Finding
Ineffective Demonstration of Conformance to Design for the Alternate ac Power Sources
The team identified a finding involving the implementation of Regulatory Guide 1.155, Station Blackout, Appendix A, for the demonstration of the station backout generator design and system readiness requirements. Specifically, established preventive maintenance tasks did not demonstrate that the coping requirements for the station blackout generator would be met for the approved increase from the 4-hour to 16-hour coping duration that, at the time this finding was identified, would become effective the following month. The licensee has entered this finding into their corrective action program as Palo Verde Action Request PVAR 2982699.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected following the implementation of the 16-hour coping duration. The finding affected the mitigating systems cornerstone attributes to ensure the availability of the station blackout generators to respond to initiating events necessary to prevent undesirable consequences. Using the NRC Inspection Manual Chapter 0609, Significance Determination Process, Phase 1 Worksheet, the team determined that this finding had very low safety significance because there was not a loss of system function and it did not involve an external event. The cause of the finding was related to the crosscutting element of decision making associated with human performance for the failure to adequately evaluate the design and system readiness requirements for the station blackout generators for the approved license amendment that, at the time the finding was identified, would, increase the coping period to 16-hours.
Inspection Report# : 2007011 *(pdf)*

Significance: G May 25, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Control of Design Information for the Station Blackout System
The team identified a noncited violation of very low safety significance for the failure to implement the design control requirements of Regulatory Guide 1.155, Station Blackout, Appendix A, Criterion 1, Design Control and Procurement

Control, to 10 CFR 50.63, Loss of All Alternating Current. Specifically, approved Design Change DMWO 2827452 did not account for key station blackout generator performance parameters that included fuel and lubricating oil consumption rates and required station blackout battery capacity for an increase in the station blackout coping period from 4 to16-hours.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that the critical performance parameters for ensuring the station blackout generators would meet the 16-hour coping requirement were not established. The finding affected the mitigating systems cornerstone attributes to ensure the availability of the station blackout generators to respond to initiating events necessary to prevent undesirable consequences. Using the NRC Inspection Manual Chapter 0609, Significance Determination Process, Phase 1 Worksheet, the team determined that this finding had very low safety significance because there was not a loss of system function and it did not involve an external event. The cause of the finding was related to the crosscutting element of decision making associated with human performance for the failure to evaluate the key performance parameters for the station blackout generators for the approved license amendment that increased the coping period to 16-hours. (Section 1R21b.2.)

Inspection Report# : 2007011 *(pdf)*

Significance:  May 25, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Non-conservative Containment Sump Level Analysis
The team identified a noncited violation of very low safety significance of 10 CFR Part 50, Appendix B, Criterion III, Design Control. Specifically, the design calculation that determined the minimum containment flood level following a loss-of-coolant accident was not based on the most limiting reactor coolant system break location. The calculated containment flood level was used to verify the adequacy of the available net positive suction head for the emergency core cooling pumps that would take suction from the containment sump during the recirculation phase of a postulated loss-of-coolant accident. The licensee has entered this issue into their corrective action program as Palo Verde Action Request PVAR 2981257.

This finding is greater than minor because this issue required accident analysis calculations to be re-performed to assure the accident requirements were met. The finding affected the mitigating systems cornerstone as related to the availability, reliability, and capability of the emergency core cooling system for post-loss-of-cooling accident. In accordance with Inspection Manual Chapter 0609, Significance Determination Process, Appendix A, Significance Determination of Reactor Inspection Findings for At-Power Situations, the team conducted a Phase 1 screening and determined the finding was of very low safety significance because it did not represent an actual loss of safety function. This deficiency would not have resulted in the emergency core cooling pumps becoming inoperable under the most limiting postulated accident conditions. This finding has cross-cutting aspects associated with corrective action of the problem identification and resolution area to ensure that issues potentially impacting nuclear safety are promptly identified, fully evaluated and that actions are taken to address safety issues in a timely manner.
Inspection Report# : 2007011 *(pdf)*

Significance:  May 25, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Ineffective Maintenance on Target Rock Solenoid-Operated Valves
The team identified a noncited violation of very low safety significance of 10 CFR Part 50, Criterion XVI, Corrective Actions, for the failure to identify and correct significant conditions adverse to quality involving Target Rock valve failures. The licensee has entered this issue into their corrective action program as Palo Verde Nuclear Generating Station Action Requests PVAR 2984832 and 2985372.

The failure to identify and correct the cause(s) of turbine-driven auxiliary feedwater pump Target Rock solenoid-operated valves was a performance deficiency. This issue is more than minor because it is associated separately with the mitigating systems cornerstone and on one occasion affected the containment barrier integrity cornerstone. This finding has cross-cutting aspects associated with corrective action of the problem identification and resolution area to ensure that issues potentially impacting nuclear safety are promptly identified, fully evaluated and that actions are

taken to address safety issues in a timely manner.
Inspection Report# : 2007011 *(pdf)*

Significance: G Mar 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Change to Emergency Diesel Generator Intake Air Oil Bath Filter Standby Oil Level Specification
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure of engineering personnel to verify or check the adequacy of design for maintaining the emergency diesel generator air intake oil bath filters' oil level below the "add oil" mark. Specifically, from approximately November 1994 to January 24, 2007, engineering personnel failed to translate vendor requirements for the Air Maze oil bath air filter oil level into an appropriate operating band. This issue was entered into the corrective action program as Condition Report/Disposition Request 2963525.

The finding is greater than minor because it is associated with the design control attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to be of very low safety significance because it did not represent an actual loss of system safety function, did not represent an actual loss of a single train for greater than its technical specification allowed outage time, and the finding did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event.
Inspection Report# : 2007002 *(pdf)*

Significance: G Mar 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify Misalignment of Spring Cans
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure of inservice inspection personnel to promptly identify misalignment of spring cans on safety-related piping. Specifically, between April 2005 and May 2006, inservice inspection personnel failed to identify misalignment of spring cans associated with the auxiliary feedwater system and the emergency diesel generators. Section 8.3.5 of Procedure 73TI-9ZZ18 required that the examination of piping systems should be directed to detect any relevant conditions, including misalignment of supports. This issue was entered into the corrective action program as Palo Verde Action Request 2980767.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that the failure to identify degraded and non-conforming equipment conditions could impact the availability of mitigating equipment. The finding affected the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance since it did not represent a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic flooding, or severe weather initiating event. The finding has a crosscutting aspect in the area of problem identification and resolution, associated with corrective action program, since inservice inspection personnel had an inappropriately high threshold for recognizing the misalignment of spring cans on safety-related piping.
Inspection Report# : 2007002 *(pdf)*

Significance: G Mar 31, 2007
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate Monitoring of CEA Position Results in Technical Specification Violation
A self-revealing noncited violation of Technical Specification 3.1.6 was identified during the performance of surveillance testing of the control element assemblies when more than one shutdown control element assembly was less than 144.75 inches withdrawn. Specifically, on February 3, 2007, while performing surveillance Procedure 40ST-9SF01, "CEA Operability Checks," Revision 21, more than one control element assembly was less than 144.75 inches withdrawn. Operations personnel did not use all available control element assembly position indications while

verifying movement of the four control element assemblies in shutdown Subgroup 6 to ensure that each control element assembly was withdrawn greater than 144.75 prior to movement of the next control element assembly. This issue was entered into the corrective action program as Condition Report/Disposition Request 2967976.

The finding is greater than minor because it is associated with the mitigating systems cornerstone attribute of procedure quality and affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding is also associated with the barrier integrity cornerstone attribute of configuration control and affects the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radio nuclide releases caused by accidents or events. Using the Manual Chapter 0609, “Significance Determination Process," Phase 1 Worksheet, a Phase 2 analysis is required since two cornerstones are degraded. Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," was used since the Significance Determination Process methods and tools were not adequate to determine the significance of the finding. The finding is determined to have very low safety significance through management review since it did not represent a loss of system safety function, in that the control element assemblies were still capable of shutting down the reactor in response to any postulated accident. This finding has a crosscutting aspect in the area of a problem identification and resolution associated with corrective action program, because the licensee failed to thoroughly evaluate the problem described in Condition Report/Disposition Request 2760855 such that the issue was resolved. This finding also has a crosscutting aspect in the area of human performance associated with work practices because operations personnel did not appropriately self and peer check all available control element assembly position indications to ensure proper system response.
Inspection Report# : 2007002 *(pdf)*

Significance: G Mar 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain EDG Train B Operable
The inspectors identified a noncited violation of Technical Specification 3.8.1 for exceeding the allowed outage time for the Unit 2 emergency diesel generator, Train B. Specifically, for the period between May 14, 2005 and November 3, 2005, the licensee failed to maintain the emergency diesel generator Train B operable. The licensee did not identify a condition in which the associated fuel oil suction strainers and discharge filters were fouling, resulting in the emergency diesel generator Train B being unable to supply Train B of the onsite Class 1E AC Electrical Power Distribution System without significant operations and maintenance personnel actions. The licensee entered this into their corrective action program as Condition Report/Disposition Request 2963482.

This finding is more than minor because the failure to identify and correct this deficiency would become a more significant safety concern in that the performance of emergency diesel generator Train B could be reduced, due to fuel starvation to the engine, to the point that the unit would not be able to carry essential electrical loads in the event of a loss of off-site electrical power. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding was determined to have very low safety significance because it did not result in an actual loss of safety function for greater than its technical specification allowed outage time. The finding has a crosscutting aspect in the area of problem identification and resolution, associated with corrective action program, since the licensee failed to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.
Inspection Report# : 2007002 *(pdf)*

Significance: G Feb 09, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Technical Evaluation of HPSI Pump Bearing Oil Leaks
A noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," with two examples was identified for two inadequate operability evaluations. Prompt operability determinations in CRDRs 2941494 and 2303499 incorrectly concluded that High Pressure Safety Injection Pumps 2A and 3A, respectively, could meet their mission time with existing oil leakage from the bearings. The team concluded that these evaluations relied upon unverified and incorrect assumptions and non-conservative volumes. The apparent cause evaluation for the leakage identified contributing causes that were common to all pumps, but the operability of the other pumps was not assessed. The team identified a history of small oil leaks in high pressure safety injection pumps since 2000, but

the licensee was unaware of this trend. Subsequent testing confirmed that five of the six high pressure safety injection pumps had oil leakage which would not allow running those pumps for the full mission time, but sufficient oil was available to run for at least 94 days. This finding was determined to have cross-cutting aspects in the human performance area of decision-making, because the licensee did not use conservative assumptions and demonstrate that the proposed course of action was safe.

Failure to adequately evaluate and correct oil leakage in High Pressure Safety Injection Pumps 2A and 3A, and failure to assess the extent of condition for similar pumps, was a performance deficiency. The finding was more than minor because it affected the equipment performance attribute of the mitigating systems cornerstone objective of ensuring the availability and reliability of a system that responds to initiating events. This finding screened as Green during Phase 1 of the significance determination process because it did not involve a loss of safety function. This issue was entered into the corrective action program under Condition Report/Disposition Report 2973682.
Inspection Report# : 2007007 *(pdf)*

Significance:  Feb 09, 2007
Identified By: NRC
Item Type: FIN Finding
Preventive Maintenance Change Backlog Was Not Tracking Due Dates
A finding was identified for failure to schedule and perform preventive maintenance tasks that were in the preventive maintenance change process. The team identified that a backlog of over 2500 preventive maintenance changes existed which resulted in these preventive maintenance tasks not being scheduled or performed, potentially challenging completion within the specified frequency. The team found 438 examples of preventive maintenance tasks that were overdue, and an additional 2113 that had no due date assigned yet. This program was used to revise both safety-related and non-safety preventive maintenance tasks. Because these preventive maintenance tasks were in the change process, the tasks were not scheduled or tracked in a way that would show when they became overdue. This was contrary to Procedure 30DP-9MP08, “Preventive Maintenance Program,” Revision 17, which required that “no preventive maintenance on operational equipment shall pass that late date without an approved deferral which will address a technical justification for the identified issue.” This finding had human performance cross-cutting aspects associated with resources because the large backlog of preventive maintenance tasks was contrary to maintaining long-term equipment reliability.

Failure to track, schedule, and perform preventive maintenance activities within their specified frequencies in accordance with their preventive maintenance program was a performance deficiency. This finding was determined to be more than minor because, if left uncorrected, it could become a more significant safety concern in that the lack of preventive maintenance would affect the reliability of plant equipment which could impact the initiating events or mitigating systems cornerstones. Because of the large number of preventive maintenance tasks (over 2500) in this category, the team reviewed a sample of 79 tasks associated with safety-related or quality-class components to assess the significance. The team did not identify any examples of overdue safety-related tasks. Based on the lack of risk significant examples and the fact that this finding is not suitable for significance determination process evaluation, this issue was reviewed by NRC management and was determined to be a finding of very low safety significance. This issue was entered into the corrective action program under Palo Verde Action Request 2970076.
Inspection Report# : 2007007 *(pdf)*

Significance: N/A Sep 30, 2006
Identified By: NRC
Item Type: FIN Finding
SUMMARY FINDING. 95002 TEAMS ASSESSMENT OF IR 2004-14 (YELLOW) 10 CFR PART 50, APPENDIX B, CRITERION III, VIOLATION
The NRC performed a followup supplemental inspection to assess the licensee’s corrective actions associated with a Yellow design control finding involving the potential for air entrainment into the emergency core cooling system. The team concluded that the technical issues specifically associated with the voided emergency core cooling system piping have been addressed. However, the Yellow finding will remain open because the licensee did not implement effective corrective actions for all of the causes associated with the Yellow finding. Specifically, the licensee’s actions to improve questioning attitude, technical rigor, and technical review were not fully effective. Also, the implementation of performance measures and metrics to monitor the effectiveness of corrective actions associated with the Yellow finding were not adequate to assess effectiveness. This performance issue was previously characterized as a 10 CFR Part 50, Appendix B, Criterion III, violation having substantial safety significance (Yellow), and was originally

identified in NRC Inspection Report 05000528; 05000529; 05000530/2004014.

The licensee's corrective actions taken in response to the root causes and related programmatic concerns involving questioning attitude, technical rigor, and technical review have not been completely effective. Specifically, following implementation of corrective actions between September 2005 and March 2006, the licensee: (1) continued to conduct inadequate technical reviews of emerging issues; (2) did not routinely question the validity of engineering assumptions used to support operability decisions; (3) did not consistently implement a qualify, validate, and verify process; and (4) did not consistently notify operations personnel of immediate operability concerns.

The team concluded that adequate qualitative or quantitative measures for determining the effectiveness of the corrective actions to prevent recurrence have not been established. For example, not all relevant performance data was considered when performance monitoring measures were developed to assess the effectiveness of corrective actions. When the pertinent data was considered, or otherwise clarified, the performance measures suggested declining rather than improving performance in some areas.

The team also concluded that the licensee had not completed adequate reviews of the effectiveness of corrective actions prior to their notifying the NRC of their readiness for inspection of the Yellow finding. Specifically, several assessments were completed after the requested dated of the inspection (June 2006). Several of the assessments noted that insufficient progress in resolving some of the root and contributing causes had been made. Additionally, a standard guideline for metrics was not issued and implemented until July 2006.

Inspection Report# : 2006010 *(pdf)*

Significance: G Mar 16, 2005
Identified By: NRC
Item Type: FIN Finding
FAILURE TO TRACK CONTROL ROOM DISCREPANCIES
The inspectors identified a finding for the failure to follow administrative guidelines provided to operations personnel for identifying, documenting, and tracking main control room deficiencies. Specifically, approximately 75 control room instrument and control room meter face plates in Units 1, 2, and 3 were degraded and were not individually tracked in the control room discrepancy log. Furthermore, discrepancy labels containing the control room discrepancy log number and description of the discrepancy were not placed adjacent to or as close as possible to each affected device. This issue was entered into the corrective action program as Condition Report/Disposition Request 2782501.

The finding is determined to be greater than minor because if left uncorrected, it could become a more significant safety concern in that the condition could cause an operator to take an inappropriate action based on expected plant response or conversely cause an operator not to take action when action is required. The senior reactor analyst determined that this finding was not appropriate to be evaluated using the significance determination process since this finding was associated with multiple human performance actions. Based on management review, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and there was no adverse impact to plant equipment.

Inspection Report# : 2005002 *(pdf)*

Significance: Y Dec 09, 2004
Identified By: NRC
Item Type: VIO Violation
FAILURE TO MAINTAIN DESIGN CONTROL OF CONTAINMENT SUMP RECIRCULATION PIPING
The team identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to establish measures to assure design basis information was translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to maintain the safety injection sump suction piping full of water in accordance with the Updated Final Safety Analysis Report. This nonconformance had the potential to significantly affect the available net positive suction head described in the Updated Final Safety Analysis Report for the high pressure safety injection and containment spray pumps, since the analysis assumed the piping would be maintained full of water.
{Note: Finding remains open - IP 95002 results pending 12/16/2005}

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that the issue had substantial safety significance (Yellow). After considering the information developed during the inspection and the results of testing sponsored by the licensee, the NRC has concluded that this inspection finding is appropriately characterized as Yellow. The final Significance Determination Process letter was issued on April 8, 2005. This issue was inspected within the scope of a Supplemental 95002 Inspection in August - September 2005.

{NOTE: Yellow finding remains open because the corrective actions taken in response to the root causes and related programmatic concerns involving questioning attitude, technical rigor, and operability determinations have not been fully effective. - IP 95002 Supplemental Inspection completed December 2005, IR 05000528/20050112, 05000529/20050112 and 05000530/2005012, IP 95002 Followup Supplemental Inspection completed August 2006, IR 05000528/2006010, 05000529/2006010 and 05000530/2006010}
Inspection Report# : 2004014 *(pdf)*

Barrier Integrity

Emergency Preparedness

Significance:  Sep 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IDENTIFY AND CRITIQUE AN EVENT CLASSIFICATION WEAKNESS
The inspectors identified a noncited violation of 10 CFR 50.54(q) for failure of the emergency planning organization's emergency exercise critique process to identify for correction an emergency plan weakness associated with a risk significant planning standard. Specifically, during the critique of the Emergency Preparedness portion of the August 22, 2007, Force-On-Force exercise, the licensee failed to identify for correction an event classification weakness. The weakness occurred during the exercise when the shift manager did not recognize a credible security threat notification was made to the facility. As a result, the shift manager did not declare a Notice of Unusual Event as required by EPIP-99, Appendix A, "Emergency Actions Levels - EAL 7-1." This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 3056153.

This finding is greater than minor because it is associated with the Emergency Response Organization Performance attribute of the Emergency Preparedness Cornerstone and affects the cornerstone objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. In accordance with Manual Chapter 0609, "Significance Determination Process," Appendix B, Emergency Preparedness Significance Determination Process, this finding is determined to have very low safety significance because, although it was a failure to comply with NRC requirements, it did not involve the risk-significant aspects of a planning standard as defined in Manual Chapter 0609, Appendix B, Section 2.0; and was not a planning standard functional failure because the critique failure occurred in a small scale drill with limited emergency response organization participation and evaluation. This finding has a crosscutting aspect in the area of problem identification and resolution associated with corrective action program because the threshold for identifying issues was not sufficiently low. Specifically, the emergency planning evaluator did not recognize the shift manager's failure to make the Notice of Unusual Event classification during the Force-On-Force exercise. Therefore, the exercise critique did not identify and correct the event classification deficiency as required (P.1(a)).
Inspection Report# : 2007004 *(pdf)*

Occupational Radiation Safety

Significance: N/A Mar 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to follow a radiation exposure permit requirement
A self-revealing noncited violation of Technical Specification 5.7.1 was identified for the failure to follow a radiation exposure permit requirement. Specifically, on October 3, 2006, a mechanic entered a high radiation area without direct authorization and a specific briefing from radiation protection personnel. As a corrective action for this isolated case, the mechanic and his coworker were restricted from the radiologically controlled area until re-authorized by the director of radiation protection and appropriate disciplinary actions were taken. The licensee entered this into their corrective action program as Condition Report/Disposition Request 2929853.

The finding was greater than minor because it is associated with the occupational radiation safety exposure control attribute and affected the cornerstone objective to ensure the adequate protection of the worker health and safety from exposure to radiation. The failure to follow a radiation exposure permit requirement for a high radiation area led to unintended and additional personnel dose. The finding was determined to be of very low safety significance because it did not involve: (1) as low as reasonably achievable (ALARA) planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. This finding had a crosscutting aspect in human performance associated with work practices because the mechanics did not use human error prevention techniques such as self and peer checking so that work activities were performed safely.
Inspection Report# : 2007002 *(pdf)*

Public Radiation Safety

Significance: G Feb 22, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to control the release of radioactive material
A self-revealing, noncited violation of Technical Specification 5.4.1 was reviewed regarding the failure to control the release of radioactive material. On February 2, 2006, the licensee was notified by another site that equipment received was labeled as radioactive material. Specifically, five items, with a maximum activity of 280 counts per minute, were inappropriately released from the radiologically controlled area and subsequently the protected area. The licensee's corrective actions include evaluating and implementing changes to the material release program and processes.

The finding is greater than minor because it was associated with the Public Radiation Safety cornerstone attribute of human performance and affected the associated cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation. Using the Public Radiation Safety Significance Determination Process, the team determined that the finding had very low safety significance because: (1) it was a radioactive material control finding, (2) it was not a transportation finding, (3) it did not result in public dose greater than 0.005 rem, and (4) the number of occurrences was not greater than five. In addition, this finding had a human performance cross-cutting aspect associated with work practices because the licensee failed to ensure supervisory and management oversight of work activities, including contractors
Inspection Report# : 2007010 *(pdf)*

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Feb 09, 2007
Identified By: NRC
Item Type: FIN Finding
Summary Finding. Biennial PI&R Assessment
The team concluded that the thresholds for identifying and classifying issues were appropriately low, although several instances were identified where new aspects to complex problems were identified but not broken out and addressed properly. Numerous changes were made to the corrective action program and some improvement was evident, but some of the changes were not yet fully effective. The new Palo Verde Action Request was introduced, and senior managers were assigned to determine which actions were required in order to improve the consistency of problem treatment. Problems involving operability questions were getting to control room operators more consistently, but NRC inspectors continued to identify operability concerns that were missed by the licensee. However, having the Action Request Review Committee review all problem reports created a bottleneck in the process, creating delays in getting problems from the identification to a working stage. Problems continue to exist in the quality of problem description and significance determination. The timeliness of problem cause evaluations were improving due to management attention, but were still several times longer than station goals and industry standards.

Palo Verde Nuclear Generating Station continued to have a large number of latent equipment issues. Numerous longstanding material conditions exist which have received limited assessments and get added to the backlog with routine priority. The NRC continued to identify examples where the significance was underestimated by the licensee and were not being addressed with the timeliness commensurate with the actual safety significance until the NRC gets involved.

The team noted that significant challenges have been created because there are large backlogs of work affecting work control, maintenance support, and a variety of engineering activities. These backlogs are affecting the site's ability to address problems in a timely manner. It is apparent that these backlogs have built up over a period of years with the knowledge of management.

The Nuclear Assurance Department was active in the internal oversight role and focused on current performance problems, issuing reports that provided useful assessments. Other self-assessments reviewed were frequently narrow in scope and of limited depth. Interviews with site workers indicated that a safety-conscious work environment exists at Palo Verde Nuclear Generating Station, and that workers had an improved confidence in the strength of the safety culture. However, there was less confidence that routine priority issues will get addressed in a timely manner.
Inspection Report# : 2007007 *(pdf)*

Last modified : February 04, 2008

Palo Verde 2
1Q/2008 Plant Inspection Findings

Initiating Events

Significance: G Nov 02, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Implementation of Risk Management Actions and Risk Assessments for the Switchyard
Green. The team identified a noncited violation of 10 CFR 50.65(a)(4) for the failure to adequately assess the increase in risk and effectively implement risk mitigation actions for maintenance activities in the switchyard. Specifically, the switchyard was not being protected by controlling access and movement as required and the risk modeling did not include all work being performed. The Unit 1 shift manager and the switchyard coordinator were unaware of the movement of multiple vehicles and pieces of equipment in or near restricted areas and not all maintenance was included in the schedule provided to the switchyard coordinator for risk review. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3078392.

This finding is greater than minor because the licensee's risk assessment failed to consider maintenance activities that could increase the likelihood of initiating events such as work in the switchyard and failed to effectively manage compensatory measures. Inspection Manual Chapter 0609, "Significance Determination Process," Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," was used to assess the significance. Using data from the licensee's probabilistic risk assessment, a NRC Region IV senior reactor analyst calculated the risk deficit. Based on the magnitude of the calculated risk deficit being less than 1E-6/year, this finding is determined to be of very low safety significance. The cause of this finding has crosscutting aspects associated with work control of the human performance area in that the licensee did not appropriately coordinate switchyard activities incorporating risk insights (H.3.(a)) and did not communicate with each other during activities in which coordination is necessary to assure plant and human performance (H.3.(b)).

Inspection Report# : 2007012 *(pdf)*

Significance: G Jun 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO SCOPE CONDENSATE DEMINERALIZER VALVE INTO MAINTENANCE RULE
A self-revealing noncited violation of 10 CFR 50.65(b) was identified for the failure of engineering personnel to place some components of the condensate demineralizer system into the scope of its program for monitoring the effectiveness of maintenance. Specifically, on October 19, 2006, Unit 3 reactor was manually tripped when condenser vacuum was degraded due to the failure of condensate demineralizer vessel waste drain Valve 3JSCNUV0232. Prior operating experience at Palo Verde demonstrated that the failure of Valve 3JSCNUV0232 could result in a reactor trip. However, the licensee did not appropriately scope Valve 3JSCNUV0232 into its program for monitoring the effectiveness of maintenance. This issue was entered into the corrective action program as Condition Report/Disposition Request 3035444.

The finding is greater than minor because it is associated with the initiating events cornerstone attribute of equipment performance and affects the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance since it does not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available.
Inspection Report# : 2007003 *(pdf)*

Significance: G Jun 30, 2007

Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO APPLY INDUSTRY OPERATING EXPERIENCE TO MAINTENANCE ACTIVITIES RESULTS IN A PLANT TRANSIENT
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," for the failure of inservice inspection personnel to promptly identify and correct a condition adverse to quality. Specifically, since April 19, 2006, floor-welded spray pond pipe Supports 13-SP-030-H-007 and 13-SP-030-H-008 in the essential pipe density tunnel became degraded at the weld due to long term standing water in the tunnel. The licensee thought these supports had been previously identified and placed in the corrective action program, but that was not the case. This issue was entered into the corrective action program as Palo Verde Action Request 2989960.

The finding is greater than minor because if left uncorrected the degradation would have led to a more significant safety concern. The finding is associated with the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance since it only affected the mitigating systems cornerstone and did not represent a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. The cause of the finding is also related to the crosscutting aspect of problem identification and resolution with a corrective action program causal factor because the threshold for identifying issues was not sufficiently low and the degraded supports were not identified completely, accurately, and in a timely manner commensurate with their safety significance (P.1. (a)).
Inspection Report# : 2007003 *(pdf)*

Mitigating Systems

Significance: G Mar 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Establish Preventative Maintenance Procedures for Emergency Diesel Generator Fuel Oil Injection Pump O-Rings
The inspectors identified a non-cited violation of Technical Specification 5.4.1.a for the failure of operations and engineering personnel to establish and implement maintenance procedures for inspection and replacement of items that have a specific lifetime. Specifically, between February 12, 2007 and March 7, 2008, operations and engineering personnel failed to inspect or replace the emergency diesel generators fuel oil injection pump upper O-rings prior to the end of their service life resulting in fuel leakage and increased unavailability and unreliability of Unit 1 Train A, Unit 2 Train B, and Unit 3 Train B emergency diesel generators. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3143422.

This finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because it did not represent a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with operating experience because the licensee failed to use available operating experience, including vendor recommendations, to implement and institutionalize operating experience through changes to station processes, procedures, equipment, and training programs [P.2(b)].

Inspection Report# : 2008002 *(pdf)*

Significance: G Mar 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation

Failure to Maintain Adequate Staffing Levels Results in Heavy Use of Overtime to Maintain Adequate Shift Coverage
The inspectors identified a non-cited violation of Technical Specification 5.2.2.d involving the routine use of excessive overtime for operations personnel that performed safety-related functions. Specifically, between January 1 and December 31, 2007, operations personnel routinely used excessive overtime. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 3112231.

The finding is greater than minor because if left uncorrected the finding would become a more significant safety concern in that the routine use of excessive work hours increases the likelihood of operator errors. Using the IMC 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because no specific human performance issues due to personnel fatigue were identified that resulted in the degradation or loss of safety function of equipment important to safety. The finding has a crosscutting aspect in the area of human performance associated with resources because the licensee failed to maintain sufficient qualified operations personnel to maintain working hours within guidelines without the excessive use of overtime [H.2(b)].

Inspection Report# : 2008002 *(pdf)*

Significance: G Mar 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Properly Implement Corrective Action Process for Potential Operability Issues with the Class 1E 125 V DC System
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of engineering personnel to ensure that potentially nonconforming conditions associated with the Class 1E 125 Vdc system were reviewed for operability. Specifically, between September 29, 2007 and March 7, 2008, engineering personnel failed to ensure all relevant information was reviewed for operability when it was determined that vendor recommended preventative maintenance tasks were not being performed on the Class 1E 125 Vdc system. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3144707.

This finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because it did not represent a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with decision making because safety significant decisions were not verified to validate underlying assumptions and identify unintended consequences [H.1(b)].

Inspection Report# : 2008002 *(pdf)*

Significance: G Mar 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify Inoperable Feedwater Isolation Valve Exceeds Technical Specification Allowed Outage Time
A self revealing non-cited violation of Technical Specification 3.7.3.c was identified for the failure of operations personnel to perform the actions required for an inoperable main feedwater isolation valve. Specifically, on July 17, 2006, operations personnel failed to perform actions to place the unit in Mode 3 within 6 hours and Mode 5 within 36 hours, as required by Technical Specification 3.7.3.c, for an inoperable main feedwater isolation valve that had not been closed or isolated in 72 hours, as required by Technical Specification 3.7.3.a. This resulted in main feedwater isolation Valve 2JSGAUV0174 to steam Generator A exceeding the Technical Specification 3.7.3 allowed outage time. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2915450.

This finding is greater than minor because it is associated with the equipment performance attribute of the mitigating

systems cornerstone and affects the cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. A Phase 2 analysis was required because the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, determined that there was a loss of main feedwater isolation of a single train to steam Generator A for greater than the technical specification allowed outage time. Using the Phase 2 Worksheets associated with a steam generator tube rupture without steam generator isolation, the finding is determined to have very low safety significance since all remaining mitigation capability was available or recoverable.

Inspection Report# : 2008002 *(pdf)*

Significance: G Dec 31, 2007
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
FAILURE TO TAKE ADEQUATE CORRECTIVE ACTIONS TO PREVENT RECURRENCE OF A SIGNIFICANT CONDITION ADVERSE TO QUALITY
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," was identified for the failure of engineering personnel to promptly correct a significant condition adverse to quality. Specifically, on September 17, 2007, steam supply to auxiliary feedwater Pump A bypass Valve SGA-UV-138A failed to open as required during the performance of the quarterly surveillance test. The cause of the failure was determined to be foreign material on the valve's internal components. Corrective actions were implemented but the source of the debris was not definitively identified. Subsequently, on October 15, 2007, the valve failed to close. Further investigation indicated that the failure was caused by foreign material on the valve's internal components. This issue was entered into the corrective action program as Condition Report/Disposition Request 3078032.

The finding is greater than minor because a failure to open is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, a failure to close is associated with the structure, system, and component and barrier performance attribute of the barrier integrity cornerstone and affects the associated cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, this finding is determined to have very low safety significance because the finding did not result in a loss of safety function under the mitigating systems cornerstone and did not result in an actual open pathway in the physical integrity of the reactor containment under the containment barrier cornerstone. This finding has a crosscutting aspect in the area of human performance associated with work control because the facility did not dedicate the manpower and expertise necessary to coordinate work activities to incorporate actions to support long term equipment reliability and safety system availability (H.3(b)).
Inspection Report# : 2007005 *(pdf)*

Significance: G Dec 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
TWO EXAMPLES OF FAILURE TO PROPERLY IMPLEMENT THE OPERABILITY DETERMINATION PROCESS
The inspectors identified two examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," for the failure of operations personnel to follow procedures and adequately evaluate degraded and nonconforming conditions to support operability decision-making. On September 12 and October 29, 2007, operations personnel failed to adequately evaluate degraded and nonconforming conditions to support operability decision-making as described in Procedure 40DP-9OP26. Specifically, operations personnel failed to adequately evaluate the operability of the Unit 2 Train B emergency diesel generator after a lowering turbocharger lube oil pressure indication and the Unit 1 Train A auxiliary feedwater system during a body to bonnet steam leak on manual isolation Valve SGE-V886 for the steam supply to auxiliary feedwater Pump A bypass Valve SGA-UV-138A. This issue was entered into the corrective action program as Condition Report/Disposition Request 3068929 and Palo Verde Action Request 3084439.

The finding is greater than minor because the degraded turbocharger lube oil filter is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure

the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, the steam leak on manual isolation Valve SGE-V886 is associated with the structure, system, and component and barrier performance attribute of the barrier integrity cornerstone and affects the associated cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding did not result in a loss of safety function under the mitigating systems cornerstone and did not result in an actual open pathway in the physical integrity of the reactor containment under the containment barriers cornerstone. The example of this finding related to lowering turbocharger lube oil pressure has a crosscutting aspect in the area of human performance associated with decision-making because the licensee did not use conservative assumptions for operability decision-making when evaluating degraded and nonconforming conditions (H.1(b)). The example of this finding related to the body to bonnet steam leak has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee did not properly classify, and thoroughly evaluate the operability for a condition adverse to quality (P.1(c)).

Inspection Report# : 2007005 *(pdf)*

Significance: G Oct 26, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Eight Examples of the Failure to Implement the operability Determination Process
Green. The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," with eight examples for the failure of the licensee to adequately evaluate degraded and unanalyzed conditions to support operability decision making between May 2006 and October 26, 2007. The team noted a significant number of weak or non-existent operability evaluations of degraded conditions affecting safety-related equipment. There was a lack of understanding of the need to assess operability for some conditions adverse to quality and a lack of knowledge or skills necessary to conduct quality operability assessments. The examples of the violation involved two instances of conditions adverse to quality documented in databases outside of the corrective action program, missile hazards near the essential spray pond, two issues effecting essential cooling water system heat exchangers, 480V and 4160V motor terminations, oil leaks on the emergency diesel generators, and high lead content in a Unit 3 low pressure safety injection pump. Each of the individual technical issues was entered into the licensee's corrective action program.

These examples associated with this finding are greater than minor because they were associated with the mitigating systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the examples associated with this finding are determined to have very low safety significance since they only affected the mitigating systems cornerstone and did not represent a loss of system safety function. The causes of the examples of this finding have crosscutting aspects associated with decision making of the human performance area in that operations and engineering personnel (1) did not make safety significant decisions using a systematic process (H.1.(a)), and (2) failed to use conservative assumptions for operability decision-making when evaluating degraded and nonconforming conditions (H.1.(b)). The causes of the examples of this finding also have crosscutting aspects associated with evaluation and corrective action of the problem identification and resolution area in that licensee personnel (1) did not assess conditions adverse to quality for impacts to the operability of safety- related equipment (P.1.(c), and (2) did not address safety issues in a timely manner P.1.(d)). The causes of the examples of this finding also related to the safety culture component of accountability in that workers and managers failed to demonstrate a proper safety focus and reinforce safety principles (O.1.(b) and O.1.(c)).

Inspection Report# : 2007012 *(pdf)*

Significance: G Oct 25, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Establish maintenance Rule Goals for the Safety Injection System
Green. The team identified a noncited violation of 10 CFR 50.65, for the failure of engineering personnel to establish goals and monitor the performance of the safety injection system. Specifically, on March 22, 2007, engineering

personnel failed to establish goals to properly monitor system performance, or provide a technical justification to demonstrate that monitoring under 10 CFR 50.65(a)(1) was not required for the safety injection system following the system changing status from 10 CFR 50.65(a)(2) to 10 CFR 50.65(a)(1). This issue was entered into the corrective action program as Palo Verde Action Requests 3074255 and 3076699.

This finding is greater than minor because it was associated with the mitigating systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Inspection Manual Chapter 0609, "Significant Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance since there was no loss of safety function. The cause of this finding has crosscutting aspects associated with (1) corrective actions of the problem identification and resolution area in that engineering personnel failed to take appropriate actions to address safety issues and adverse trends in a timely manner (P.1.(d)) and self assessment of the problem identification and resolution area in that engineering personnel did not perform self assessments that were comprehensive, objective, and self critical (P.3.(a)).

Inspection Report# : 2007012 *(pdf)*

Significance:  Oct 10, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Six Examples of a Failure to Implement the Corrective Action Program Requirements
Green. The team identified a noncited violation of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action,” with six examples for the failure of the licensee to identify, evaluate, or correct conditions adverse to quality between 1988 and October 10, 2007. The corrective actions implemented by the licensee to address the substantive human performance and problem identification and resolution crosscutting issues were ineffective in sustaining performance improvement as noted by licensee self assessments, external industry reviews, and NRC inspections. The team also identified several examples of poor and inconsistent implementation of corrective action program behaviors. The examples of the violation involved not entering the use of unqualified tape in containment in the corrective action process, evaluating the condition, or taking timely actions to remove the tape from all three units; not identifying, evaluating, or implementing timely corrective actions associated with operating experience applicable to the auxiliary feedwater pump trip and throttle valve; not implementing timely corrective actions for water intrusion and flooding of underground manholes and cable vaults; inadequate evaluation for nonconforming Target Rock reed switches; not evaluating and correcting a degraded condition with post accident monitoring instrument chart recorders, and not correcting a degraded/nonconforming condition associated with 3 inch Borg-Warner check valves. Each of the individual technical issues was entered into the licensee’s corrective action program.

The examples associated with this finding are greater than minor because they were associated with the mitigating systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the examples associated with this finding are determined to have very low safety significance since they only affected the mitigating systems cornerstone and did not represent a loss of system safety function. The causes of the examples of this finding have crosscutting aspects associated with decision making of the human performance area in that operations and engineering personnel failed to use conservative assumptions for operability decision-making when evaluating degraded and nonconforming conditions (H.1.(b)). The causes of the examples of this finding have crosscutting aspects associated with (1) corrective actions of the problem identification and resolution area because the licensee failed to evaluate previous issues such that resolutions addressed all conditions affecting operability (P.1.(c)), (2) operating experience of the problem identification and resolution area in that engineering personnel failed to ensure implementation and institutionalization of operating experience through changes to station processes, procedures, equipment, and training programs (P.2.(b)), and (3) self assessment of the problem identification and resolution area in that the licensee did not follow their benchmarking and self assessment guide to ensure findings were evaluated in their corrective action program (P.3.(c)). The causes of the examples of this finding also related to the safety culture component of accountability in that workforce and management personnel failed to demonstrate a proper safety focus and reinforce safety principles (O.1.(b) and O.1.(c)).

Inspection Report# : 2007012 *(pdf)*

Significance: G Oct 10, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Evaluate Performance Monitoring Criteria for the Auxiliary Feedwater System
Green. The team identified a noncited violation of 10 CFR 50.65(a)(2) for the failure of maintenance rule and engineering personnel to demonstrate that the performance or condition of structures, systems, or components was being effectively controlled through appropriate preventive maintenance to ensure systems or components remained capable of performing their intended function. Specifically, between April and October 2007, an inadequate evaluation of maintenance rule performance criteria was performed and, even though the Unit 2 auxiliary feedwater Train A had exceeded its maintenance rule 10 CFR 50.65(a)(2) performance criteria, no goal setting and monitoring was performed as required by 10 CFR 50.65(a)(1) of the maintenance rule. This issue was entered into the corrective action program as Palo Verde Action Request 3075907.

This finding is greater than minor because it was associated with the mitigating systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance since it only affected the mitigating systems cornerstone and did not represent a loss of system safety function. The cause of this finding has crosscutting aspects associated with self assessments of the problem identification and resolution area in that maintenance rule and engineering personnel failed to perform self assessments that were comprehensive, appropriately objective, and self-critical (P.3.(a)). The cause of this finding has crosscutting aspects associated with decision-making of the human performance area in that engineering personnel failed to make safety-significant or risk-significant decisions using a systematic process (H.1.(a)). The cause of this finding is also related to the safety culture component of accountability in that management did not reinforce safety standards and display behaviors that reflected safety as an overriding priority (O.1.(b)).

Inspection Report# : 2007012 *(pdf)*

Significance: G Oct 04, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Implement Adequate Design Controls for Condensate Storage Tank Temperature
Green. The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," with for the failure to translate design basis requirements into procedures to ensure the plant is operated within its design basis. Specifically, between 1985 and October 2007, the maximum condensate storage tank temperature requirements did not include the effect of recirculated hot condensate water from the main condenser. The issue was entered into the corrective action program as 3073243.

The examples associated with this finding are greater than minor because they were associated with the mitigating systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the examples associated with this finding are determined to have very low safety significance since they only affected the mitigating systems cornerstone and did not represent a loss of system safety function. The causes of the examples of this finding have crosscutting aspects associated with corrective action of the problem identification and resolution area in that engineering personnel did not assess conditions adverse to quality for impacts to the operability of safety related equipment (P.1.(c)).

Inspection Report# : 2007012 *(pdf)*

Significance: G Aug 17, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate procedure for safe shutdown from outside the control room
Green. The team identified a noncited violation of License Conditions 2.C.(7), 2.F and 2.C.(6) for Units 1, 2, and 3, respectively. Specifically, procedures required by 10 CFR Part 50, Appendix R, Section III.G.3 and III.L.3 had

deficiencies that might impact the ability to complete a number of time-critical steps required to safely shutdown the facility following a fire in the control room. This was because the licensee failed to provide a number of tools necessary to complete the procedure as written. The team determined that, although operators did not use the equipment during time-critical steps, the lack of tools could negatively impact the ability to accomplish subsequent time-critical steps.

This deficiency was more than minor because the finding is associated with the Protection Against External Factors attribute of the Mitigating Systems Cornerstone since it could affect the the availability, reliability, and capability of systems that respond to a fire events to prevent undesirable consequences. Using the guidance of Manual Chapter 0609, Appendix F, Attachment 2, the deficiency was determined to have a low degradation rating because it involved a procedural deficiency that was compensated by operator experience/familiarity, and revised calculations demonstrated that there was sufficient time margin available to complete the actions. Based on this, the finding screened as having very low safety significance (Green) during a Phase 1 significance determination. This finding had cross-cutting aspects in the area of human performance because the licensee failed to ensure that personnel, equipment, procedures, and other resources were available and adequate to assure nuclear safety. Specifically, the licensee did not ensure that adequate emergency equipment was available to support procedure completion. (H.2(d)).
Inspection Report# : 2007008 *(pdf)*

Significance:  May 25, 2007
Identified By: NRC
Item Type: FIN Finding
Ineffective Demonstration of Conformance to Design for the Alternate ac Power Sources
The team identified a finding involving the implementation of Regulatory Guide 1.155, Station Blackout, Appendix A, for the demonstration of the station backout generator design and system readiness requirements. Specifically, established preventive maintenance tasks did not demonstrate that the coping requirements for the station blackout generator would be met for the approved increase from the 4-hour to 16-hour coping duration that, at the time this finding was identified, would become effective the following month. The licensee has entered this finding into their corrective action program as Palo Verde Action Request PVAR 2982699.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected following the implementation of the 16-hour coping duration. The finding affected the mitigating systems cornerstone attributes to ensure the availability of the station blackout generators to respond to initiating events necessary to prevent undesirable consequences. Using the NRC Inspection Manual Chapter 0609, Significance Determination Process, Phase 1 Worksheet, the team determined that this finding had very low safety significance because there was not a loss of system function and it did not involve an external event. The cause of the finding was related to the crosscutting element of decision making associated with human performance for the failure to adequately evaluate the design and system readiness requirements for the station blackout generators for the approved license amendment that, at the time the finding was identified, would, increase the coping period to 16-hours.
Inspection Report# : 2007011 *(pdf)*

Significance:  May 25, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Control of Design Information for the Station Blackout System
The team identified a noncited violation of very low safety significance for the failure to implement the design control requirements of Regulatory Guide 1.155, Station Blackout, Appendix A, Criterion 1, Design Control and Procurement Control, to 10 CFR 50.63, Loss of All Alternating Current. Specifically, approved Design Change DMWO 2827452 did not account for key station blackout generator performance parameters that included fuel and lubricating oil consumption rates and required station blackout battery capacity for an increase in the station blackout coping period from 4 to16-hours.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that the critical performance parameters for ensuring the station blackout generators would meet the 16-hour coping requirement were not established. The finding affected the mitigating systems cornerstone attributes to ensure the availability of the station blackout generators to respond to initiating events necessary to prevent undesirable consequences. Using the NRC Inspection Manual Chapter 0609, Significance Determination Process, Phase 1 Worksheet, the team determined that this finding had very low safety significance because there was not a loss of

system function and it did not involve an external event. The cause of the finding was related to the crosscutting element of decision making associated with human performance for the failure to evaluate the key performance parameters for the station blackout generators for the approved license amendment that increased the coping period to 16-hours. (Section 1R21b.2.)

Inspection Report# : 2007011 *(pdf)*

Significance: G May 25, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Non-conservative Containment Sump Level Analysis
The team identified a noncited violation of very low safety significance of 10 CFR Part 50, Appendix B, Criterion III, Design Control. Specifically, the design calculation that determined the minimum containment flood level following a loss-of-coolant accident was not based on the most limiting reactor coolant system break location. The calculated containment flood level was used to verify the adequacy of the available net positive suction head for the emergency core cooling pumps that would take suction from the containment sump during the recirculation phase of a postulated loss-of-coolant accident. The licensee has entered this issue into their corrective action program as Palo Verde Action Request PVAR 2981257.

This finding is greater than minor because this issue required accident analysis calculations to be re-performed to assure the accident requirements were met. The finding affected the mitigating systems cornerstone as related to the availability, reliability, and capability of the emergency core cooling system for post-loss-of-cooling accident. In accordance with Inspection Manual Chapter 0609, Significance Determination Process, Appendix A, Significance Determination of Reactor Inspection Findings for At-Power Situations, the team conducted a Phase 1 screening and determined the finding was of very low safety significance because it did not represent an actual loss of safety function. This deficiency would not have resulted in the emergency core cooling pumps becoming inoperable under the most limiting postulated accident conditions. This finding has cross-cutting aspects associated with corrective action of the problem identification and resolution area to ensure that issues potentially impacting nuclear safety are promptly identified, fully evaluated and that actions are taken to address safety issues in a timely manner.
Inspection Report# : 2007011 *(pdf)*

Significance: G May 25, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Ineffective Maintenance on Target Rock Solenoid-Operated Valves
The team identified a noncited violation of very low safety significance of 10 CFR Part 50, Criterion XVI, Corrective Actions, for the failure to identify and correct significant conditions adverse to quality involving Target Rock valve failures. The licensee has entered this issue into their corrective action program as Palo Verde Nuclear Generating Station Action Requests PVAR 2984832 and 2985372.

The failure to identify and correct the cause(s) of turbine-driven auxiliary feedwater pump Target Rock solenoid-operated valves was a performance deficiency. This issue is more than minor because it is associated separately with the mitigating systems cornerstone and on one occasion affected the containment barrier integrity cornerstone. This finding has cross-cutting aspects associated with corrective action of the problem identification and resolution area to ensure that issues potentially impacting nuclear safety are promptly identified, fully evaluated and that actions are taken to address safety issues in a timely manner.
Inspection Report# : 2007011 *(pdf)*

Significance: N/A Sep 30, 2006
Identified By: NRC
Item Type: FIN Finding
SUMMARY FINDING. 95002 TEAMS ASSESSMENT OF IR 2004-14 (YELLOW) 10 CFR PART 50, APPENDIX B, CRITERION III, VIOLATION
The NRC performed a followup supplemental inspection to assess the licensee's corrective actions associated with a Yellow design control finding involving the potential for air entrainment into the emergency core cooling system. The team concluded that the technical issues specifically associated with the voided emergency core cooling system piping have been addressed. However, the Yellow finding will remain open because the licensee did not implement effective

corrective actions for all of the causes associated with the Yellow finding. Specifically, the licensee's actions to improve questioning attitude, technical rigor, and technical review were not fully effective. Also, the implementation of performance measures and metrics to monitor the effectiveness of corrective actions associated with the Yellow finding were not adequate to assess effectiveness. This performance issue was previously characterized as a 10 CFR Part 50, Appendix B, Criterion III, violation having substantial safety significance (Yellow), and was originally identified in NRC Inspection Report 05000528; 05000529; 05000530/2004014.

The licensee's corrective actions taken in response to the root causes and related programmatic concerns involving questioning attitude, technical rigor, and technical review have not been completely effective. Specifically, following implementation of corrective actions between September 2005 and March 2006, the licensee: (1) continued to conduct inadequate technical reviews of emerging issues; (2) did not routinely question the validity of engineering assumptions used to support operability decisions; (3) did not consistently implement a qualify, validate, and verify process; and (4) did not consistently notify operations personnel of immediate operability concerns.

The team concluded that adequate qualitative or quantitative measures for determining the effectiveness of the corrective actions to prevent recurrence have not been established. For example, not all relevant performance data was considered when performance monitoring measures were developed to assess the effectiveness of corrective actions. When the pertinent data was considered, or otherwise clarified, the performance measures suggested declining rather than improving performance in some areas.

The team also concluded that the licensee had not completed adequate reviews of the effectiveness of corrective actions prior to their notifying the NRC of their readiness for inspection of the Yellow finding. Specifically, several assessments were completed after the requested dated of the inspection (June 2006). Several of the assessments noted that insufficient progress in resolving some of the root and contributing causes had been made. Additionally, a standard guideline for metrics was not issued and implemented until July 2006.

Inspection Report# : 2006010 *(pdf)*

Significance: G Mar 16, 2005
Identified By: NRC
Item Type: FIN Finding
FAILURE TO TRACK CONTROL ROOM DISCREPANCIES
The inspectors identified a finding for the failure to follow administrative guidelines provided to operations personnel for identifying, documenting, and tracking main control room deficiencies. Specifically, approximately 75 control room instrument and control room meter face plates in Units 1, 2, and 3 were degraded and were not individually tracked in the control room discrepancy log. Furthermore, discrepancy labels containing the control room discrepancy log number and description of the discrepancy were not placed adjacent to or as close as possible to each affected device. This issue was entered into the corrective action program as Condition Report/Disposition Request 2782501.

The finding is determined to be greater than minor because if left uncorrected, it could become a more significant safety concern in that the condition could cause an operator to take an inappropriate action based on expected plant response or conversely cause an operator not to take action when action is required. The senior reactor analyst determined that this finding was not appropriate to be evaluated using the significance determination process since this finding was associated with multiple human performance actions. Based on management review, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and there was no adverse impact to plant equipment.

Inspection Report# : 2005002 *(pdf)*

Significance: Y Dec 09, 2004
Identified By: NRC
Item Type: VIO Violation
FAILURE TO MAINTAIN DESIGN CONTROL OF CONTAINMENT SUMP RECIRCULATION PIPING
The team identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to establish measures to assure design basis information was translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to maintain the safety injection sump suction piping full of water in accordance with the Updated Final Safety Analysis Report. This nonconformance had the potential to

significantly affect the available net positive suction head described in the Updated Final Safety Analysis Report for the high pressure safety injection and containment spray pumps, since the analysis assumed the piping would be maintained full of water.
{Note: Finding remains open - IP 95002 results pending 12/16/2005}

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that the issue had substantial safety significance (Yellow). After considering the information developed during the inspection and the results of testing sponsored by the licensee, the NRC has concluded that this inspection finding is appropriately characterized as Yellow. The final Significance Determination Process letter was issued on April 8, 2005. This issue was inspected within the scope of a Supplemental 95002 Inspection in August - September 2005.

{NOTE: Yellow finding remains open because the corrective actions taken in response to the root causes and related programmatic concerns involving questioning attitude, technical rigor, and operability determinations have not been fully effective. - IP 95002 Supplemental Inspection completed December 2005, IR 05000528/20050112, 05000529/20050112 and 05000530/2005012, IP 95002 Followup Supplemental Inspection completed August 2006, IR 05000528/2006010, 05000529/2006010 and 05000530/2006010}
Inspection Report# : 2004014 *(pdf)*

Barrier Integrity

Significance: G Mar 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Procedure to Evaluate Foreign Material in the Spent Fuel Pool
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of fuels services personnel to evaluate leaving foreign material in the Unit 2 spent fuel pool in accordance with procedures, and failed to ensure those procedures included appropriate quantitative and qualitative acceptance criteria. Specifically, between October 13, 2006, and January 31, 2008, fuels services personnel used Procedure 30DP 9MP03, "System Cleanliness and Foreign Material Exclusion Controls," Revision 6, which did not specify acceptance criteria for time to perform a functional assessment of foreign material in the spent fuel pool, resulting in foreign material being left in the spent fuel pool for greater than one year without an evaluation on affected safety systems. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3126308.

This finding is greater than minor because it is associated with the structure, systems, and component performance and human performance attributes of the barrier integrity cornerstone and affects the cornerstone objective to provide reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding did not result in loss of cooling to the spent fuel pool; the finding did not result from fuel handling errors that caused damage to the fuel clad integrity or a dropped assembly; and the finding did not result in a loss of spent fuel pool inventory greater than ten percent of the spent fuel pool volume. This finding has a crosscutting aspect in the area of human performance associated with decision making because the licensee failed to use conservative assumptions when evaluating degraded and nonconforming conditions [H.1.(b)].

Inspection Report# : 2008002 *(pdf)*

Significance: G Dec 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUAT DESIGN CONTROLS FOR REFUELING MACHINE

The inspectors identified two examples of a noncited violation of 10 CFR Part 50, Criterion III, "Design Control," for the failure of engineering personnel to ensure that the design bases of the refueling machine were adequately translated into specifications, drawings, procedures, or instructions. Specifically, for the first example, between October 27, 2006, and October 25, 2007, the licensee inappropriately changed the facility as noted in the Updated Final Safety Analysis Report when a modification to the refueling machine introduced a single failure that could result in a failure of both the underload and overload protection features. This change resulted in more than a minimal increase in the consequences of a malfunction, in that the force limits on a fuel assembly grid strap could be exceeded. For the second example, between initial construction and December 5, 2007, procedures and instructions did not limit the stall torque of the hoist motor for the refueling machine. These issues were entered into the corrective action program as Condition Report/Disposition Requests 3030759 and 3068656.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that refueling equipment malfunctions could result in damaged fuel. Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," was used since the Significance Determination Process methods and tools were not adequate to determine the significance of the finding. This finding affects the barrier integrity cornerstone and is determined to have very low safety significance by NRC management review because it was a deficiency that did not result in the actual degradation of fuel.
Inspection Report# : 2007005 *(pdf)*

Significance: G Sep 27, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Meet Technical Specification Surveillance Requirement 3.6.6.6
Green. The team identified a noncited violation of Technical Specification Surveillance Requirement 3.6.6.6, for the failure to verify that each containment spray nozzle was unobstructed. Specifically, the last completed surveillance test conducted on each unit, identified that one nozzle in each unit was obstructed and that the nozzles were not retested in accordance with the approved retest requirement. This issue was entered into the corrective action program as Palo Verde Action Requests 3075026, 3075059, 3068647 and, 3048511.

The finding is more than minor because it affected the configuration control attribute of the barrier integrity cornerstone, and affected the associated cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to be of very low safety significance because it did not involve an actual reduction in defense-in-depth for the atmospheric pressure control function of the reactor containment.

Inspection Report# : 2007012 *(pdf)*

Significance: G Sep 27, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Meet Technical Specification Surveillance Requirement 3.0.3
Green. The team identified a noncited violation of Technical Specification Surveillance Requirement 3.0.3 for the failure of operations personnel to conduct an assessment and manage the risk for a missed surveillance test. On September 27, 2007, the team identified that the requirements for testing the containment spray nozzles in Units 1, 2, and, 3 did not meet Technical Specifications Surveillance Requirement 3.6.6.6. Operations personnel did not enter Technical Specification Surveillance Requirement 3.0.3 until prompted by the team on October 30, 2007. This issue was entered into the corrective action program as Palo Verde Action Request 3085708.

The finding is determined to be more than minor because it affected the configuration control attribute of the barrier integrity cornerstone, and affected the associated cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because it did not involve an actual reduction in defense-in-depth for the atmospheric pressure control function of the reactor containment. The cause of this finding has crosscutting aspects associated with work practices of the human performance area in that operations personnel failed to ensure supervisory and management oversight of work activities that resulted in a missed Technical Specification surveillance requirement (H.4(c)). The cause of this

finding is also related to the safety culture component of accountability in that operations personnel failed to demonstrate a proper safety focus and reinforce safety principles (O.1.(c)).

Inspection Report# : 2007012 *(pdf)*

Emergency Preparedness

Significance: TBD Oct 28, 2007
Identified By: NRC
Item Type: AV Apparent Violation
Failure to Correct a Risk Significant Planning Standard
TBD. The team identified an apparent violation of 10 CFR 50.54(q) and Appendix E IV.F.2.g, with the significance yet to be determined, for the licensee's failure to correct an identified risk significant planning standard weakness between May 2, 2007 and October 28, 2007. Specifically, the licensee failed to implement adequate corrective actions for identified weaknesses in the ability to correctly make a Site Area Emergency declaration for a steam generator tube rupture event. This issue was entered into the licensee's correction action program as Palo Verde Action Request 3083911.

The team determined that the inability to consistently implement an EAL was a performance deficiency within the licensee's control. This finding more than minor because it was associated with the Emergency Preparedness attribute of emergency response organization performance and affected the cornerstone objective to implement adequate measures to protect the health and safety of the public because the inability to properly recognize and classify an emergency condition affects the licensee's ability to implement adequate protective measures. This finding was evaluated using the Emergency Preparedness SDP and was preliminarily determined to be of low to moderate safety significance because it was a failure to comply with NRC requirements; it was an issue associated with the requirements of Appendix E of 10 CFR Part 50; it was not an issue with a risk significant planning standard as described in Manual Chapter 0609, Appendix B, Section 2.0; and it was a functional failure of the requirements of Appendix E IV.F.2.g because the licensee failed to correct a weakness associated with Risk Significant Planning Standard 10 CFR 50.47(b)(4). The cause of this finding has crosscutting aspects associated with the corrective action aspect of the problem identification and resolution area in that the licensee failed to thoroughly evaluate problems such that resolutions ensured correcting problems (P.1.(c)). The cause of this finding was also related to the safety culture component of accountability in that the licensee failed to demonstrate a proper safety focus and reinforce safety principles (O.1.(c)).

Inspection Report# : 2007012 *(pdf)*

Significance:  Oct 08, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inability to Implement Two Emergency Action Levels
Green. The team identified a Green noncited violation of 10 CFR 50.54(q) and §50.47(b)(4), for the failure of the licensee to be able to implement EAL 3-12 and EAL7-1. Specifically, area radiation Monitor RU-18 could not be utilized in the vicinity of the remote shutdown panels and therefore, the emergency classification could not be declared at the Alert level as required in Procedure EPIP-99. In addition, the licensee improperly overclassified EAL 7-1 as an Alert when presented conditions warranting a classification of a Notification of Unusual Event. Specifically, the licensee did not develop a procedure to enable personnel to differentiate between an aircraft and an airliner and therefore, the proper emergency classifications could not be consistently determined. This finding was entered into the licensee's corrective action program as Condition Report Disposition Requests 3071570, 3071572, and 3085175.

The team determined that the inability to implement EALs was a performance deficiency. The finding was more than minor because it was associated with the Emergency Preparedness attribute of procedure quality and could affect the cornerstone objective associated with the licensee's ability to correctly classify an emergency condition which would affect the licensee's ability to implement adequate measures to protect the health and safety of the public. Using the Manual Chapter 0609, "Significance Determination Process," Appendix B, "Emergency Preparedness SDP," the finding was determined to have very low safety significance because the licensee would be unable to declare one EAL

at the Alert and one EAL at the Notification of Unusual Event level. The cause of this finding had crosscutting aspects associated with the corrective action of the PI&R area in that the licensee had previous opportunities to identify the deficiencies (P.1.(a)).

Inspection Report# : 2007012 *(pdf)*

Significance: G Sep 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IDENTIFY AND CRITIQUE AN EVENT CLASSIFICATION WEAKNESS
The inspectors identified a noncited violation of 10 CFR 50.54(q) for failure of the emergency planning organization's emergency exercise critique process to identify for correction an emergency plan weakness associated with a risk significant planning standard. Specifically, during the critique of the Emergency Preparedness portion of the August 22, 2007, Force-On-Force exercise, the licensee failed to identify for correction an event classification weakness. The weakness occurred during the exercise when the shift manager did not recognize a credible security threat notification was made to the facility. As a result, the shift manager did not declare a Notice of Unusual Event as required by EPIP-99, Appendix A, "Emergency Actions Levels - EAL 7-1." This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 3056153.

This finding is greater than minor because it is associated with the Emergency Response Organization Performance attribute of the Emergency Preparedness Cornerstone and affects the cornerstone objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. In accordance with Manual Chapter 0609, "Significance Determination Process," Appendix B, Emergency Preparedness Significance Determination Process, this finding is determined to have very low safety significance because, although it was a failure to comply with NRC requirements, it did not involve the risk-significant aspects of a planning standard as defined in Manual Chapter 0609, Appendix B, Section 2.0; and was not a planning standard functional failure because the critique failure occurred in a small scale drill with limited emergency response organization participation and evaluation. This finding has a crosscutting aspect in the area of problem identification and resolution associated with corrective action program because the threshold for identifying issues was not sufficiently low. Specifically, the emergency planning evaluator did not recognize the shift manager's failure to make the Notice of Unusual Event classification during the Force-On-Force exercise. Therefore, the exercise critique did not identify and correct the event classification deficiency as required (P.1(a)).
Inspection Report# : 2007004 *(pdf)*

Occupational Radiation Safety

Significance: G Dec 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO POST AND CONTROL A HIGH RADIATION AREA
The inspectors reviewed two examples of a self-revealing, noncited violation of Technical Specification 5.7.1 resulting from a failure to control a high radiation area. Specifically, the first example occurred on February 14, 2007, while preparing to perform a remote inspection and boric acid wash down of Unit 2 Letdown Ion Exchange Vessel CHN-D01A, a worker received a dose rate alarm of 141 mr/hr on his electronic dosimeter when he removed the shielded plug from the survey/inspection port. The second example occurred on October 24, 2007, while performing decontamination on Valve SIE-614 using a vacuum in the Unit 3 containment two workers received separate electronic dosimeter alarms of 81 mr/hr and 123 mr/hr approximately 20 minutes apart. The issues were entered into the corrective action program as Condition Report/Disposition Request 2970612 and 3081978.

This finding is greater than minor because it is associated with the occupational radiation safety program and process attribute and affected the cornerstone objective, in that the failure to post and control a high radiation area had the potential to increase personnel dose. This occurrence involved individual workers' unplanned, unintended dose that resulted from actions or conditions contrary to licensee procedures, radiation work permit, and technical specifications, therefore this finding was evaluated using the Occupational Radiation Safety Significance

Determination Process. The inspectors determined that this finding was of very low safety significance because it did not involve: (1) an ALARA planning or work control issue, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. This finding involved crosscutting aspect in the area of human performance, work control component, in that the work planning did not appropriately plan work activities by incorporating risk insights and job site conditions.
Inspection Report# : 2007005 *(pdf)*

Significance: G Dec 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO EVALUATE THE RADIOLOGICAL HAZARD CAUSED BY DECONTAMINATION
The inspectors identified a noncited violation of 10 CFR 20.1501(a) because the licensee failed to completely evaluate the radiological hazard associated with the decontamination of the temporary reactor head. This failure lead to internal exposure of two workers and personnel contamination of two other nearby individuals. The original apparent cause evaluation determined that the radiation protection technicians' decision not to rinse the underside of the temporary reactor head caused the uptakes and contaminations. Upon NRC documentation review and interviews with staff, the licensee determined that the total effective dose equivalent ALARA evaluation of the radiological conditions and appropriate protective equipment required did not fully evaluate the job site conditions or process of decontamination of the temporary reactor head. The issue was entered into the corrective action program as Condition Report/Disposition Request 3046953.

This finding is greater than minor because it is associated with the occupational radiation safety program and process attribute and affected the cornerstone objective, in that not completely evaluating the radiological conditions had the potential to increase personnel dose. This occurrence involved individual worker unplanned, unintended dose that resulted from actions or conditions contrary to licensee procedures, radiation work permit, and technical specifications, therefore this finding was evaluated using the Occupational Radiation Safety Significance Determination Process. The inspectors determined that this finding was of very low safety significance because it did not involve: (1) an ALARA planning or work control issue, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. This finding also has a crosscutting aspect in the area of human performance, work control component, because the work planning did not consider possible risk insights and job sight conditions.
Inspection Report# : 2007005 *(pdf)*

Public Radiation Safety

Significance: SL-IV Nov 02, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Periodically update the Updated Final Safety Analysis Report
SLIV. The team identified a Severity Level IV noncited violation of 10 CFR 50.71(e) for the failure of the licensee to periodically update the Updated Final Safety Analysis Report with all changes made in the facility or procedures. Specifically, in 2002, radiation protection and operations personnel changed the operation of the total dissolved solids holdup tanks from that described in the Updated Final Safety Analysis Report and did not submit an update to the NRC. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3075089.

This issue is being treated as traditional enforcement because the failure to update the Final Safety Analysis Report has the potential to impact the NRC's ability to perform its regulatory function. The finding is characterized as a Severity Level IV violation because the erroneous information was not used to make an unacceptable change to the facility or procedures. The finding is of very low safety significance because the change in operation of the total dissolved solids holdup tanks did not result in an increase in the likelihood of a release of radioactive material. The cause of this finding has a crosscutting aspect associated with resources in the human performance area in that the licensee failed to ensure that personnel and equipment were available and adequate to maintain radiological safety by minimization of long-standing equipment issues (H.2.(a)).

Inspection Report# : 2007012 *(pdf)*

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : June 05, 2008

Palo Verde 2
2Q/2008 Plant Inspection Findings

Initiating Events

Significance: G Nov 02, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Implementation of Risk Management Actions and Risk Assessments for the Switchyard
Green. The team identified a noncited violation of 10 CFR 50.65(a)(4) for the failure to adequately assess the increase in risk and effectively implement risk mitigation actions for maintenance activities in the switchyard. Specifically, the switchyard was not being protected by controlling access and movement as required and the risk modeling did not include all work being performed. The Unit 1 shift manager and the switchyard coordinator were unaware of the movement of multiple vehicles and pieces of equipment in or near restricted areas and not all maintenance was included in the schedule provided to the switchyard coordinator for risk review. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3078392.

This finding is greater than minor because the licensee's risk assessment failed to consider maintenance activities that could increase the likelihood of initiating events such as work in the switchyard and failed to effectively manage compensatory measures. Inspection Manual Chapter 0609, "Significance Determination Process," Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," was used to assess the significance. Using data from the licensee's probabilistic risk assessment, a NRC Region IV senior reactor analyst calculated the risk deficit. Based on the magnitude of the calculated risk deficit being less than 1E-6/year, this finding is determined to be of very low safety significance. The cause of this finding has crosscutting aspects associated with work control of the human performance area in that the licensee did not appropriately coordinate switchyard activities incorporating risk insights (H.3.(a)) and did not communicate with each other during activities in which coordination is necessary to assure plant and human performance (H.3.(b)).

Inspection Report# : 2007012 *(pdf)*

Mitigating Systems

Significance: G Mar 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Establish Preventative Maintenance Procedures for Emergency Diesel Generator Fuel Oil Injection Pump O-Rings
The inspectors identified a non-cited violation of Technical Specification 5.4.1.a for the failure of operations and engineering personnel to establish and implement maintenance procedures for inspection and replacement of items that have a specific lifetime. Specifically, between February 12, 2007 and March 7, 2008, operations and engineering personnel failed to inspect or replace the emergency diesel generators fuel oil injection pump upper O-rings prior to the end of their service life resulting in fuel leakage and increased unavailability and unreliability of Unit 1 Train A, Unit 2 Train B, and Unit 3 Train B emergency diesel generators. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3143422.

This finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because it did not represent a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or

severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with operating experience because the licensee failed to use available operating experience, including vendor recommendations, to implement and institutionalize operating experience through changes to station processes, procedures, equipment, and training programs [P.2(b)].

Inspection Report# : 2008002 *(pdf)*

Significance: G Mar 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain Adequate Staffing Levels Results in Heavy Use of Overtime to Maintain Adequate Shift Coverage
The inspectors identified a non-cited violation of Technical Specification 5.2.2.d involving the routine use of excessive overtime for operations personnel that performed safety-related functions. Specifically, between January 1 and December 31, 2007, operations personnel routinely used excessive overtime. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 3112231.

The finding is greater than minor because if left uncorrected the finding would become a more significant safety concern in that the routine use of excessive work hours increases the likelihood of operator errors. Using the IMC 0609, "Significance Determination Process," Appendix M, the finding is determined to have very low safety significance because there was no recent instances where findings of low to moderate (White) or greater significance were attributed to the increased use of overtime by operating personnel. The finding has a crosscutting aspect in the area of human performance associated with resources because the licensee failed to maintain sufficient qualified operations personnel to maintain working hours within guidelines without the excessive use of overtime [H.2(b)].

Inspection Report# : 2008002 *(pdf)*

Significance: G Mar 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Properly Implement Corrective Action Process for Potential Operability Issues with the Class 1E 125 V DC System
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of engineering personnel to ensure that potentially nonconforming conditions associated with the Class 1E 125 Vdc system were reviewed for operability. Specifically, between September 29, 2007 and March 7, 2008, engineering personnel failed to ensure all relevant information was reviewed for operability when it was determined that vendor recommended preventative maintenance tasks were not being performed on the Class 1E 125 Vdc system. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3144707.

This finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because it did not represent a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with decision making because safety significant decisions were not verified to validate underlying assumptions and identify unintended consequences [H.1(b)].

Inspection Report# : 2008002 *(pdf)*

Significance: G Mar 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify Inoperable Feedwater Isolation Valve Exceeds Technical Specification Allowed Outage

Time
A self revealing non-cited violation of Technical Specification 3.7.3.c was identified for the failure of operations personnel to perform the actions required for an inoperable main feedwater isolation valve. Specifically, on July 17, 2006, operations personnel failed to perform actions to place the unit in Mode 3 within 6 hours and Mode 5 within 36 hours, as required by Technical Specification 3.7.3.c, for an inoperable main feedwater isolation valve that had not been closed or isolated in 72 hours, as required by Technical Specification 3.7.3.a. This resulted in main feedwater isolation Valve 2JSGAUV0174 to steam Generator A exceeding the Technical Specification 3.7.3 allowed outage time. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2915450.

This finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. A Phase 2 analysis was required because the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, determined that there was a loss of main feedwater isolation of a single train to steam Generator A for greater than the technical specification allowed outage time. Using the Phase 2 Worksheets associated with a steam generator tube rupture without steam generator isolation, the finding is determined to have very low safety significance since all remaining mitigation capability was available or recoverable.

Inspection Report# : 2008002 *(pdf)*

Significance:  Dec 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
TWO EXAMPLES OF FAILURE TO PROPERLY IMPLEMENT THE OPERABILITY DETERMINATION PROCESS
The inspectors identified two examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," for the failure of operations personnel to follow procedures and adequately evaluate degraded and nonconforming conditions to support operability decision-making. On September 12 and October 29, 2007, operations personnel failed to adequately evaluate degraded and nonconforming conditions to support operability decision-making as described in Procedure 40DP-9OP26. Specifically, operations personnel failed to adequately evaluate the operability of the Unit 2 Train B emergency diesel generator after a lowering turbocharger lube oil pressure indication and the Unit 1 Train A auxiliary feedwater system during a body to bonnet steam leak on manual isolation Valve SGE-V886 for the steam supply to auxiliary feedwater Pump A bypass Valve SGA-UV-138A. This issue was entered into the corrective action program as Condition Report/Disposition Request 3068929 and Palo Verde Action Request 3084439.

The finding is greater than minor because the degraded turbocharger lube oil filter is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, the steam leak on manual isolation Valve SGE-V886 is associated with the structure, system, and component and barrier performance attribute of the barrier integrity cornerstone and affects the associated cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding did not result in a loss of safety function under the mitigating systems cornerstone and did not result in an actual open pathway in the physical integrity of the reactor containment under the containment barriers cornerstone. The example of this finding related to lowering turbocharger lube oil pressure has a crosscutting aspect in the area of human performance associated with decision-making because the licensee did not use conservative assumptions for operability decision-making when evaluating degraded and nonconforming conditions (H.1(b)). The example of this finding related to the body to bonnet steam leak has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee did not properly classify, and thoroughly evaluate the operability for a condition adverse to quality (P.1(c)).

Inspection Report# : 2007005 *(pdf)*

Significance:  Oct 26, 2007

Identified By: NRC
Item Type: NCV NonCited Violation
Eight Examples of the Failure to Implement the operability Determination Process
Green. The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," with eight examples for the failure of the licensee to adequately evaluate degraded and unanalyzed conditions to support operability decision making between May 2006 and October 26, 2007. The team noted a significant number of weak or non-existent operability evaluations of degraded conditions affecting safety-related equipment. There was a lack of understanding of the need to assess operability for some conditions adverse to quality and a lack of knowledge or skills necessary to conduct quality operability assessments. The examples of the violation involved two instances of conditions adverse to quality documented in databases outside of the corrective action program, missile hazards near the essential spray pond, two issues effecting essential cooling water system heat exchangers, 480V and 4160V motor terminations, oil leaks on the emergency diesel generators, and high lead content in a Unit 3 low pressure safety injection pump. Each of the individual technical issues was entered into the licensee's corrective action program.

These examples associated with this finding are greater than minor because they were associated with the mitigating systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the examples associated with this finding are determined to have very low safety significance since they only affected the mitigating systems cornerstone and did not represent a loss of system safety function. The causes of the examples of this finding have crosscutting aspects associated with decision making of the human performance area in that operations and engineering personnel (1) did not make safety significant decisions using a systematic process (H.1.(a)), and (2) failed to use conservative assumptions for operability decision-making when evaluating degraded and nonconforming conditions (H.1.(b)). The causes of the examples of this finding also have crosscutting aspects associated with evaluation and corrective action of the problem identification and resolution area in that licensee personnel (1) did not assess conditions adverse to quality for impacts to the operability of safety- related equipment (P.1.(c), and (2) did not address safety issues in a timely manner P.1.(d)). The causes of the examples of this finding also related to the safety culture component of accountability in that workers and managers failed to demonstrate a proper safety focus and reinforce safety principles (O.1.(b) and O.1.(c)).

Inspection Report# : 2007012 *(pdf)*

Significance: G Oct 25, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Establish maintenance Rule Goals for the Safety Injection System
Green. The team identified a noncited violation of 10 CFR 50.65, for the failure of engineering personnel to establish goals and monitor the performance of the safety injection system. Specifically, on March 22, 2007, engineering personnel failed to establish goals to properly monitor system performance, or provide a technical justification to demonstrate that monitoring under 10 CFR 50.65(a)(1) was not required for the safety injection system following the system changing status from 10 CFR 50.65(a)(2) to 10 CFR 50.65(a)(1). This issue was entered into the corrective action program as Palo Verde Action Requests 3074255 and 3076699.

This finding is greater than minor because it was associated with the mitigating systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Inspection Manual Chapter 0609, "Significant Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance since there was no loss of safety function. The cause of this finding has crosscutting aspects associated with (1) corrective actions of the problem identification and resolution area in that engineering personnel failed to take appropriate actions to address safety issues and adverse trends in a timely manner (P.1.(d)) and self assessment of the problem identification and resolution area in that engineering personnel did not perform self assessments that were comprehensive, objective, and self critical (P.3.(a)).

Inspection Report# : 2007012 *(pdf)*

Significance: G Oct 10, 2007

Identified By: NRC
Item Type: NCV NonCited Violation
Six Examples of a Failure to Implement the Corrective Action Program Requirements
Green. The team identified a noncited violation of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action,” with six examples for the failure of the licensee to identify, evaluate, or correct conditions adverse to quality between 1988 and October 10, 2007. The corrective actions implemented by the licensee to address the substantive human performance and problem identification and resolution crosscutting issues were ineffective in sustaining performance improvement as noted by licensee self assessments, external industry reviews, and NRC inspections. The team also identified several examples of poor and inconsistent implementation of corrective action program behaviors. The examples of the violation involved not entering the use of unqualified tape in containment in the corrective action process, evaluating the condition, or taking timely actions to remove the tape from all three units; not identifying, evaluating, or implementing timely corrective actions associated with operating experience applicable to the auxiliary feedwater pump trip and throttle valve; not implementing timely corrective actions for water intrusion and flooding of underground manholes and cable vaults; inadequate evaluation for nonconforming Target Rock reed switches; not evaluating and correcting a degraded condition with post accident monitoring instrument chart recorders, and not correcting a degraded/nonconforming condition associated with 3 inch Borg-Warner check valves. Each of the individual technical issues was entered into the licensee’s corrective action program.

The examples associated with this finding are greater than minor because they were associated with the mitigating systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the examples associated with this finding are determined to have very low safety significance since they only affected the mitigating systems cornerstone and did not represent a loss of system safety function. The causes of the examples of this finding have crosscutting aspects associated with decision making of the human performance area in that operations and engineering personnel failed to use conservative assumptions for operability decision-making when evaluating degraded and nonconforming conditions (H.1.(b)). The causes of the examples of this finding have crosscutting aspects associated with (1) corrective actions of the problem identification and resolution area because the licensee failed to evaluate previous issues such that resolutions addressed all conditions affecting operability (P.1.(c)), (2) operating experience of the problem identification and resolution area in that engineering personnel failed to ensure implementation and institutionalization of operating experience through changes to station processes, procedures, equipment, and training programs (P.2.(b)), and (3) self assessment of the problem identification and resolution area in that the licensee did not follow their benchmarking and self assessment guide to ensure findings were evaluated in their corrective action program (P.3.(c)). The causes of the examples of this finding also related to the safety culture component of accountability in that workforce and management personnel failed to demonstrate a proper safety focus and reinforce safety principles (O.1.(b) and O.1.(c)).

Inspection Report# : 2007012 *(pdf)*

Significance: G Oct 10, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Evaluate Performance Monitoring Criteria for the Auxiliary Feedwater System
Green. The team identified a noncited violation of 10 CFR 50.65(a)(2) for the failure of maintenance rule and engineering personnel to demonstrate that the performance or condition of structures, systems, or components was being effectively controlled through appropriate preventive maintenance to ensure systems or components remained capable of performing their intended function. Specifically, between April and October 2007, an inadequate evaluation of maintenance rule performance criteria was performed and, even though the Unit 2 auxiliary feedwater Train A had exceeded its maintenance rule 10 CFR 50.65(a)(2) performance criteria, no goal setting and monitoring was performed as required by 10 CFR 50.65(a)(1) of the maintenance rule. This issue was entered into the corrective action program as Palo Verde Action Request 3075907.

This finding is greater than minor because it was associated with the mitigating systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance since it only affected the mitigating systems cornerstone and did not represent a loss of system safety function. The cause of this finding has crosscutting aspects associated with self assessments of the problem

identification and resolution area in that maintenance rule and engineering personnel failed to perform self assessments that were comprehensive, appropriately objective, and self-critical (P.3.(a)). The cause of this finding has crosscutting aspects associated with decision-making of the human performance area in that engineering personnel failed to make safety-significant or risk-significant decisions using a systematic process (H.1.(a)). The cause of this finding is also related to the safety culture component of accountability in that management did not reinforce safety standards and display behaviors that reflected safety as an overriding priority (O.1.(b)).

Inspection Report# : 2007012 *(pdf)*

Significance: G Oct 04, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Implement Adequate Design Controls for Condensate Storage Tank Temperature
Green. The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," with for the failure to translate design basis requirements into procedures to ensure the plant is operated within its design basis. Specifically, between 1985 and October 2007, the maximum condensate storage tank temperature requirements did not include the effect of recirculated hot condensate water from the main condenser. The issue was entered into the corrective action program as 3073243.

The examples associated with this finding are greater than minor because they were associated with the mitigating systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the examples associated with this finding are determined to have very low safety significance since they only affected the mitigating systems cornerstone and did not represent a loss of system safety function. The causes of the examples of this finding have crosscutting aspects associated with corrective action of the problem identification and resolution area in that engineering personnel did not assess conditions adverse to quality for impacts to the operability of safety related equipment (P.1.(c)).

Inspection Report# : 2007012 *(pdf)*

Significance: G Aug 17, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate procedure for safe shutdown from outside the control room
Green. The team identified a noncited violation of License Conditions 2.C.(7), 2.F and 2.C.(6) for Units 1, 2, and 3, respectively. Specifically, procedures required by 10 CFR Part 50, Appendix R, Section III.G.3 and III.L.3 had deficiencies that might impact the ability to complete a number of time-critical steps required to safely shutdown the facility following a fire in the control room. This was because the licensee failed to provide a number of tools necessary to complete the procedure as written. The team determined that, although operators did not use the equipment during time-critical steps, the lack of tools could negatively impact the ability to accomplish subsequent time-critical steps.

This deficiency was more than minor because the finding is associated with the Protection Against External Factors attribute of the Mitigating Systems Cornerstone since it could affect the the availability, reliability, and capability of systems that respond to a fire events to prevent undesirable consequences. Using the guidance of Manual Chapter 0609, Appendix F, Attachment 2, the deficiency was determined to have a low degradation rating because it involved a procedural deficiency that was compensated by operator experience/familiarity, and revised calculations demonstrated that there was sufficient time margin available to complete the actions. Based on this, the finding screened as having very low safety significance (Green) during a Phase 1 significance determination. This finding had cross-cutting aspects in the area of human performance because the licensee failed to ensure that personnel, equipment, procedures, and other resources were available and adequate to assure nuclear safety. Specifically, the licensee did not ensure that adequate emergency equipment was available to support procedure completion. (H.2(d)).
Inspection Report# : 2007008 *(pdf)*

Significance: N/A Sep 30, 2006
Identified By: NRC

Item Type: FIN Finding
SUMMARY FINDING. 95002 TEAMS ASSESSMENT OF IR 2004-14 (YELLOW) 10 CFR PART 50, APPENDIX B, CRITERION III, VIOLATION
The NRC performed a followup supplemental inspection to assess the licensee's corrective actions associated with a Yellow design control finding involving the potential for air entrainment into the emergency core cooling system. The team concluded that the technical issues specifically associated with the voided emergency core cooling system piping have been addressed. However, the Yellow finding will remain open because the licensee did not implement effective corrective actions for all of the causes associated with the Yellow finding. Specifically, the licensee's actions to improve questioning attitude, technical rigor, and technical review were not fully effective. Also, the implementation of performance measures and metrics to monitor the effectiveness of corrective actions associated with the Yellow finding were not adequate to assess effectiveness. This performance issue was previously characterized as a 10 CFR Part 50, Appendix B, Criterion III, violation having substantial safety significance (Yellow), and was originally identified in NRC Inspection Report 05000528; 05000529; 05000530/2004014.

The licensee's corrective actions taken in response to the root causes and related programmatic concerns involving questioning attitude, technical rigor, and technical review have not been completely effective. Specifically, following implementation of corrective actions between September 2005 and March 2006, the licensee: (1) continued to conduct inadequate technical reviews of emerging issues; (2) did not routinely question the validity of engineering assumptions used to support operability decisions; (3) did not consistently implement a qualify, validate, and verify process; and (4) did not consistently notify operations personnel of immediate operability concerns.

The team concluded that adequate qualitative or quantitative measures for determining the effectiveness of the corrective actions to prevent recurrence have not been established. For example, not all relevant performance data was considered when performance monitoring measures were developed to assess the effectiveness of corrective actions. When the pertinent data was considered, or otherwise clarified, the performance measures suggested declining rather than improving performance in some areas.

The team also concluded that the licensee had not completed adequate reviews of the effectiveness of corrective actions prior to their notifying the NRC of their readiness for inspection of the Yellow finding. Specifically, several assessments were completed after the requested dated of the inspection (June 2006). Several of the assessments noted that insufficient progress in resolving some of the root and contributing causes had been made. Additionally, a standard guideline for metrics was not issued and implemented until July 2006.

Inspection Report# : 2006010 *(pdf)*

Significance: G Mar 16, 2005
Identified By: NRC
Item Type: FIN Finding
FAILURE TO TRACK CONTROL ROOM DISCREPANCIES
The inspectors identified a finding for the failure to follow administrative guidelines provided to operations personnel for identifying, documenting, and tracking main control room deficiencies. Specifically, approximately 75 control room instrument and control room meter face plates in Units 1, 2, and 3 were degraded and were not individually tracked in the control room discrepancy log. Furthermore, discrepancy labels containing the control room discrepancy log number and description of the discrepancy were not placed adjacent to or as close as possible to each affected device. This issue was entered into the corrective action program as Condition Report/Disposition Request 2782501.

The finding is determined to be greater than minor because if left uncorrected, it could become a more significant safety concern in that the condition could cause an operator to take an inappropriate action based on expected plant response or conversely cause an operator not to take action when action is required. The senior reactor analyst determined that this finding was not appropriate to be evaluated using the significance determination process since this finding was associated with multiple human performance actions. Based on management review, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and there was no adverse impact to plant equipment.

Inspection Report# : 2005002 *(pdf)*

Significance: Y Dec 09, 2004

Identified By: NRC
Item Type: VIO Violation
FAILURE TO MAINTAIN DESIGN CONTROL OF CONTAINMENT SUMP RECIRCULATION PIPING
The team identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to establish measures to assure design basis information was translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to maintain the safety injection sump suction piping full of water in accordance with the Updated Final Safety Analysis Report. This nonconformance had the potential to significantly affect the available net positive suction head described in the Updated Final Safety Analysis Report for the high pressure safety injection and containment spray pumps, since the analysis assumed the piping would be maintained full of water.
{Note: Finding remains open - IP 95002 results pending 12/16/2005}

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that the issue had substantial safety significance (Yellow). After considering the information developed during the inspection and the results of testing sponsored by the licensee, the NRC has concluded that this inspection finding is appropriately characterized as Yellow. The final Significance Determination Process letter was issued on April 8, 2005. This issue was inspected within the scope of a Supplemental 95002 Inspection in August - September 2005.

{NOTE: Yellow finding remains open because the corrective actions taken in response to the root causes and related programmatic concerns involving questioning attitude, technical rigor, and operability determinations have not been fully effective. - IP 95002 Supplemental Inspection completed December 2005, IR 05000528/20050112, 05000529/20050112 and 05000530/2005012, IP 95002 Followup Supplemental Inspection completed August 2006, IR 05000528/2006010, 05000529/2006010 and 05000530/2006010}
Inspection Report# : 2004014 *(pdf)*

Barrier Integrity

Significance:  Mar 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Procedure to Evaluate Foreign Material in the Spent Fuel Pool
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of fuels services personnel to evaluate leaving foreign material in the Unit 2 spent fuel pool in accordance with procedures, and failed to ensure those procedures included appropriate quantitative and qualitative acceptance criteria. Specifically, between October 13, 2006, and January 31, 2008, fuels services personnel used Procedure 30DP 9MP03, "System Cleanliness and Foreign Material Exclusion Controls," Revision 6, which did not specify acceptance criteria for time to perform a functional assessment of foreign material in the spent fuel pool, resulting in foreign material being left in the spent fuel pool for greater than one year without an evaluation on affected safety systems. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3126308.

This finding is greater than minor because it is associated with the structure, systems, and component performance and human performance attributes of the barrier integrity cornerstone and affects the cornerstone objective to provide reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding did not result in loss of cooling to the spent fuel pool; the finding did not result from fuel handling errors that caused damage to the fuel clad integrity or a dropped assembly; and the finding did not result in a loss of spent fuel pool inventory greater than ten percent of the spent fuel pool volume. This finding has a crosscutting aspect in the area of human performance associated with decision making because the licensee failed to use conservative assumptions when evaluating degraded and nonconforming conditions [H.1.(b)].

Inspection Report# : 2008002 *(pdf)*

Significance: G Dec 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUAT DESIGN CONTROLS FOR REFUELING MACHINE
The inspectors identified two examples of a noncited violation of 10 CFR Part 50, Criterion III, "Design Control," for the failure of engineering personnel to ensure that the design bases of the refueling machine were adequately translated into specifications, drawings, procedures, or instructions. Specifically, for the first example, between October 27, 2006, and October 25, 2007, the licensee inappropriately changed the facility as noted in the Updated Final Safety Analysis Report when a modification to the refueling machine introduced a single failure that could result in a failure of both the underload and overload protection features. This change resulted in more than a minimal increase in the consequences of a malfunction, in that the force limits on a fuel assembly grid strap could be exceeded. For the second example, between initial construction and December 5, 2007, procedures and instructions did not limit the stall torque of the hoist motor for the refueling machine. These issues were entered into the corrective action program as Condition Report/Disposition Requests 3030759 and 3068656.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that refueling equipment malfunctions could result in damaged fuel. Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," was used since the Significance Determination Process methods and tools were not adequate to determine the significance of the finding. This finding affects the barrier integrity cornerstone and is determined to have very low safety significance by NRC management review because it was a deficiency that did not result in the actual degradation of fuel.
Inspection Report# : 2007005 *(pdf)*

Significance: G Sep 27, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Meet Technical Specification Surveillance Requirement 3.6.6.6
Green. The team identified a noncited violation of Technical Specification Surveillance Requirement 3.6.6.6, for the failure to verify that each containment spray nozzle was unobstructed. Specifically, the last completed surveillance test conducted on each unit, identified that one nozzle in each unit was obstructed and that the nozzles were not retested in accordance with the approved retest requirement. This issue was entered into the corrective action program as Palo Verde Action Requests 3075026, 3075059, 3068647 and, 3048511.

The finding is more than minor because it affected the configuration control attribute of the barrier integrity cornerstone, and affected the associated cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to be of very low safety significance because it did not involve an actual reduction in defense-in-depth for the atmospheric pressure control function of the reactor containment.

Inspection Report# : 2007012 *(pdf)*

Significance: G Sep 27, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Meet Technical Specification Surveillance Requirement 3.0.3
Green. The team identified a noncited violation of Technical Specification Surveillance Requirement 3.0.3 for the failure of operations personnel to conduct an assessment and manage the risk for a missed surveillance test. On September 27, 2007, the team identified that the requirements for testing the containment spray nozzles in Units 1, 2, and, 3 did not meet Technical Specifications Surveillance Requirement 3.6.6.6. Operations personnel did not enter Technical Specification Surveillance Requirement 3.0.3 until prompted by the team on October 30, 2007. This issue was entered into the corrective action program as Palo Verde Action Request 3085708.

The finding is determined to be more than minor because it affected the configuration control attribute of the barrier integrity cornerstone, and affected the associated cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using the Manual Chapter

0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because it did not involve an actual reduction in defense-in-depth for the atmospheric pressure control function of the reactor containment. The cause of this finding has crosscutting aspects associated with work practices of the human performance area in that operations personnel failed to ensure supervisory and management oversight of work activities that resulted in a missed Technical Specification surveillance requirement (H.4(c)). The cause of this finding is also related to the safety culture component of accountability in that operations personnel failed to demonstrate a proper safety focus and reinforce safety principles (O.1.(c)).

Inspection Report# : 2007012 *(pdf)*

Emergency Preparedness

Significance: G Oct 08, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inability to Implement Two Emergency Action Levels
Green. The team identified a Green noncited violation of 10 CFR 50.54(q) and §50.47(b)(4), for the failure of the licensee to be able to implement EAL 3-12 and EAL7-1. Specifically, area radiation Monitor RU-18 could not be utilized in the vicinity of the remote shutdown panels and therefore, the emergency classification could not be declared at the Alert level as required in Procedure EPIP-99. In addition, the licensee improperly overclassified EAL 7-1 as an Alert when presented conditions warranting a classification of a Notification of Unusual Event. Specifically, the licensee did not develop a procedure to enable personnel to differentiate between an aircraft and an airliner and therefore, the proper emergency classifications could not be consistently determined. This finding was entered into the licensee's corrective action program as Condition Report Disposition Requests 3071570, 3071572, and 3085175.

The team determined that the inability to implement EALs was a performance deficiency. The finding was more than minor because it was associated with the Emergency Preparedness attribute of procedure quality and could affect the cornerstone objective associated with the licensee's ability to correctly classify an emergency condition which would affect the licensee's ability to implement adequate measures to protect the health and safety of the public. Using the Manual Chapter 0609, "Significance Determination Process," Appendix B, "Emergency Preparedness SDP," the finding was determined to have very low safety significance because the licensee would be unable to declare one EAL at the Alert and one EAL at the Notification of Unusual Event level. The cause of this finding had crosscutting aspects associated with the corrective action of the PI&R area in that the licensee had previous opportunities to identify the deficiencies (P.1.(a)).

Inspection Report# : 2007012 *(pdf)*

Significance: G Sep 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IDENTIFY AND CRITIQUE AN EVENT CLASSIFICATION WEAKNESS
The inspectors identified a noncited violation of 10 CFR 50.54(q) for failure of the emergency planning organization's emergency exercise critique process to identify for correction an emergency plan weakness associated with a risk significant planning standard. Specifically, during the critique of the Emergency Preparedness portion of the August 22, 2007, Force-On-Force exercise, the licensee failed to identify for correction an event classification weakness. The weakness occurred during the exercise when the shift manager did not recognize a credible security threat notification was made to the facility. As a result, the shift manager did not declare a Notice of Unusual Event as required by EPIP-99, Appendix A, "Emergency Actions Levels - EAL 7-1." This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 3056153.

This finding is greater than minor because it is associated with the Emergency Response Organization Performance attribute of the Emergency Preparedness Cornerstone and affects the cornerstone objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. In accordance with Manual Chapter 0609, "Significance Determination Process," Appendix

B, Emergency Preparedness Significance Determination Process, this finding is determined to have very low safety significance because, although it was a failure to comply with NRC requirements, it did not involve the risk-significant aspects of a planning standard as defined in Manual Chapter 0609, Appendix B, Section 2.0; and was not a planning standard functional failure because the critique failure occurred in a small scale drill with limited emergency response organization participation and evaluation. This finding has a crosscutting aspect in the area of problem identification and resolution associated with corrective action program because the threshold for identifying issues was not sufficiently low. Specifically, the emergency planning evaluator did not recognize the shift manager's failure to make the Notice of Unusual Event classification during the Force-On-Force exercise. Therefore, the exercise critique did not identify and correct the event classification deficiency as required (P.1(a)).
Inspection Report# : 2007004 *(pdf)*

Occupational Radiation Safety

Significance: G Dec 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO POST AND CONTROL A HIGH RADIATION AREA
The inspectors reviewed two examples of a self-revealing, noncited violation of Technical Specification 5.7.1 resulting from a failure to control a high radiation area. Specifically, the first example occurred on February 14, 2007, while preparing to perform a remote inspection and boric acid wash down of Unit 2 Letdown Ion Exchange Vessel CHN-D01A, a worker received a dose rate alarm of 141 mr/hr on his electronic dosimeter when he removed the shielded plug from the survey/inspection port. The second example occurred on October 24, 2007, while performing decontamination on Valve SIE-614 using a vacuum in the Unit 3 containment two workers received separate electronic dosimeter alarms of 81 mr/hr and 123 mr/hr approximately 20 minutes apart. The issues were entered into the corrective action program as Condition Report/Disposition Request 2970612 and 3081978.

This finding is greater than minor because it is associated with the occupational radiation safety program and process attribute and affected the cornerstone objective, in that the failure to post and control a high radiation area had the potential to increase personnel dose. This occurrence involved individual workers' unplanned, unintended dose that resulted from actions or conditions contrary to licensee procedures, radiation work permit, and technical specifications, therefore this finding was evaluated using the Occupational Radiation Safety Significance Determination Process. The inspectors determined that this finding was of very low safety significance because it did not involve: (1) an ALARA planning or work control issue, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. This finding involved crosscutting aspect in the area of human performance, work control component, in that the work planning did not appropriately plan work activities by incorporating risk insights and job site conditions.
Inspection Report# : 2007005 *(pdf)*

Public Radiation Safety

Significance: SL-IV Nov 02, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Periodically update the Updated Final Safety Analysis Report
SLIV. The team identified a Severity Level IV noncited violation of 10 CFR 50.71(e) for the failure of the licensee to periodically update the Updated Final Safety Analysis Report with all changes made in the facility or procedures. Specifically, in 2002, radiation protection and operations personnel changed the operation of the total dissolved solids holdup tanks from that described in the Updated Final Safety Analysis Report and did not submit an update to the NRC. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3075089.

This issue is being treated as traditional enforcement because the failure to update the Final Safety Analysis Report has the potential to impact the NRC's ability to perform its regulatory function. The finding is characterized as a Severity Level IV violation because the erroneous information was not used to make an unacceptable change to the

facility or procedures. The finding is of very low safety significance because the change in operation of the total dissolved solids holdup tanks did not result in an increase in the likelihood of a release of radioactive material. The cause of this finding has a crosscutting aspect associated with resources in the human performance area in that the licensee failed to ensure that personnel and equipment were available and adequate to maintain radiological safety by minimization of long-standing equipment issues (H.2.(a)).

Inspection Report# : 2007012 *(pdf)*

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : August 29, 2008

Palo Verde 2
3Q/2008 Plant Inspection Findings

Initiating Events

Significance: G Jun 30, 2008
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to Evaluate Design Changes Leads to a Manual Reactor Trip
A self revealing finding of Procedure 81DP-0DC13, "Deficiency Work Order," Revision 13, was identified for the failure of engineering personnel to ensure modifications do not inadvertently affect design basis plant conditions. Specifically, between January 23, 2001 and October 6, 2007, engineering personnel failed to ensure material compatibility of the condenser air removal system seal water cooler tube plugs to prevent corrosion. This resulted in sodium ingress into the condenser hotwell and steam generators due to a corroded tube plug that failed in the condenser air removal system D seal water cooler, and consequently a manual reactor scram. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 3074272.

The finding is greater than minor because it is associated with the design control attribute of the initiating events cornerstone and affects the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown and power operations. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding is determined to have very low safety significance because the finding did not result in exceeding the technical specification limit for identified reactor coolant system leakage, did not affect other mitigation systems, did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available; and did not increase the likelihood of a fire or internal/external flood. This finding was evaluated as not having a crosscutting aspect because the performance deficiency is not indicative of current performance.

Inspection Report# : 2008003 *(pdf)*

Significance: G Jun 30, 2008
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Fire in Pressurizer Cubicle due to Poor Work Practices
A self-revealing noncited violation of License NPF 51, Condition 2.C. (6), was identified involving the failure to follow procedures for proper control of ignition sources. Specifically, contract welding personnel failed to deenergize welding equipment and properly secure the welding rod electrodes, resulting in a fire in the Unit 2 pressurizer cubicle inside containment. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 3170965.

The finding is greater than minor because it is associated with the external factors attributes of the initiating events cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Manual Chapter 0609, "Significance Determination Process," Appendix M, "Significance Determination Process Using Qualitative Criteria," was used since the Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," does not address the potential risk significance of fire protection findings during shutdown conditions. The finding was determined to be of very low safety significance by NRC management review because the finding occurred while the unit was already in a cold shutdown condition and the finding did not affect equipment necessary to maintain safe shutdown. This finding has a crosscutting aspect in the area of human performance associated with work practices because the licensee did not ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported [H.4(c)].

Inspection Report# : 2008003 *(pdf)*

Significance: G Jun 30, 2008
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to Resolve Discrepancies Between Installed Equipment and Work Instructions Results in Mis-positioning Event
A self revealing finding was identified for the failure of operations and maintenance personnel to follow Procedure 01DP-9ZZ01, "Systematic Troubleshooting," and resolve a discrepancy with a work instruction prior to proceeding with troubleshooting. Specifically, maintenance and operations personnel did not resolve an error in Work Order 3174332 when troubleshooting Breaker NBN-S01A that failed to trip, resulting in a loss of the non vital electrical bus that supplied power to the nuclear cooling water and normal chilled water systems. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3174647.

The finding is greater than minor because it is associated with the initiating events cornerstone attribute of configuration control and affects the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during

shutdown and power operations. Using the Manual Chapter 0609 Appendix G, "Shutdown Operations Significance Determination Process," the finding is determined to have very low safety significance because the finding did not result in a loss of shutdown safety functions. This finding has a crosscutting aspect in the area of human performance associated with work practices because maintenance and operations personnel proceeded in the face of uncertainty or unexpected circumstances [H.4(a)].

Inspection Report# : 2008003 *(pdf)*

Significance: G Jun 30, 2008
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadvertent Decrease in Reactor Water Level Due to Personnel Error
A self-revealing noncited violation of Technical Specification 5.4.1, "Procedures," was identified for the failure of operations personnel to adequately implement Procedure 40DP 9OP19, "Locked Valve, Breaker, and Component Tracking." Specifically, on May 14, 2008, Valve SIA V421 was found out of its locked closed position one and one-half turns open resulting in approximately 930 gallons of water being inadvertently transferred from the reactor coolant system to the refueling storage water tank. This issue has been entered into the licensee's corrective action program as Palo Verde Action Request 3174527.

The failure to ensure the valve was properly closed resulted in an inadvertent reactor vessel level decrease. The finding is more than minor because it is associated with the configuration control attribute of the initiating events cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. A Phase 2 analysis was required because using Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," Attachment 1, the inspectors determined that the finding actually resulted in a loss of reactor coolant system inventory. Using the Phase 2 worksheets in Attachment 2, this was determined to be a loss of level control precursor event. The initiating event likelihood for this finding was determined from Table 1 of the worksheet and the resultant core damage frequency was determined to be 1E-8, therefore the finding screened as having very low safety significance. The finding has a crosscutting aspect in the area of human performance associated with work practices because the licensee failed to use human error prevention techniques such as self-checking [H.4(a)].
Inspection Report# : 2008003 *(pdf)*

Significance: G Nov 02, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Implementation of Risk Management Actions and Risk Assessments for the Switchyard
Green. The team identified a noncited violation of 10 CFR 50.65(a)(4) for the failure to adequately assess the increase in risk and effectively implement risk mitigation actions for maintenance activities in the switchyard. Specifically, the switchyard was not being protected by controlling access and movement as required and the risk modeling did not include all work being performed. The Unit 1 shift manager and the switchyard coordinator were unaware of the movement of multiple vehicles and pieces of equipment in or near restricted areas and not all maintenance was included in the schedule provided to the switchyard coordinator for risk review. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3078392.

This finding is greater than minor because the licensee's risk assessment failed to consider maintenance activities that could increase the likelihood of initiating events such as work in the switchyard and failed to effectively manage compensatory measures. Inspection Manual Chapter 0609, "Significance Determination Process," Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," was used to assess the significance. Using data from the licensee's probabilistic risk assessment, a NRC Region IV senior reactor analyst calculated the risk deficit. Based on the magnitude of the calculated risk deficit being less than 1E-6/year, this finding is determined to be of very low safety significance. The cause of this finding has crosscutting aspects associated with work control of the human performance area in that the licensee did not appropriately coordinate switchyard activities incorporating risk insights (H.3.(a)) and did not communicate with each other during activities in which coordination is necessary to assure plant and human performance (H.3.(b)).

Inspection Report# : 2007012 *(pdf)*

Mitigating Systems

Significance: G Jun 30, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Work Instructions for Reinstallation of Constant Support Hanger
The inspectors identified a noncited violation of Technical Specification 5.4.1.a, "Procedures," for the failure to establish and implement adequate maintenance procedures. These inadequate instructions resulted in the failure to install required washers during installation of a constant support spring hanger for a main steam line on May 14, 2008. This issue was entered into the licensee corrective action program as Condition Report/Disposition Request 3177622.

The finding is greater than minor because it is associated with the procedure quality attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with resources because the licensee failed to ensure work packages were complete, accurate and included up-to-date design documentation to assure nuclear safety [H.2(c)].

Inspection Report# : 2008003 *(pdf)*

Significance: G Jun 30, 2008
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Prevent Recurrence of a Significant Condition Adverse to Quality for the Feedwater Isolation Valves
A self revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," was identified for the failure of engineering personnel to implement adequate corrective actions to preclude recurrence of a significant condition adverse to quality. Specifically, between June 28, 1998 and July 17, 2006, on several occasions, the four way 'N' valve for an economizer main feedwater isolation valve became lodged in the center blocked position, preventing fast closure of the main feedwater isolation valve upon receipt of a main steam isolation signal. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2915450.

This finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. A Phase 2 analysis was required because using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," there was a loss of main feedwater isolation of a single train to Steam Generator 1 for greater than the Technical Specification allowed outage time. Using the Phase 2 worksheets associated with a steam generator tube rupture without steam generator isolation, the finding is determined to have very low safety significance since all remaining mitigation capability was available or recoverable. This finding was evaluated as not having a crosscutting aspect because the performance deficiency is not indicative of current performance.

Inspection Report# : 2008003 *(pdf)*

Significance: G Mar 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Establish Preventative Maintenance Procedures for Emergency Diesel Generator Fuel Oil Injection Pump O-Rings
The inspectors identified a non-cited violation of Technical Specification 5.4.1.a for the failure of operations and engineering personnel to establish and implement maintenance procedures for inspection and replacement of items that have a specific lifetime. Specifically, between February 12, 2007 and March 7, 2008, operations and engineering personnel failed to inspect or replace the emergency diesel generators fuel oil injection pump upper O-rings prior to the end of their service life resulting in fuel leakage and increased unavailability and unreliability of Unit 1 Train A, Unit 2 Train B, and Unit 3 Train B emergency diesel generators. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3143422.

This finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because it did not represent a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with operating experience because the licensee failed to use available operating experience, including vendor recommendations, to implement and institutionalize operating experience through changes to station processes, procedures, equipment, and training programs [P.2(b)].

Inspection Report# : 2008002 *(pdf)*

Significance: G Mar 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain Adequate Staffing Levels Results in Heavy Use of Overtime to Maintain Adequate Shift Coverage
The inspectors identified a non-cited violation of Technical Specification 5.2.2.d involving the routine use of excessive overtime for operations personnel that performed safety-related functions. Specifically, between January 1 and December 31, 2007, operations personnel routinely used excessive overtime. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 3112231.

The finding is greater than minor because if left uncorrected the finding would become a more significant safety concern in that the routine use of excessive work hours increases the likelihood of operator errors. Using the IMC 0609, "Significance Determination Process," Appendix M, the finding is determined to have very low safety significance because there was no recent instances where findings of low to moderate (White) or greater significance were attributed to the increased use of overtime by operating personnel. The finding has a crosscutting aspect in the area of human performance associated with resources because the licensee failed to maintain sufficient qualified operations personnel to maintain working hours within guidelines without the excessive use of overtime [H.2(b)].

Inspection Report# : 2008002 *(pdf)*

Significance: G Mar 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Properly Implement Corrective Action Process for Potential Operability Issues with the Class 1E 125 V DC System
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of engineering personnel to ensure that potentially nonconforming conditions associated with the Class 1E 125 Vdc system were reviewed for operability. Specifically, between September 29, 2007 and March 7, 2008, engineering personnel failed to ensure all relevant information was reviewed for operability when it was determined that vendor recommended preventative maintenance tasks were not being performed on the Class 1E 125 Vdc system. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3144707.

This finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because it did not represent a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with decision making because safety significant decisions were not verified to validate underlying assumptions and identify unintended consequences [H.1(b)].

Inspection Report# : 2008002 *(pdf)*

Significance: G Mar 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify Inoperable Feedwater Isolation Valve Exceeds Technical Specification Allowed Outage Time
A self revealing non-cited violation of Technical Specification 3.7.3.c was identified for the failure of operations personnel to perform the actions required for an inoperable main feedwater isolation valve. Specifically, on July 17, 2006, operations personnel failed to perform actions to place the unit in Mode 3 within 6 hours and Mode 5 within 36 hours, as required by Technical Specification 3.7.3.c, for an inoperable main feedwater isolation valve that had not been closed or isolated in 72 hours, as required by Technical Specification 3.7.3.a. This resulted in main feedwater isolation Valve 2JSGAUV0174 to steam Generator A exceeding the Technical Specification 3.7.3 allowed outage time. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2915450.

This finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. A Phase 2 analysis was required because the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, determined that there was a loss of main feedwater isolation of a single train to steam Generator A for greater than the technical specification allowed outage time. Using the Phase 2 Worksheets associated with a steam generator tube rupture without steam generator isolation, the finding is determined to have very low safety significance since all remaining mitigation capability was available or recoverable.

Inspection Report# : 2008002 *(pdf)*

Significance: G Dec 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
TWO EXAMPLES OF FAILURE TO PROPERLY IMPLEMENT THE OPERABILITY DETERMINATION PROCESS
The inspectors identified two examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," for the failure of operations personnel to follow procedures and adequately evaluate degraded and nonconforming conditions to support operability decision-making. On September 12 and October 29, 2007, operations personnel failed to adequately evaluate degraded and nonconforming conditions to support operability decision-making as described in Procedure 40DP-9OP26. Specifically, operations personnel failed to adequately evaluate the operability of the Unit 2 Train B emergency diesel generator after a lowering turbocharger lube oil pressure indication and the Unit 1 Train A auxiliary feedwater system during a body to bonnet steam leak on manual isolation Valve SGE-V886 for the steam supply to auxiliary feedwater Pump A bypass Valve SGA-UV-138A. This issue was entered into the corrective action

program as Condition Report/Disposition Request 3068929 and Palo Verde Action Request 3084439.

The finding is greater than minor because the degraded turbocharger lube oil filter is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, the steam leak on manual isolation Valve SGE-V886 is associated with the structure, system, and component and barrier performance attribute of the barrier integrity cornerstone and affects the associated cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding did not result in a loss of safety function under the mitigating systems cornerstone and did not result in an actual open pathway in the physical integrity of the reactor containment under the containment barriers cornerstone. The example of this finding related to lowering turbocharger lube oil pressure has a crosscutting aspect in the area of human performance associated with decision-making because the licensee did not use conservative assumptions for operability decision-making when evaluating degraded and nonconforming conditions (H.1(b)). The example of this finding related to the body to bonnet steam leak has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee did not properly classify, and thoroughly evaluate the operability for a condition adverse to quality (P.1(c)).

Inspection Report# : 2007005 *(pdf)*

Significance: G Oct 26, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Eight Examples of the Failure to Implement the operability Determination Process
Green. The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," with eight examples for the failure of the licensee to adequately evaluate degraded and unanalyzed conditions to support operability decision making between May 2006 and October 26, 2007. The team noted a significant number of weak or non-existent operability evaluations of degraded conditions affecting safety-related equipment. There was a lack of understanding of the need to assess operability for some conditions adverse to quality and a lack of knowledge or skills necessary to conduct quality operability assessments. The examples of the violation involved two instances of conditions adverse to quality documented in databases outside of the corrective action program, missile hazards near the essential spray pond, two issues effecting essential cooling water system heat exchangers, 480V and 4160V motor terminations, oil leaks on the emergency diesel generators, and high lead content in a Unit 3 low pressure safety injection pump. Each of the individual technical issues was entered into the licensee's corrective action program.

These examples associated with this finding are greater than minor because they were associated with the mitigating systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the examples associated with this finding are determined to have very low safety significance since they only affected the mitigating systems cornerstone and did not represent a loss of system safety function. The causes of the examples of this finding have crosscutting aspects associated with decision making of the human performance area in that operations and engineering personnel (1) did not make safety significant decisions using a systematic process (H.1.(a)), and (2) failed to use conservative assumptions for operability decision-making when evaluating degraded and nonconforming conditions (H.1.(b)). The causes of the examples of this finding also have crosscutting aspects associated with evaluation and corrective action of the problem identification and resolution area in that licensee personnel (1) did not assess conditions adverse to quality for impacts to the operability of safety- related equipment (P.1.(c), and (2) did not address safety issues in a timely manner P.1.(d)). The causes of the examples of this finding also related to the safety culture component of accountability in that workers and managers failed to demonstrate a proper safety focus and reinforce safety principles (O.1.(b) and O.1.(c)).

Inspection Report# : 2007012 *(pdf)*

Significance: G Oct 25, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Establish maintenance Rule Goals for the Safety Injection System
Green. The team identified a noncited violation of 10 CFR 50.65, for the failure of engineering personnel to establish goals and monitor the performance of the safety injection system. Specifically, on March 22, 2007, engineering personnel failed to establish goals to properly monitor system performance, or provide a technical justification to demonstrate that monitoring under 10 CFR 50.65(a)(1) was not required for the safety injection system following the system changing status from 10 CFR 50.65(a)(2) to 10 CFR 50.65(a)(1). This issue was entered into the corrective action program as Palo Verde Action Requests 3074255 and 3076699.

This finding is greater than minor because it was associated with the mitigating systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Inspection Manual Chapter 0609, "Significant Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance since there was no loss of safety function. The cause of this finding has crosscutting aspects associated with (1) corrective actions of the problem identification and resolution area in that engineering personnel failed to take appropriate actions to address safety issues and adverse trends in a timely manner (P.1.(d)) and self assessment of the problem identification and resolution area in that engineering personnel did not perform self assessments that were comprehensive, objective, and self critical (P.3.(a)).

Inspection Report# : 2007012 *(pdf)*

Significance: G Oct 10, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Six Examples of a Failure to Implement the Corrective Action Program Requirements
Green. The team identified a noncited violation of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action,” with six examples for the failure of the licensee to identify, evaluate, or correct conditions adverse to quality between 1988 and October 10, 2007. The corrective actions implemented by the licensee to address the substantive human performance and problem identification and resolution crosscutting issues were ineffective in sustaining performance improvement as noted by licensee self assessments, external industry reviews, and NRC inspections. The team also identified several examples of poor and inconsistent implementation of corrective action program behaviors. The examples of the violation involved not entering the use of unqualified tape in containment in the corrective action process, evaluating the condition, or taking timely actions to remove the tape from all three units; not identifying, evaluating, or implementing timely corrective actions associated with operating experience applicable to the auxiliary feedwater pump trip and throttle valve; not implementing timely corrective actions for water intrusion and flooding of underground manholes and cable vaults; inadequate evaluation for nonconforming Target Rock reed switches; not evaluating and correcting a degraded condition with post accident monitoring instrument chart recorders, and not correcting a degraded/nonconforming condition associated with 3 inch Borg-Warner check valves. Each of the individual technical issues was entered into the licensee’s corrective action program.

The examples associated with this finding are greater than minor because they were associated with the mitigating systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the examples associated with this finding are determined to have very low safety significance since they only affected the mitigating systems cornerstone and did not represent a loss of system safety function. The causes of the examples of this finding have crosscutting aspects associated with decision making of the human performance area in that operations and engineering personnel failed to use conservative assumptions for operability decision-making when evaluating degraded and nonconforming conditions (H.1.(b)). The causes of the examples of this finding have crosscutting aspects associated with (1) corrective actions of the problem identification and resolution area because the licensee failed to evaluate previous issues such that resolutions addressed all conditions affecting operability (P.1.(c)), (2) operating experience of the problem identification and resolution area in that engineering personnel failed to ensure implementation and institutionalization of operating experience through changes to station processes, procedures, equipment, and training programs (P.2.(b)), and (3) self assessment of the problem identification and resolution area in that the licensee did not follow their benchmarking and self assessment guide to ensure findings were evaluated in their corrective action program (P.3.(c)). The causes of the examples of this finding also related to the safety culture component of accountability in that workforce and management personnel failed to demonstrate a proper safety focus and reinforce safety principles (O.1.(b) and O.1.(c)).

Inspection Report# : 2007012 *(pdf)*

Significance: G Oct 10, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Evaluate Performance Monitoring Criteria for the Auxiliary Feedwater System
Green. The team identified a noncited violation of 10 CFR 50.65(a)(2) for the failure of maintenance rule and engineering personnel to demonstrate that the performance or condition of structures, systems, or components was being effectively controlled through appropriate preventive maintenance to ensure systems or components remained capable of performing their intended function. Specifically, between April and October 2007, an inadequate evaluation of maintenance rule performance criteria was performed and, even though the Unit 2 auxiliary feedwater Train A had exceeded its maintenance rule 10 CFR 50.65(a)(2) performance criteria, no goal setting and monitoring was performed as required by 10 CFR 50.65(a)(1) of the maintenance rule. This issue was entered into the corrective action program as Palo Verde Action Request 3075907.

This finding is greater than minor because it was associated with the mitigating systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance since it only affected the mitigating systems cornerstone and did not represent a loss of system safety function. The cause of this finding has crosscutting aspects associated with self assessments of the problem identification and resolution area in that maintenance rule and engineering personnel failed to perform self assessments that were comprehensive, appropriately objective, and self-critical (P.3.(a)). The cause of this finding has crosscutting aspects associated with decision-making of the human performance area in that engineering personnel failed to make safety-significant or risk-significant decisions using a systematic process (H.1.(a)). The cause of this finding is also related to the safety culture component of accountability in that management did not reinforce safety standards and display behaviors that reflected safety as an overriding priority (O.1.(b)).

Inspection Report# : 2007012 *(pdf)*

Significance: G Oct 04, 2007

Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Implement Adequate Design Controls for Condensate Storage Tank Temperature
Green. The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," with for the failure to translate design basis requirements into procedures to ensure the plant is operated within its design basis. Specifically, between 1985 and October 2007, the maximum condensate storage tank temperature requirements did not include the effect of recirculated hot condensate water from the main condenser. The issue was entered into the corrective action program as 3073243.

The examples associated with this finding are greater than minor because they were associated with the mitigating systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the examples associated with this finding are determined to have very low safety significance since they only affected the mitigating systems cornerstone and did not represent a loss of system safety function. The causes of the examples of this finding have crosscutting aspects associated with corrective action of the problem identification and resolution area in that engineering personnel did not assess conditions adverse to quality for impacts to the operability of safety related equipment (P.1.(c)).

Inspection Report# : 2007012 *(pdf)*

Significance: N/A Sep 30, 2006
Identified By: NRC
Item Type: FIN Finding
SUMMARY FINDING. 95002 TEAMS ASSESSMENT OF IR 2004-14 (YELLOW) 10 CFR PART 50, APPENDIX B, CRITERION III, VIOLATION
The NRC performed a followup supplemental inspection to assess the licensee's corrective actions associated with a Yellow design control finding involving the potential for air entrainment into the emergency core cooling system. The team concluded that the technical issues specifically associated with the voided emergency core cooling system piping have been addressed. However, the Yellow finding will remain open because the licensee did not implement effective corrective actions for all of the causes associated with the Yellow finding. Specifically, the licensee's actions to improve questioning attitude, technical rigor, and technical review were not fully effective. Also, the implementation of performance measures and metrics to monitor the effectiveness of corrective actions associated with the Yellow finding were not adequate to assess effectiveness. This performance issue was previously characterized as a 10 CFR Part 50, Appendix B, Criterion III, violation having substantial safety significance (Yellow), and was originally identified in NRC Inspection Report 05000528; 05000529; 05000530/2004014.

The licensee's corrective actions taken in response to the root causes and related programmatic concerns involving questioning attitude, technical rigor, and technical review have not been completely effective. Specifically, following implementation of corrective actions between September 2005 and March 2006, the licensee: (1) continued to conduct inadequate technical reviews of emerging issues; (2) did not routinely question the validity of engineering assumptions used to support operability decisions; (3) did not consistently implement a qualify, validate, and verify process; and (4) did not consistently notify operations personnel of immediate operability concerns.

The team concluded that adequate qualitative or quantitative measures for determining the effectiveness of the corrective actions to prevent recurrence have not been established. For example, not all relevant performance data was considered when performance monitoring measures were developed to assess the effectiveness of corrective actions. When the pertinent data was considered, or otherwise clarified, the performance measures suggested declining rather than improving performance in some areas.

The team also concluded that the licensee had not completed adequate reviews of the effectiveness of corrective actions prior to their notifying the NRC of their readiness for inspection of the Yellow finding. Specifically, several assessments were completed after the requested dated of the inspection (June 2006). Several of the assessments noted that insufficient progress in resolving some of the root and contributing causes had been made. Additionally, a standard guideline for metrics was not issued and implemented until July 2006.

Inspection Report# : 2006010 *(pdf)*

Significance:  Mar 16, 2005
Identified By: NRC
Item Type: FIN Finding
FAILURE TO TRACK CONTROL ROOM DISCREPANCIES
The inspectors identified a finding for the failure to follow administrative guidelines provided to operations personnel for identifying, documenting, and tracking main control room deficiencies. Specifically, approximately 75 control room instrument and control room meter face plates in Units 1, 2, and 3 were degraded and were not individually tracked in the control room discrepancy log. Furthermore, discrepancy labels containing the control room discrepancy log number and description of the discrepancy were not placed adjacent to or as close as possible to each affected device. This issue was entered into the corrective action program as Condition Report/Disposition Request 2782501.

The finding is determined to be greater than minor because if left uncorrected, it could become a more significant safety concern in that the condition could cause an operator to take an inappropriate action based on expected plant response or conversely cause an operator not to take action when action is required. The senior reactor analyst determined that this finding was not appropriate to be evaluated using the significance determination process since this finding was associated with multiple human performance actions. Based on management review, the finding is determined to have very low safety significance because it only affected the mitigating systems cornerstone, and there was no

adverse impact to plant equipment.

Inspection Report# : 2005002 *(pdf)*

Significance: Y Dec 09, 2004
Identified By: NRC
Item Type: VIO Violation
FAILURE TO MAINTAIN DESIGN CONTROL OF CONTAINMENT SUMP RECIRCULATION PIPING
The team identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to establish measures to assure design basis information was translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to maintain the safety injection sump suction piping full of water in accordance with the Updated Final Safety Analysis Report. This nonconformance had the potential to significantly affect the available net positive suction head described in the Updated Final Safety Analysis Report for the high pressure safety injection and containment spray pumps, since the analysis assumed the piping would be maintained full of water.
{Note: Finding remains open - IP 95002 results pending 12/16/2005}

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that the issue had substantial safety significance (Yellow). After considering the information developed during the inspection and the results of testing sponsored by the licensee, the NRC has concluded that this inspection finding is appropriately characterized as Yellow. The final Significance Determination Process letter was issued on April 8, 2005. This issue was inspected within the scope of a Supplemental 95002 Inspection in August - September 2005.

{NOTE: Yellow finding remains open because the corrective actions taken in response to the root causes and related programmatic concerns involving questioning attitude, technical rigor, and operability determinations have not been fully effective. - IP 95002 Supplemental Inspection completed December 2005, IR 05000528/20050112, 05000529/20050112 and 05000530/2005012, IP 95002 Followup Supplemental Inspection completed August 2006, IR 05000528/2006010, 05000529/2006010 and 05000530/2006010}
Inspection Report# : 2004014 *(pdf)*

Barrier Integrity

Significance: G Mar 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Procedure to Evaluate Foreign Material in the Spent Fuel Pool
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of fuels services personnel to evaluate leaving foreign material in the Unit 2 spent fuel pool in accordance with procedures, and failed to ensure those procedures included appropriate quantitative and qualitative acceptance criteria. Specifically, between October 13, 2006, and January 31, 2008, fuels services personnel used Procedure 30DP 9MP03, "System Cleanliness and Foreign Material Exclusion Controls," Revision 6, which did not specify acceptance criteria for time to perform a functional assessment of foreign material in the spent fuel pool, resulting in foreign material being left in the spent fuel pool for greater than one year without an evaluation on affected safety systems. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3126308.

This finding is greater than minor because it is associated with the structure, systems, and component performance and human performance attributes of the barrier integrity cornerstone and affects the cornerstone objective to provide reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding did not result in loss of cooling to the spent fuel pool; the finding did not result from fuel handling errors that caused damage to the fuel clad integrity or a dropped assembly; and the finding did not result in a loss of spent fuel pool inventory greater than ten percent of the spent fuel pool volume. This finding has a crosscutting aspect in the area of human performance associated with decision making because the licensee failed to use conservative assumptions when evaluating degraded and nonconforming conditions [H.1.(b)].

Inspection Report# : 2008002 *(pdf)*

Significance: G Dec 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUAT DESIGN CONTROLS FOR REFUELING MACHINE

The inspectors identified two examples of a noncited violation of 10 CFR Part 50, Criterion III, "Design Control," for the failure of engineering personnel to ensure that the design bases of the refueling machine were adequately translated into specifications, drawings, procedures, or instructions. Specifically, for the first example, between October 27, 2006, and October 25, 2007, the licensee inappropriately changed the facility as noted in the Updated Final Safety Analysis Report when a modification to the refueling machine introduced a single failure that could result in a failure of both the underload and overload protection features. This change resulted in more than a minimal increase in the consequences of a malfunction, in that the force limits on a fuel assembly grid strap could be exceeded. For the second example, between initial construction and December 5, 2007, procedures and instructions did not limit the stall torque of the hoist motor for the refueling machine. These issues were entered into the corrective action program as Condition Report/Disposition Requests 3030759 and 3068656.

The finding is greater than minor because it would become a more significant safety concern if left uncorrected in that refueling equipment malfunctions could result in damaged fuel. Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," was used since the Significance Determination Process methods and tools were not adequate to determine the significance of the finding. This finding affects the barrier integrity cornerstone and is determined to have very low safety significance by NRC management review because it was a deficiency that did not result in the actual degradation of fuel.
Inspection Report# : 2007005 *(pdf)*

Emergency Preparedness

Significance: G Jun 30, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Correct a Risk Significant Planning Standard
The inspectors identified a noncited violation (NCV) of 10 CFR 50.54(q) and 10 CFR Part 50, Appendix E.IV.F.2.g, for the licensee's failure to correct an identified risk significant planning standard weakness between May 2, 2007 and October 28, 2007. Specifically, the licensee failed to implement adequate corrective actions for identified weaknesses in the ability to correctly make a Site Area Emergency declaration for a steam generator tube rupture event. This issue was entered into the licensee's correction action program as Palo Verde Action Request 3083911.

The NRC determined that the inability to consistently implement an Emergency Action Level was a performance deficiency within the licensee's control. This finding is more than minor because it was associated with the Emergency Preparedness attribute of emergency response organization performance and affected the cornerstone objective to implement adequate measures to protect the health and safety of the public because the inability to properly recognize and classify an emergency condition affects the licensee's ability to implement adequate protective measures. This finding was preliminarily determined to be of low to moderate safety significance. After consideration of information provided during and after a Regulatory Conference held on March 25, 2008, the NRC has concluded that the knowledge deficiency identified among senior operators would not likely result in an incorrect emergency classification during a steam generator tube rupture event, and the NRC has concluded the significance of the inspection finding is appropriately characterized as Green (i.e., a finding of very low safety significance). This violation is being treated as an NCV, consistent with Section VI of the NRC Enforcement Policy. The cause of this finding has crosscutting aspects associated with the corrective action aspect of the problem identification and resolution area in that the licensee failed to thoroughly evaluate problems such that resolutions ensured correcting problems [P.1.(c)]. The cause of this finding was also related to the safety culture component of accountability in that the licensee failed to demonstrate a proper safety focus and reinforce safety principles [O.1.(c)].

Inspection Report# : 2008003 *(pdf)*

Significance: G Oct 08, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inability to Implement Two Emergency Action Levels
Green. The team identified a Green noncited violation of 10 CFR 50.54(q) and §50.47(b)(4), for the failure of the licensee to be able to implement EAL 3-12 and EAL7-1. Specifically, area radiation Monitor RU-18 could not be utilized in the vicinity of the remote shutdown panels and therefore, the emergency classification could not be declared at the Alert level as required in Procedure EPIP-99. In addition, the licensee improperly overclassified EAL 7-1 as an Alert when presented conditions warranting a classification of a Notification of Unusual Event. Specifically, the licensee did not develop a procedure to enable personnel to differentiate between an aircraft and an airliner and therefore, the proper emergency classifications could not be consistently determined. This finding was entered into the licensee's corrective action program as Condition Report Disposition Requests 3071570, 3071572, and 3085175.

The team determined that the inability to implement EALs was a performance deficiency. The finding was more than minor because it was associated with the Emergency Preparedness attribute of procedure quality and could affect the cornerstone objective associated with the licensee's ability to correctly classify an emergency condition which would affect the licensee's ability to implement adequate measures to protect the health and safety of the public. Using the Manual Chapter 0609, "Significance Determination Process," Appendix B, "Emergency

Preparedness SDP," the finding was determined to have very low safety significance because the licensee would be unable to declare one EAL at the Alert and one EAL at the Notification of Unusual Event level. The cause of this finding had crosscutting aspects associated with the corrective action of the PI&R area in that the licensee had previous opportunities to identify the deficiencies (P.1.(a)).

Inspection Report# : 2007012 *(pdf)*

Occupational Radiation Safety

Significance: G Dec 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO POST AND CONTROL A HIGH RADIATION AREA
The inspectors reviewed two examples of a self-revealing, noncited violation of Technical Specification 5.7.1 resulting from a failure to control a high radiation area. Specifically, the first example occurred on February 14, 2007, while preparing to perform a remote inspection and boric acid wash down of Unit 2 Letdown Ion Exchange Vessel CHN-D01A, a worker received a dose rate alarm of 141 mr/hr on his electronic dosimeter when he removed the shielded plug from the survey/inspection port. The second example occurred on October 24, 2007, while performing decontamination on Valve SIE-614 using a vacuum in the Unit 3 containment two workers received separate electronic dosimeter alarms of 81 mr/hr and 123 mr/hr approximately 20 minutes apart. The issues were entered into the corrective action program as Condition Report/Disposition Request 2970612 and 3081978.

This finding is greater than minor because it is associated with the occupational radiation safety program and process attribute and affected the cornerstone objective, in that the failure to post and control a high radiation area had the potential to increase personnel dose. This occurrence involved individual workers' unplanned, unintended dose that resulted from actions or conditions contrary to licensee procedures, radiation work permit, and technical specifications, therefore this finding was evaluated using the Occupational Radiation Safety Significance Determination Process. The inspectors determined that this finding was of very low safety significance because it did not involve: (1) an ALARA planning or work control issue, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. This finding involved crosscutting aspect in the area of human performance, work control component, in that the work planning did not appropriately plan work activities by incorporating risk insights and job site conditions.
Inspection Report# : 2007005 *(pdf)*

Public Radiation Safety

Significance: SL-IV Nov 02, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Periodically update the Updated Final Safety Analysis Report
SLIV. The team identified a Severity Level IV noncited violation of 10 CFR 50.71(e) for the failure of the licensee to periodically update the Updated Final Safety Analysis Report with all changes made in the facility or procedures. Specifically, in 2002, radiation protection and operations personnel changed the operation of the total dissolved solids holdup tanks from that described in the Updated Final Safety Analysis Report and did not submit an update to the NRC. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3075089.

This issue is being treated as traditional enforcement because the failure to update the Final Safety Analysis Report has the potential to impact the NRC's ability to perform its regulatory function. The finding is characterized as a Severity Level IV violation because the erroneous information was not used to make an unacceptable change to the facility or procedures. The finding is of very low safety significance because the change in operation of the total dissolved solids holdup tanks did not result in an increase in the likelihood of a release of radioactive material. The cause of this finding has a crosscutting aspect associated with resources in the human performance area in that the licensee failed to ensure that personnel and equipment were available and adequate to maintain radiological safety by minimization of long-standing equipment issues (H.2.(a)).

Inspection Report# : 2007012 *(pdf)*

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the

cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : November 26, 2008

Palo Verde 2
4Q/2008 Plant Inspection Findings

Initiating Events

Significance: G Jun 30, 2008
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to Evaluate Design Changes Leads to a Manual Reactor Trip
A self revealing finding of Procedure 81DP-0DC13, "Deficiency Work Order," Revision 13, was identified for the failure of engineering personnel to ensure modifications do not inadvertently affect design basis plant conditions. Specifically, between January 23, 2001 and October 6, 2007, engineering personnel failed to ensure material compatibility of the condenser air removal system seal water cooler tube plugs to prevent corrosion. This resulted in sodium ingress into the condenser hotwell and steam generators due to a corroded tube plug that failed in the condenser air removal system D seal water cooler, and consequently a manual reactor scram. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 3074272.

The finding is greater than minor because it is associated with the design control attribute of the initiating events cornerstone and affects the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown and power operations. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding is determined to have very low safety significance because the finding did not result in exceeding the technical specification limit for identified reactor coolant system leakage, did not affect other mitigation systems, did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available; and did not increase the likelihood of a fire or internal/external flood. This finding was evaluated as not having a crosscutting aspect because the performance deficiency is not indicative of current performance.

Inspection Report# : 2008003 *(pdf)*

Significance: G Jun 30, 2008
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Fire in Pressurizer Cubicle due to Poor Work Practices
A self-revealing noncited violation of License NPF-51, Condition 2.C. (6), was identified involving the failure to follow procedures for proper control of ignition sources. Specifically, contract welding personnel failed to deenergize welding equipment and properly secure the welding rod electrodes, resulting in a fire in the Unit 2 pressurizer cubicle inside containment. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 3170965.

The finding is greater than minor because it is associated with the external factors attributes of the initiating events cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Manual Chapter 0609, "Significance Determination Process," Appendix M, "Significance Determination Process Using Qualitative Criteria," was used since the Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," does not address the potential risk significance of fire protection findings during shutdown conditions. The finding was determined to be of very low safety significance by NRC management review because the finding occurred while the unit was already in a cold shutdown condition and the finding did not affect equipment necessary to maintain safe shutdown. This finding has a crosscutting aspect in the area of human performance associated with work practices because the licensee did not ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported [H.4(c)].

Inspection Report# : 2008003 *(pdf)*

Significance: G Jun 30, 2008
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to Resolve Discrepancies Between Installed Equipment and Work Instructions Results in Mis-positioning Event
A self-revealing finding was identified for the failure of operations and maintenance personnel to follow Procedure 01DP-9ZZ01, "Systematic Troubleshooting," and resolve a discrepancy with a work instruction prior to proceeding with troubleshooting. Specifically, maintenance and operations personnel did not resolve an error in Work Order 3174332 when troubleshooting Breaker NBN-S01A that failed to trip, resulting in a loss of the non-vital electrical bus that supplied power to the nuclear cooling water and normal chilled water systems. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3174647.

The finding is greater than minor because it is associated with the initiating events cornerstone attribute of configuration control and affects the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown and power operations. Using the Manual Chapter 0609 Appendix G, "Shutdown Operations Significance Determination Process," the finding is determined to have very low safety significance because the finding did not result in a loss of shutdown safety functions. This finding has a crosscutting aspect in the area of human performance associated with work practices because maintenance and operations personnel proceeded in the face of uncertainty or unexpected circumstances [H.4(a)].

Inspection Report# : 2008003 *(pdf)*

Significance: G Jun 30, 2008
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadvertent Decrease in Reactor Water Level Due to Personnel Error
A self-revealing noncited violation of Technical Specification 5.4.1, "Procedures," was identified for the failure of operations personnel to adequately implement Procedure 40DP-9OP19, "Locked Valve, Breaker, and Component Tracking." Specifically, on May 14, 2008, Valve SIA-V421 was found out of its locked closed position one and one-half turns open resulting in approximately 930 gallons of water being inadvertently transferred from the reactor coolant system to the refueling storage water tank. This issue has been entered into the licensee's corrective action program as Palo Verde Action Request 3174527.

The failure to ensure the valve was properly closed resulted in an inadvertent reactor vessel level decrease. The finding is more than minor because it is associated with the configuration control attribute of the initiating events cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. A Phase 2 analysis was required because using Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," Attachment 1, the inspectors determined that the finding actually resulted in a loss of reactor coolant system inventory. Using the Phase 2 worksheets in Attachment 2, this was determined to be a loss of level control precursor event. The initiating event likelihood for this finding was determined from Table 1 of the worksheet and the resultant core damage frequency was determined to be 1E-8, therefore the finding screened as having very low safety significance. The finding has a crosscutting aspect in the area of human performance associated with work practices because the licensee failed to use human error prevention techniques such as self-checking [H.4(a)].
Inspection Report# : 2008003 *(pdf)*

Mitigating Systems

Significance: G Dec 31, 2008

Identified By: NRC
Item Type: FIN Finding
Failure to Promptly Identify and Correct Degraded Hydrostatic Penetration Seals
The inspectors identified a finding of Palo Verde Nuclear Generating Station Procedure 01DP 0AP10, "Corrective Action Program," Revision 1, for the failure of operations and engineering personnel to promptly identify and correct a condition adverse to quality. Specifically, between February 13, 2007 and July 18, 2008, operations and engineering personnel failed to identify and correct degraded hydrostatic flood penetration seals which provide protection to safety-related equipment during internal flooding events. This resulted in over 100 hydrostatic penetration seals in the control, diesel, and main steam support structure buildings being left degraded for greater than 12 months. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3264501.

The finding is greater than minor because it is associated with the protection against external factors (i.e. flood hazard) attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with operating experience because operations and engineering personnel failed to implement and institutionalize operating experience through changes to station processes, procedures, equipment, and training programs [P.2(b)].

Inspection Report# : 2008005 *(pdf)*

Significance: G Sep 30, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform an Operability Determination for High Chlorine in the Essential Spray Pond
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations and chemistry personnel to follow the corrective action program to ensure that potentially nonconforming conditions associated with the essential spray pond system were reviewed for operability. Specifically, between July 10, 2008 and July 11, 2008, operations and chemistry personnel failed to ensure all relevant information was reviewed for operability when the Unit 2 essential spray Pond A hypochloride addition Valve 2-SPN-V494 was found open. This resulted in the essential spray pond chemistry pH and chlorine samples being delayed to the extent that the sample results were not reliable to assess operability. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 3206115.

The finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with decision-making because safety-significant decisions were not verified to validate underlying assumptions and identify unintended consequences [H.1(b)].

Inspection Report# : 2008004 *(pdf)*

Significance: G Jun 30, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Work Instructions for Reinstallation of Constant Support Hanger

The inspectors identified a noncited violation of Technical Specification 5.4.1.a, "Procedures," for the failure to establish and implement adequate maintenance procedures. These inadequate instructions resulted in the failure to install required washers during installation of a constant support spring hanger for a main steam line on May 14, 2008. This issue was entered into the licensee corrective action program as Condition Report/Disposition Request 3177622.

The finding is greater than minor because it is associated with the procedure quality attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with resources because the licensee failed to ensure work packages were complete, accurate and included up-to-date design documentation to assure nuclear safety [H.2(c)].

Inspection Report# : 2008003 *(pdf)*

Significance: G Jun 30, 2008
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Prevent Recurrence of a Significant Condition Adverse to Quality for the Feedwater Isolation Valves
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," was identified for the failure of engineering personnel to implement adequate corrective actions to preclude recurrence of a significant condition adverse to quality. Specifically, between June 28, 1998 and July 17, 2006, on several occasions, the four way 'N' valve for an economizer main feedwater isolation valve became lodged in the center blocked position, preventing fast closure of the main feedwater isolation valve upon receipt of a main steam isolation signal. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2915450.

This finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. A Phase 2 analysis was required because using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," there was a loss of main feedwater isolation of a single train to Steam Generator 1 for greater than the Technical Specification allowed outage time. Using the Phase 2 worksheets associated with a steam generator tube rupture without steam generator isolation, the finding is determined to have very low safety significance since all remaining mitigation capability was available or recoverable. This finding was evaluated as not having a crosscutting aspect because the performance deficiency is not indicative of current performance.

Inspection Report# : 2008003 *(pdf)*

Significance: G Mar 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Establish Preventative Maintenance Procedures for Emergency Diesel Generator Fuel Oil Injection Pump O-Rings
The inspectors identified a non-cited violation of Technical Specification 5.4.1.a for the failure of operations and engineering personnel to establish and implement maintenance procedures for inspection and replacement of items that have a specific lifetime. Specifically, between February 12, 2007 and March 7, 2008, operations and engineering personnel failed to inspect or replace the emergency diesel generators fuel oil injection pump upper O-rings prior to the end of their service life resulting in fuel leakage and increased unavailability and unreliability of Unit 1 Train A, Unit 2 Train B, and Unit 3 Train B emergency diesel generators. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3143422.

This finding is greater than minor because it is associated with the equipment performance attribute of the mitigating

systems cornerstone and affects the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because it did not represent a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with operating experience because the licensee failed to use available operating experience, including vendor recommendations, to implement and institutionalize operating experience through changes to station processes, procedures, equipment, and training programs [P.2(b)].

Inspection Report# : 2008002 *(pdf)*

Significance:  Mar 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain Adequate Staffing Levels Results in Heavy Use of Overtime to Maintain Adequate Shift Coverage
The inspectors identified a non-cited violation of Technical Specification 5.2.2.d involving the routine use of excessive overtime for operations personnel that performed safety-related functions. Specifically, between January 1 and December 31, 2007, operations personnel routinely used excessive overtime. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 3112231.

The finding is greater than minor because if left uncorrected the finding would become a more significant safety concern in that the routine use of excessive work hours increases the likelihood of operator errors. Using the IMC 0609, "Significance Determination Process," Appendix M, the finding is determined to have very low safety significance because there were no recent instances where findings of low to moderate (White) or greater significance were attributed to the increased use of overtime by operating personnel. The finding has a crosscutting aspect in the area of human performance associated with resources because the licensee failed to maintain sufficient qualified operations personnel to maintain working hours within guidelines without the excessive use of overtime [H.2(b)].

Inspection Report# : 2008002 *(pdf)*

Significance:  Mar 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Properly Implement Corrective Action Process for Potential Operability Issues with the Class 1E 125 V DC System
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of engineering personnel to ensure that potentially nonconforming conditions associated with the Class 1E 125 Vdc system were reviewed for operability. Specifically, between September 29, 2007 and March 7, 2008, engineering personnel failed to ensure all relevant information was reviewed for operability when it was determined that vendor recommended preventative maintenance tasks were not being performed on the Class 1E 125 Vdc system. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3144707.

This finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because it did not represent a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with decision making because safety significant decisions were not verified to validate underlying assumptions and identify unintended consequences [H.1(b)].

Inspection Report# : 2008002 *(pdf)*

Significance: G Mar 31, 2008
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Identify Inoperable Feedwater Isolation Valve Exceeds Technical Specification Allowed Outage Time
A self-revealing non-cited violation of Technical Specification 3.7.3.c was identified for the failure of operations personnel to perform the actions required for an inoperable main feedwater isolation valve. Specifically, on July 17, 2006, operations personnel failed to perform actions to place the unit in Mode 3 within 6 hours and Mode 5 within 36 hours, as required by Technical Specification 3.7.3.c, for an inoperable main feedwater isolation valve that had not been closed or isolated in 72 hours, as required by Technical Specification 3.7.3.a. This resulted in main feedwater isolation Valve 2JSGAUV0174 to steam Generator A exceeding the Technical Specification 3.7.3 allowed outage time. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2915450.

This finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. A Phase 2 analysis was required because the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, determined that there was a loss of main feedwater isolation of a single train to steam Generator A for greater than the technical specification allowed outage time. Using the Phase 2 Worksheets associated with a steam generator tube rupture without steam generator isolation, the finding is determined to have very low safety significance since all remaining mitigation capability was available or recoverable.

Inspection Report# : 2008002 *(pdf)*

Significance: N/A Sep 30, 2006
Identified By: NRC
Item Type: FIN Finding
SUMMARY FINDING. 95002 TEAMS ASSESSMENT OF IR 2004-14 (YELLOW) 10 CFR PART 50, APPENDIX B, CRITERION III, VIOLATION
The NRC performed a followup supplemental inspection to assess the licensee’s corrective actions associated with a Yellow design control finding involving the potential for air entrainment into the emergency core cooling system. The team concluded that the technical issues specifically associated with the voided emergency core cooling system piping have been addressed. However, the Yellow finding will remain open because the licensee did not implement effective corrective actions for all of the causes associated with the Yellow finding. Specifically, the licensee’s actions to improve questioning attitude, technical rigor, and technical review were not fully effective. Also, the implementation of performance measures and metrics to monitor the effectiveness of corrective actions associated with the Yellow finding were not adequate to assess effectiveness. This performance issue was previously characterized as a 10 CFR Part 50, Appendix B, Criterion III, violation having substantial safety significance (Yellow), and was originally identified in NRC Inspection Report 05000528; 05000529; 05000530/2004014.

The licensee’s corrective actions taken in response to the root causes and related programmatic concerns involving questioning attitude, technical rigor, and technical review have not been completely effective. Specifically, following implementation of corrective actions between September 2005 and March 2006, the licensee: (1) continued to conduct inadequate technical reviews of emerging issues; (2) did not routinely question the validity of engineering assumptions used to support operability decisions; (3) did not consistently implement a qualify, validate, and verify process; and (4) did not consistently notify operations personnel of immediate operability concerns.

The team concluded that adequate qualitative or quantitative measures for determining the effectiveness of the corrective actions to prevent recurrence have not been established. For example, not all relevant performance data was considered when performance monitoring measures were developed to assess the effectiveness of corrective actions. When the pertinent data was considered, or otherwise clarified, the performance measures suggested declining rather

than improving performance in some areas.

The team also concluded that the licensee had not completed adequate reviews of the effectiveness of corrective actions prior to their notifying the NRC of their readiness for inspection of the Yellow finding. Specifically, several assessments were completed after the requested dated of the inspection (June 2006). Several of the assessments noted that insufficient progress in resolving some of the root and contributing causes had been made. Additionally, a standard guideline for metrics was not issued and implemented until July 2006.

Inspection Report# : 2006010 *(pdf)*

Significance: Y Dec 09, 2004
Identified By: NRC
Item Type: VIO Violation
FAILURE TO MAINTAIN DESIGN CONTROL OF CONTAINMENT SUMP RECIRCULATION PIPING
The team identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to establish measures to assure design basis information was translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to maintain the safety injection sump suction piping full of water in accordance with the Updated Final Safety Analysis Report. This nonconformance had the potential to significantly affect the available net positive suction head described in the Updated Final Safety Analysis Report for the high pressure safety injection and containment spray pumps, since the analysis assumed the piping would be maintained full of water.
{Note: Finding remains open - IP 95002 results pending 12/16/2005}

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that the issue had substantial safety significance (Yellow). After considering the information developed during the inspection and the results of testing sponsored by the licensee, the NRC has concluded that this inspection finding is appropriately characterized as Yellow. The final Significance Determination Process letter was issued on April 8, 2005. This issue was inspected within the scope of a Supplemental 95002 Inspection in August - September 2005.

{NOTE: Yellow finding remains open because the corrective actions taken in response to the root causes and related programmatic concerns involving questioning attitude, technical rigor, and operability determinations have not been fully effective. - IP 95002 Supplemental Inspection completed December 2005, IR 05000528/20050112, 05000529/20050112 and 05000530/2005012, IP 95002 Followup Supplemental Inspection completed August 2006, IR 05000528/2006010, 05000529/2006010 and 05000530/2006010}
Inspection Report# : 2004014 *(pdf)*

Barrier Integrity

Significance: G Sep 30, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Procedural Requirements to Implement Technical Specification 5.5.2.b
The inspectors identified a non-cited violation of Technical Specification 5.5.2.b, "Primary Coolant Sources Outside Containment," for the failure of engineering and maintenance personnel to implement a program to verify integrated leak test requirements for abandoned valves still connected to an active system. Specifically, between January 8, 1993 and September 30, 2008, engineering personnel failed to ensure portions of the containment spray system, which could be in contact with radioactive fluids outside containment, were included in the integrated leak test requirements. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 3170965.

The performance deficiency associated with this finding was the failure of engineering and maintenance personnel to implement a program to verify integrated leak test requirements for abandoned valves still connected to an active system. The finding is greater than minor because it is associated with the design control and procedural quality attribute associated with maintaining radiological barrier functionality for the auxiliary building of the barrier integrity cornerstone and affects the cornerstone objective to provide reasonable assurance that the physical design barriers protect the public from radio nuclide releases caused by accidents or events. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding is determined to have very low safety significance because it only represented a degradation of the radiological barrier function of the auxiliary building. This finding was evaluated as not having a crosscutting aspect because the performance deficiency is not indicative of current performance.

Inspection Report# : 2008004 *(pdf)*

Significance: G Mar 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Procedure to Evaluate Foreign Material in the Spent Fuel Pool
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of fuels services personnel to evaluate leaving foreign material in the Unit 2 spent fuel pool in accordance with procedures, and failed to ensure those procedures included appropriate quantitative and qualitative acceptance criteria. Specifically, between October 13, 2006, and January 31, 2008, fuels services personnel used Procedure 30DP-9MP03, "System Cleanliness and Foreign Material Exclusion Controls," Revision 6, which did not specify acceptance criteria for time to perform a functional assessment of foreign material in the spent fuel pool, resulting in foreign material being left in the spent fuel pool for greater than one year without an evaluation on affected safety systems. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3126308.

This finding is greater than minor because it is associated with the structure, systems, and component performance and human performance attributes of the barrier integrity cornerstone and affects the cornerstone objective to provide reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding did not result in loss of cooling to the spent fuel pool; the finding did not result from fuel handling errors that caused damage to the fuel clad integrity or a dropped assembly; and the finding did not result in a loss of spent fuel pool inventory greater than ten percent of the spent fuel pool volume. This finding has a crosscutting aspect in the area of human performance associated with decision-making because the licensee failed to use conservative assumptions when evaluating degraded and nonconforming conditions [H.1.(b)].

Inspection Report# : 2008002 *(pdf)*

Emergency Preparedness

Significance: G Jun 30, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Correct a Risk Significant Planning Standard
The inspectors identified a noncited violation (NCV) of 10 CFR 50.54(q) and 10 CFR Part 50, Appendix E.IV.F.2.g, for the licensee’s failure to correct an identified risk significant planning standard weakness between May 2, 2007 and October 28, 2007. Specifically, the licensee failed to implement adequate corrective actions for identified weaknesses in the ability to correctly make a Site Area Emergency declaration for a steam generator tube rupture event. This issue was entered into the licensee’s correction action program as Palo Verde Action Request 3083911.

The NRC determined that the inability to consistently implement an Emergency Action Level was a performance deficiency within the licensee's control. This finding is more than minor because it was associated with the Emergency Preparedness attribute of emergency response organization performance and affected the cornerstone objective to implement adequate measures to protect the health and safety of the public because the inability to properly recognize and classify an emergency condition affects the licensee's ability to implement adequate protective measures. This finding was preliminarily determined to be of low to moderate safety significance. After consideration of information provided during and after a Regulatory Conference held on March 25, 2008, the NRC has concluded that the knowledge deficiency identified among senior operators would not likely result in an incorrect emergency classification during a steam generator tube rupture event, and the NRC has concluded the significance of the inspection finding is appropriately characterized as Green (i.e., a finding of very low safety significance). This violation is being treated as an NCV, consistent with Section VI of the NRC Enforcement Policy. The cause of this finding has crosscutting aspects associated with the corrective action aspect of the problem identification and resolution area in that the licensee failed to thoroughly evaluate problems such that resolutions ensured correcting problems [P.1.(c)]. The cause of this finding was also related to the safety culture component of accountability in that the licensee failed to demonstrate a proper safety focus and reinforce safety principles [O.1.(c)].

Inspection Report# : 2008003 *(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : April 07, 2009

Palo Verde 2
1Q/2009 Plant Inspection Findings

Initiating Events

Significance: G Jun 30, 2008
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to Evaluate Design Changes Leads to a Manual Reactor Trip
A self revealing finding of Procedure 81DP-0DC13, "Deficiency Work Order," Revision 13, was identified for the failure of engineering personnel to ensure modifications do not inadvertently affect design basis plant conditions. Specifically, between January 23, 2001 and October 6, 2007, engineering personnel failed to ensure material compatibility of the condenser air removal system seal water cooler tube plugs to prevent corrosion. This resulted in sodium ingress into the condenser hotwell and steam generators due to a corroded tube plug that failed in the condenser air removal system D seal water cooler, and consequently a manual reactor scram. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 3074272.

The finding is greater than minor because it is associated with the design control attribute of the initiating events cornerstone and affects the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown and power operations. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding is determined to have very low safety significance because the finding did not result in exceeding the technical specification limit for identified reactor coolant system leakage, did not affect other mitigation systems, did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available; and did not increase the likelihood of a fire or internal/external flood. This finding was evaluated as not having a crosscutting aspect because the performance deficiency is not indicative of current performance.

Inspection Report# : 2008003 *(pdf)*

Significance: G Jun 30, 2008
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Fire in Pressurizer Cubicle due to Poor Work Practices
A self-revealing noncited violation of License NPF-51, Condition 2.C. (6), was identified involving the failure to follow procedures for proper control of ignition sources. Specifically, contract welding personnel failed to deenergize welding equipment and properly secure the welding rod electrodes, resulting in a fire in the Unit 2 pressurizer cubicle inside containment. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 3170965.

The finding is greater than minor because it is associated with the external factors attributes of the initiating events cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Manual Chapter 0609, "Significance Determination Process," Appendix M, "Significance Determination Process Using Qualitative Criteria," was used since the Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," does not address the potential risk significance of fire protection findings during shutdown conditions. The finding was determined to be of very low safety significance by NRC management review because the finding occurred while the unit was already in a cold shutdown condition and the finding did not affect equipment necessary to maintain safe shutdown. This finding has a crosscutting aspect in the area of human performance associated with work practices because the licensee did not ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported [H.4(c)].

Inspection Report# : 2008003 *(pdf)*

Significance: G Jun 30, 2008
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to Resolve Discrepancies Between Installed Equipment and Work Instructions Results in Mis-positioning Event
A self-revealing finding was identified for the failure of operations and maintenance personnel to follow Procedure 01DP-9ZZ01, "Systematic Troubleshooting," and resolve a discrepancy with a work instruction prior to proceeding with troubleshooting. Specifically, maintenance and operations personnel did not resolve an error in Work Order 3174332 when troubleshooting Breaker NBN-S01A that failed to trip, resulting in a loss of the non-vital electrical bus that supplied power to the nuclear cooling water and normal chilled water systems. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3174647.

The finding is greater than minor because it is associated with the initiating events cornerstone attribute of configuration control and affects the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown and power operations. Using the Manual Chapter 0609 Appendix G, "Shutdown Operations Significance Determination Process," the finding is determined to have very low safety significance because the finding did not result in a loss of shutdown safety functions. This finding has a crosscutting aspect in the area of human performance associated with work practices because maintenance and operations personnel proceeded in the face of uncertainty or unexpected circumstances [H.4(a)].

Inspection Report# : 2008003 *(pdf)*

Significance: G Jun 30, 2008
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadvertent Decrease in Reactor Water Level Due to Personnel Error
A self-revealing noncited violation of Technical Specification 5.4.1, "Procedures," was identified for the failure of operations personnel to adequately implement Procedure 40DP-9OP19, "Locked Valve, Breaker, and Component Tracking." Specifically, on May 14, 2008, Valve SIA-V421 was found out of its locked closed position one and one-half turns open resulting in approximately 930 gallons of water being inadvertently transferred from the reactor coolant system to the refueling storage water tank. This issue has been entered into the licensee's corrective action program as Palo Verde Action Request 3174527.

The failure to ensure the valve was properly closed resulted in an inadvertent reactor vessel level decrease. The finding is more than minor because it is associated with the configuration control attribute of the initiating events cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. A Phase 2 analysis was required because using Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," Attachment 1, the inspectors determined that the finding actually resulted in a loss of reactor coolant system inventory. Using the Phase 2 worksheets in Attachment 2, this was determined to be a loss of level control precursor event. The initiating event likelihood for this finding was determined from Table 1 of the worksheet and the resultant core damage frequency was determined to be 1E-8, therefore the finding screened as having very low safety significance. The finding has a crosscutting aspect in the area of human performance associated with work practices because the licensee failed to use human error prevention techniques such as self-checking [H.4(a)].
Inspection Report# : 2008003 *(pdf)*

Mitigating Systems

Significance: G Mar 31, 2009

Identified By: NRC
Item Type: FIN Finding
Failure to Correct Deficient Condition for the Essential Spray Pond Chemical Addition System Valves High Failure Rate
The inspectors identified a finding for the failure of engineering and maintenance personnel to adequately implement timely corrective actions for deficiencies associated with the essential spray pond sodium hypochlorite chemical addition system. Specifically, between May 2006 and March 2009, corrective actions to replace degraded sodium hypochlorite valves with a more reliable chemical addition system were not taken resulting in the Unit 2 spray pond Train A chemistry pH level being out of specification high on two occasions. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3277070.

The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with decision making because the licensee did not communicate bases for decisions to personnel with a need to know such that work is performed safely in a timely manner [H.1(c)].

Inspection Report# : 2009002 *(pdf)*

Significance: G Mar 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform an Adequate Operability Determination for High Chlorine in the Essential Spray Pond
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations personnel to follow procedures to declare the essential spray pond inoperable. Specifically, on November 13, 2008, operations personnel failed to follow procedures to declare Unit 2 essential spray Pond A inoperable and perform a 10 CFR 50.59 screening when a compensatory measure, such as acid addition, was required to restore operability of the spray pond. This resulted in the performance of a calculation and an evaporative test to verify operability of essential spray Pond A for the mission time without taking credit for compensatory measures. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3258988.

The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with decision-making because safety-significant decisions were not verified to validate underlying assumptions and identify unintended consequences [H.1(b)]
]

Inspection Report# : 2009002 *(pdf)*

Significance: G Mar 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Periodically Inspect or Test, and Repair Fire Penetration Seals
The inspectors identified 5 examples of a non-cited violation of License Condition 2.C.(7), 2.C.(6), and 2.F for Unit 1,

Unit 2, and Unit 3, respectively, for the failure of engineering and maintenance personnel follow procedures to adequately inspect and repair fire penetration seals. Specifically, between 2004 and August 2008, engineering and maintenance personnel failed to inspect and repair fire penetration seals, which provide protection to safety-related equipment during fire events, resulting in the licensee declaring 4 fire penetration seals degraded and 1 non-functional. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3295124.

The finding is more than minor because it was associated with the external factors attribute (i.e. fire) of the mitigating systems cornerstone and affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to require additional evaluation under Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process." Based on the analysis performed, the inspector concluded that the degradation of the fire barrier penetration seals represented a low degradation of the fire confinement element of the fire protection program, the degraded fire barrier penetration seals had no credible fire damage state, and that the fire ignition sources present could not damage the post fire safe shutdown equipment, and therefore determined the finding to have very low safety significance. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee failed to implement the corrective action program with a low threshold for identifying issues [P.1 (a)]

Inspection Report# : 2009002 *(pdf)*

Significance: G Feb 27, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify and Correct Related Degradation of Safety-Related Inverters
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” for the licensee’s failure to promptly identify and correct a condition adverse to quality. Specifically, the licensee failed to incorporate industry and vendor recommended preventative maintenance requirements to prevent the age related degradation of safety-related inverter components. This finding was entered into the licensees corrective action program as Palo Verde Action Request 3291971.

The inspectors determined that the failure to identify the necessary maintenance practices and take corrective actions prior to the 2008 inverter failures was a performance deficiency. This finding is more than minor because it affects the equipment performance attribute of the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheets, the team determined that a Phase 2 analysis was required because the finding represented a loss of system safety function. A Phase 2/Phase 3 significance determination was performed by an NRC senior reactor analyst. Based on a bounding analysis, the analyst determined that the delta core damage frequency result was less than 1.0E-7/yr. This noncited violation was therefore determined to be of very low safety significance. This finding has a crosscutting aspect in the problem identification and resolution component of operating experience, in that the licensee failed to implement operating experience through changes to station procedures.

Inspection Report# : 2009006 *(pdf)*

Significance: G Feb 27, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Properly Implement Corrective Action Process for Potential Operability Issues with the Safety Related Systems and Systems Important to Safety
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations personnel to follow the corrective action program to ensure that degraded and nonconforming conditions associated with safety related systems and systems important to safety were properly

reviewed for operability. Specifically, between December 21, 2006, and January 30, 2009, operations personnel failed to perform adequate operability determinations of Palo Verde Action Requests associated with the component design basis review project and other site projects, resulting in 97 Palo Verde Action Requests that either needed an immediate operability determination or a functional assessment, or needed more information to provide reasonable assurance of operability. Of the 97 examples 20 occurred following implementation of corrective actions associated with the Confirmatory Action Letter to improve this process and therefore are reflective of current performance. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3281099.

The finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because 9 of the 20 examples, reflective of current performance, were not thoroughly evaluated such that the resolutions address causes and extent of conditions, as necessary, including properly evaluating for operability conditions adverse to quality.

Inspection Report# : 2009006 *(pdf)*

Significance: G Feb 27, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Procedures for Performing Operability Determinations
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the failure of operations personnel to follow the corrective action program to ensure that degraded and nonconforming conditions associated with safety related systems and systems important to safety were reviewed for operability. Specifically, between December 21, 2006 and January 30, 2009, operations personnel failed to perform adequate operability determinations of Palo Verde Action Requests associated with the component design basis review project and other site projects, resulting in 97 Palo Verde Action Requests that either needed an immediate operability determination or a functional assessment, or needed more information to provide reasonable assurance of operability. Of the 97 examples 20 occurred following implementation of corrective actions to improve this process and therefore are reflective of current performance. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3281099.

The finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, “Phase 1 – Initial Screening and Characterization of Findings,” the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with resources because 11 of the 20 examples, reflective of current performance, were the result of inadequate procedural guidance governing the conduct of operability determinations to ensure that conditions adverse to quality are properly evaluated for their potential operability impacts.

Inspection Report# : 2009006 *(pdf)*

Significance: G Dec 31, 2008
Identified By: NRC
Item Type: FIN Finding
Failure to Promptly Identify and Correct Degraded Hydrostatic Penetration Seals
The inspectors identified a finding of Palo Verde Nuclear Generating Station Procedure 01DP 0AP10, "Corrective

Action Program," Revision 1, for the failure of operations and engineering personnel to promptly identify and correct a condition adverse to quality. Specifically, between February 13, 2007 and July 18, 2008, operations and engineering personnel failed to identify and correct degraded hydrostatic flood penetration seals which provide protection to safety-related equipment during internal flooding events. This resulted in over 100 hydrostatic penetration seals in the control, diesel, and main steam support structure buildings being left degraded for greater than 12 months. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3264501.

The finding is greater than minor because it is associated with the protection against external factors (i.e. flood hazard) attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with operating experience because operations and engineering personnel failed to implement and institutionalize operating experience through changes to station processes, procedures, equipment, and training programs [P.2(b)].

Inspection Report# : 2008005 *(pdf)*

Significance: G Sep 30, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform an Operability Determination for High Chlorine in the Essential Spray Pond
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations and chemistry personnel to follow the corrective action program to ensure that potentially nonconforming conditions associated with the essential spray pond system were reviewed for operability. Specifically, between July 10, 2008 and July 11, 2008, operations and chemistry personnel failed to ensure all relevant information was reviewed for operability when the Unit 2 essential spray Pond A hypochloride addition Valve 2-SPN-V494 was found open. This resulted in the essential spray pond chemistry pH and chlorine samples being delayed to the extent that the sample results were not reliable to assess operability. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 3206115.

The finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with decision-making because safety-significant decisions were not verified to validate underlying assumptions and identify unintended consequences [H.1(b)].

Inspection Report# : 2008004 *(pdf)*

Significance: G Jun 30, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Work Instructions for Reinstallation of Constant Support Hanger
The inspectors identified a noncited violation of Technical Specification 5.4.1.a, "Procedures," for the failure to establish and implement adequate maintenance procedures. These inadequate instructions resulted in the failure to install required washers during installation of a constant support spring hanger for a main steam line on May 14, 2008. This issue was entered into the licensee corrective action program as Condition Report/Disposition Request 3177622.

The finding is greater than minor because it is associated with the procedure quality attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with resources because the licensee failed to ensure work packages were complete, accurate and included up-to-date design documentation to assure nuclear safety [H.2(c)].

Inspection Report# : 2008003 *(pdf)*

Significance: G Jun 30, 2008
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Prevent Recurrence of a Significant Condition Adverse to Quality for the Feedwater Isolation Valves
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," was identified for the failure of engineering personnel to implement adequate corrective actions to preclude recurrence of a significant condition adverse to quality. Specifically, between June 28, 1998 and July 17, 2006, on several occasions, the four way 'N' valve for an economizer main feedwater isolation valve became lodged in the center blocked position, preventing fast closure of the main feedwater isolation valve upon receipt of a main steam isolation signal. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2915450.

This finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. A Phase 2 analysis was required because using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," there was a loss of main feedwater isolation of a single train to Steam Generator 1 for greater than the Technical Specification allowed outage time. Using the Phase 2 worksheets associated with a steam generator tube rupture without steam generator isolation, the finding is determined to have very low safety significance since all remaining mitigation capability was available or recoverable. This finding was evaluated as not having a crosscutting aspect because the performance deficiency is not indicative of current performance.

Inspection Report# : 2008003 *(pdf)*

Significance: Y Dec 09, 2004
Identified By: NRC
Item Type: VIO Violation
FAILURE TO MAINTAIN DESIGN CONTROL OF CONTAINMENT SUMP RECIRCULATION PIPING
The team identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to establish measures to assure design basis information was translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to maintain the safety injection sump suction piping full of water in accordance with the Updated Final Safety Analysis Report. This nonconformance had the potential to significantly affect the available net positive suction head described in the Updated Final Safety Analysis Report for the high pressure safety injection and containment spray pumps, since the analysis assumed the piping would be maintained full of water.
{Note: Finding remains open - IP 95002 results pending 12/16/2005}

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. The NRC assessed this finding through Phase 3 of the Significance Determination Process and made a preliminary determination that the issue had substantial safety significance (Yellow). After considering the information developed during the inspection and the results of testing

sponsored by the licensee, the NRC has concluded that this inspection finding is appropriately characterized as Yellow. The final Significance Determination Process letter was issued on April 8, 2005. This issue was inspected within the scope of a Supplemental 95002 Inspection in August - September 2005.

{NOTE: Yellow finding remains open because the corrective actions taken in response to the root causes and related programmatic concerns involving questioning attitude, technical rigor, and operability determinations have not been fully effective. - IP 95002 Supplemental Inspection completed December 2005, IR 05000528/20050112, 05000529/20050112 and 05000530/2005012, IP 95002 Followup Supplemental Inspection completed August 2006, IR 05000528/2006010, 05000529/2006010 and 05000530/2006010}
Inspection Report# : 2004014 *(pdf)*
Inspection Report# : 2009006 *(pdf)*

Barrier Integrity

Significance: G Sep 30, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Procedural Requirements to Implement Technical Specification 5.5.2.b
The inspectors identified a non-cited violation of Technical Specification 5.5.2.b, "Primary Coolant Sources Outside Containment," for the failure of engineering and maintenance personnel to implement a program to verify integrated leak test requirements for abandoned valves still connected to an active system. Specifically, between January 8, 1993 and September 30, 2008, engineering personnel failed to ensure portions of the containment spray system, which could be in contact with radioactive fluids outside containment, were included in the integrated leak test requirements. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 3170965.

The performance deficiency associated with this finding was the failure of engineering and maintenance personnel to implement a program to verify integrated leak test requirements for abandoned valves still connected to an active system. The finding is greater than minor because it is associated with the design control and procedural quality attribute associated with maintaining radiological barrier functionality for the auxiliary building of the barrier integrity cornerstone and affects the cornerstone objective to provide reasonable assurance that the physical design barriers protect the public from radio nuclide releases caused by accidents or events. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding is determined to have very low safety significance because it only represented a degradation of the radiological barrier function of the auxiliary building. This finding was evaluated as not having a crosscutting aspect because the performance deficiency is not indicative of current performance.

Inspection Report# : 2008004 *(pdf)*

Emergency Preparedness

Significance: G Jun 30, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Correct a Risk Significant Planning Standard
The inspectors identified a noncited violation (NCV) of 10 CFR 50.54(q) and 10 CFR Part 50, Appendix E.IV.F.2.g, for the licensee’s failure to correct an identified risk significant planning standard weakness between May 2, 2007 and October 28, 2007. Specifically, the licensee failed to implement adequate corrective actions for identified weaknesses in the ability to correctly make a Site Area Emergency declaration for a steam generator tube rupture event. This issue

was entered into the licensee's correction action program as Palo Verde Action Request 3083911.

The NRC determined that the inability to consistently implement an Emergency Action Level was a performance deficiency within the licensee's control. This finding is more than minor because it was associated with the Emergency Preparedness attribute of emergency response organization performance and affected the cornerstone objective to implement adequate measures to protect the health and safety of the public because the inability to properly recognize and classify an emergency condition affects the licensee's ability to implement adequate protective measures. This finding was preliminarily determined to be of low to moderate safety significance. After consideration of information provided during and after a Regulatory Conference held on March 25, 2008, the NRC has concluded that the knowledge deficiency identified among senior operators would not likely result in an incorrect emergency classification during a steam generator tube rupture event, and the NRC has concluded the significance of the inspection finding is appropriately characterized as Green (i.e., a finding of very low safety significance). This violation is being treated as an NCV, consistent with Section VI of the NRC Enforcement Policy. The cause of this finding has crosscutting aspects associated with the corrective action aspect of the problem identification and resolution area in that the licensee failed to thoroughly evaluate problems such that resolutions ensured correcting problems [P.1.(c)]. The cause of this finding was also related to the safety culture component of accountability in that the licensee failed to demonstrate a proper safety focus and reinforce safety principles [O.1.(c)].

Inspection Report# : 2008003 *(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : May 29, 2009

Palo Verde 2
2Q/2009 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Jun 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Develop an Adequate Procedure to Ensure Operability of the Essential Cooling Water Heat Exchangers
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the failure of operations, chemistry, and engineering personnel to develop a procedure with appropriate quantitative or qualitative acceptance criteria for chloride levels to ensure operability of the essential cooling water system heat exchangers. Specifically, from plant startup until April 28, 2009, chemistry personnel’s Policy CDP1-14, “Chemistry Department Policies,” stated, in part, that a Palo Verde Action Request will be generated for entry into any Action Level 1, 2, 3 or 5, and did not give actions for Action Level 4. This resulted in chlorides exceeding Action Level 4 quantitative acceptance criterion in the essential cooling water system Train A without a Palo Verde Action Request being generated, or an operability determination being performed in a timely manner. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3347097.

The finding is more than minor because it is associated with the procedure quality attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, “Phase 1 – Initial Screening and Characterization of Findings,” the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with decision-making because decisions and the basis for decisions were not communicated to personnel who have a need to know the information in order to perform work safely, in a timely manner [H.1(c)].

Inspection Report# : 2009003 *(pdf)*

Significance: SL-IV Jun 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform Written Safety Evaluation in Accordance with 10 CFR 50.59 for Refueling Water Tank Full Flow Recirculation
The inspectors identified a non-cited Severity Level IV violation of 10 CFR 50.59 requirements for the failure of engineering personnel to perform adequate written safety evaluations prior to implementing changes to the emergency core cooling system. Specifically, between 1987 and February 2009, engineering personnel failed to obtained prior NRC approval for a change that involved two unreviewed safety questions involving emergency core cooling system operability and containment bypass leakage during an accident. The first example involved a change in an emergency core cooling system lineup that could have prevented the fulfillment of the safety functions of the safety injection system to remove residual heat and mitigate the consequences of an accident. The second example involved opening normally locked close valves, while the plant is operating, that could result in the loss of a safety function to control the release of radioactive material as a result of the containment bypass path. This issue was entered into the licensee's

corrective action program as Condition Report / Disposition Request 3287805.

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. This finding is also more than minor because it is associated with the configuration control attribute of the Barrier Integrity cornerstone and adversely affects the cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. In accordance with Inspection Manual Chapter 0612, Appendix B, "Issue Disposition Screening," the inspectors determined that traditional enforcement applied because this issue may have impacted the NRC's ability to perform its regulatory function, and should be evaluated using the traditional enforcement process. The issue was classified as Severity Level IV because the violation of 10 CFR 50.59 involved conditions evaluated as having very low safety significance by the Significance Determination Process. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding required a Phase 2 analysis because the finding represented a loss of safety system function of the safety injection system. The Phase 2 analysis determined that this finding was potentially greater than Green; therefore, a Phase 3 analysis was completed by a regional senior reactor analyst. The Phase 3 analysis determined that this issue was of very low safety significance based on the senior reactor analyst reviewing the licensee's risk estimate of the condition which concluded that the ICCDP was much less than 1.0E-7. The analyst checked portions of the licensee's analysis using the Palo Verde SPAR model, and found the licensee results to be acceptable. Therefore, the significance of the finding was determined to be very low (Green). This finding was evaluated as not having a crosscutting aspect because the performance deficiency is not indicative of current performance.
Inspection Report# : 2009003 *(pdf)*

Significance: G Mar 31, 2009
Identified By: NRC
Item Type: FIN Finding
Failure to Correct Deficient Condition for the Essential Spray Pond Chemical Addition System Valves High Failure Rate
The inspectors identified a finding for the failure of engineering and maintenance personnel to adequately implement timely corrective actions for deficiencies associated with the essential spray pond sodium hypochlorite chemical addition system. Specifically, between May 2006 and March 2009, corrective actions to replace degraded sodium hypochlorite valves with a more reliable chemical addition system were not taken resulting in the Unit 2 spray pond Train A chemistry pH level being out of specification high on two occasions. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3277070.

The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with decision making because the licensee did not communicate bases for decisions to personnel with a need to know such that work is performed safely in a timely manner [H.1(c)].

Inspection Report# : 2009002 *(pdf)*

Significance: G Mar 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform an Adequate Operability Determination for High Chlorine in the Essential Spray Pond
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations personnel to follow procedures to declare the essential spray pond

inoperable. Specifically, on November 13, 2008, operations personnel failed to follow procedures to declare Unit 2 essential spray Pond A inoperable and perform a 10 CFR 50.59 screening when a compensatory measure, such as acid addition, was required to restore operability of the spray pond. This resulted in the performance of a calculation and an evaporative test to verify operability of essential spray Pond A for the mission time without taking credit for compensatory measures. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3258988.

The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with decision-making because safety-significant decisions were not verified to validate underlying assumptions and identify unintended consequences [H.1(b)].
Inspection Report# : 2009002 *(pdf)*

Significance: G Mar 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Periodically Inspect or Test, and Repair Fire Penetration Seals
The inspectors identified 5 examples of a non-cited violation of License Condition 2.C.(7), 2.C.(6), and 2.F for Unit 1, Unit 2, and Unit 3, respectively, for the failure of engineering and maintenance personnel to follow procedures to adequately inspect and repair fire penetration seals. Specifically, between 2004 and August 2008, engineering and maintenance personnel failed to inspect and repair fire penetration seals, which provide protection to safety-related equipment during fire events, resulting in the licensee declaring 4 fire penetration seals degraded and 1 non-functional. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3295124.

The finding is more than minor because it was associated with the external factors attribute (i.e. fire) of the mitigating systems cornerstone and affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to require additional evaluation under Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process." Based on the analysis performed, the inspector concluded that the degradation of the fire barrier penetration seals represented a low degradation of the fire confinement element of the fire protection program, the degraded fire barrier penetration seals had no credible fire damage state, and that the fire ignition sources present could not damage the post-fire safe shutdown equipment, and therefore determined the finding to have very low safety significance. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee failed to implement the corrective action program with a low threshold for identifying issues [P.1 (a)].

Inspection Report# : 2009002 *(pdf)*

Significance: G Feb 27, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify and Correct Age-Related Degradation of Safety-Related Inverters
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” for the licensee’s failure to promptly identify and correct a condition adverse to quality. Specifically, the licensee failed to incorporate industry and vendor recommended preventative maintenance requirements to prevent the age related degradation of safety-related inverter components. This finding was entered into the licensees corrective action program as Palo Verde Action Request 3291971.

The inspectors determined that the failure to identify the necessary maintenance practices and take corrective actions prior to the 2008 inverter failures was a performance deficiency. This finding is more than minor because it affects the equipment performance attribute of the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheets, the team determined that a Phase 2 analysis was required because the finding represented a loss of system safety function. A Phase 2/Phase 3 significance determination was performed by an NRC senior reactor analyst. Based on a bounding analysis, the analyst determined that the delta core damage frequency result was less than 1.0E-7/yr. This noncited violation was therefore determined to be of very low safety significance. This finding has a crosscutting aspect in the problem identification and resolution component of operating experience, in that the licensee failed to implement operating experience through changes to station procedures [P.2(b)].

Inspection Report# : 2009006 *(pdf)*

Significance: G Feb 27, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Properly Implement Corrective Action Process for Potential Operability Issues with the Safety Related Systems and Systems Important to Safety
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations personnel to follow the corrective action program to ensure that degraded and nonconforming conditions associated with safety related systems and systems important to safety were properly reviewed for operability. Specifically, between December 21, 2006, and January 30, 2009, operations personnel failed to perform adequate operability determinations of Palo Verde Action Requests associated with the component design basis review project and other site projects, resulting in 97 Palo Verde Action Requests that either needed an immediate operability determination or a functional assessment, or needed more information to provide reasonable assurance of operability. Of the 97 examples 20 occurred following implementation of corrective actions associated with the Confirmatory Action Letter to improve this process and therefore are reflective of current performance. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3281099.

The finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because 9 of the 20 examples, reflective of current performance, were not thoroughly evaluated such that the resolutions address causes and extent of conditions, as necessary, including properly evaluating for operability conditions adverse to quality [P.1(c)].

Inspection Report# : 2009006 *(pdf)*

Significance: G Feb 27, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Procedures for Performing Operability Determinations
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the failure of operations personnel to follow the corrective action program to ensure that degraded and nonconforming conditions associated with safety related systems and systems important to safety were reviewed for operability. Specifically, between December 21, 2006 and January 30, 2009, operations personnel failed to perform adequate operability determinations of Palo Verde Action Requests associated with the component design basis review project and other site projects, resulting in 97 Palo Verde Action Requests that either needed an

immediate operability determination or a functional assessment, or needed more information to provide reasonable assurance of operability. Of the 97 examples 20 occurred following implementation of corrective actions to improve this process and therefore are reflective of current performance. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3281099.

The finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, “Phase 1 – Initial Screening and Characterization of Findings,” the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with resources because 11 of the 20 examples, reflective of current performance, were the result of inadequate procedural guidance governing the conduct of operability determinations to ensure that conditions adverse to quality are properly evaluated for their potential operability impacts [H.2(c)].

Inspection Report# : 2009006 *(pdf)*

Significance: G Dec 31, 2008
Identified By: NRC
Item Type: FIN Finding
Failure to Promptly Identify and Correct Degraded Hydrostatic Penetration Seals
The inspectors identified a finding at Palo Verde Nuclear Generating Station Procedure 01DP-0AP10, "Corrective Action Program," Revision 1, for the failure of operations and engineering personnel to promptly identify and correct a condition adverse to quality. Specifically, between February 13, 2007 and July 18, 2008, operations and engineering personnel failed to identify and correct degraded hydrostatic flood penetration seals which provide protection to safety-related equipment during internal flooding events. This resulted in over 100 hydrostatic penetration seals in the control, diesel, and main steam support structure buildings being left degraded for greater than 12 months. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3264501.

The finding is greater than minor because it is associated with the protection against external factors (i.e. flood hazard) attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with operating experience because operations and engineering personnel failed to implement and institutionalize operating experience through changes to station processes, procedures, equipment, and training programs [P.2(b)].

Inspection Report# : 2008005 *(pdf)*

Significance: G Sep 30, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform an Operability Determination for High Chlorine in the Essential Spray Pond
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations and chemistry personnel to follow the corrective action program to ensure that potentially nonconforming conditions associated with the essential spray pond system were reviewed for operability. Specifically, between July 10, 2008, and July 11, 2008, operations and chemistry personnel failed to ensure all relevant information was reviewed for operability when the Unit 2 essential spray Pond A hypochlorite addition Valve 2-SPN-V494 was found open. This resulted in the essential spray pond chemistry pH and chlorine

samples being delayed to the extent that the sample results were not reliable to assess operability. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 3206115.

The finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with decision-making because safety-significant decisions were not verified to validate underlying assumptions and identify unintended consequences [H.1(b)].

Inspection Report# : 2008004 *(pdf)*

Barrier Integrity

Significance: G Sep 30, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Procedural Requirements to Implement Technical Specification 5.5.2.b
The inspectors identified a noncited violation of Technical Specification 5.5.2.b, "Primary Coolant Sources Outside Containment," for the failure of engineering and maintenance personnel to implement a program to verify integrated leak test requirements for abandoned valves still connected to an active system. Specifically, between January 8, 1993, and September 30, 2008, engineering personnel failed to ensure portions of the containment spray system, which could be in contact with radioactive fluids outside containment, were included in the integrated leak test requirements. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 3170965.

The performance deficiency associated with this finding was the failure of engineering and maintenance personnel to implement a program to verify integrated leak test requirements for abandoned valves still connected to an active system. The finding is greater than minor because it is associated with the design control and procedural quality attribute associated with maintaining radiological barrier functionality for the auxiliary building of the barrier integrity cornerstone and affects the cornerstone objective to provide reasonable assurance that the physical design barriers protect the public from radio nuclide releases caused by accidents or events. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding is determined to have very low safety significance because it only represented a degradation of the radiological barrier function of the auxiliary building. This finding was evaluated as not having a crosscutting aspect because the performance deficiency is not indicative of current performance.

Inspection Report# : 2008004 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Mar 13, 2009
Identified By: NRC
Item Type: FIN Finding
Assessment of PVNGS Corrective Action Program
The team concluded that the implementation of the corrective action program at the Palo Verde Nuclear Generating Station was generally effective. Once entered into the system, items were screened and prioritized in a timely manner using established criteria. The station properly evaluated items entered into the corrective action program commensurate with their safety significance. Corrective actions addressed the identified causes. The team selected and reviewed approximately 350 risk-informed action requests, work orders, associated root and apparent cause evaluations, and other supporting documentation to assess problem identification and resolution activities. The inspectors verified that the licensee had taken actions to address previous NRC findings. The team performed a five year review of the diesel generator performance and a focused review of inverter systems to determine whether problems were being effectively addressed and that the corrective action program was effective in identifying problems. As a result of these reviews, the team concluded that when site personnel identified problems, they entered them into the corrective action program at a low threshold; however, the team identified several issues with the quality of evaluations and linking of corrective action documents. Corrective actions were generally implemented in a timely manner, although the team identified several corrective actions associated with conditions adverse to quality that were not completed in a timely manner. The team also identified that operability assessments and reportability reviews were not being implemented consistent with procedural guidance and, although the equipment remained operable, many of these assessments did not demonstrate the appropriate level of technical rigor to support conclusions made for operability.

The team determined that in most cases the licensee identified, reviewed, and applied industry operating experience relevant to the facility, and had entered applicable items into the corrective action program. The team noted that the licensee was evaluating industry operating experience when performing root cause and apparent cause evaluations. The team also noted that Quality Assurance audits and other self-assessment activities were generally effective.

Based on 34 interviews conducted during this inspection, observations of plant activities, and reviews of the corrective action and nuclear safety concerns programs, the team determined that site personnel were willing to raise safety issues and document them in the corrective action program. The team observed that workers at the site felt free to report problems to their management, and were willing to use the Employee Concerns Program.

Inspection Report# : 2009006 *(pdf)*

Last modified : August 31, 2009

Palo Verde 2
3Q/2009 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Sep 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Correct a Condition Adverse to Quality with the Emergency Diesel Generator Train B Fuel Oil Transfer Pump in a Timely Manner
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure of maintenance personnel to promptly identify and correct a deficiency associated with the Unit 2 emergency diesel generator train B fuel oil transfer pump. Specifically, in December of 2004 Unit 3 train A diesel fuel oil transfer pump failed due to water intrusion through electrical conduit. During an extent of condition review water intrusion was also found to affect Unit 2 train B transfer pump. Due to ineffective corrective actions, on April 22, 2009 Unit 2 train B diesel fuel oil transfer pump failed due to the effects of water intrusion causing an electrical short to ground. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3385257.

The finding is greater than minor because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to require a Phase 2 and Phase 3 analysis by a senior reactor analyst, because the finding resulted in an actual loss of safety function of a single train for greater than its technical specification allowed outage time. Based on the analysis performed, the analyst concluded that the finding had very low safety significance because the fuel oil transfer pump was capable of performing a majority of its intended safety function resulting in a core damage frequency of approximately 1.7E-7. This finding was evaluated as not having a crosscutting aspect because the performance deficiency is not indicative of current performance

Inspection Report# : 2009004 *(pdf)*

Significance: G Jun 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Develop an Adequate Procedure to Ensure Operability of the Essential Cooling Water Heat Exchangers
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations, chemistry, and engineering personnel to develop a procedure with appropriate quantitative or qualitative acceptance criteria for chloride levels to ensure operability of the essential cooling water system heat exchangers. Specifically, from plant startup until April 28, 2009, chemistry personnel's Policy CDP1-14, "Chemistry Department Policies," stated, in part, that a Palo Verde Action Request will be generated for entry into any Action Level 1, 2, 3 or 5, and did not give actions for Action Level 4. This resulted in chlorides exceeding Action Level 4 quantitative acceptance criterion in the essential cooling water system Train A without a Palo Verde Action Request being generated, or an operability determination being performed in a timely manner. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3347097.

The finding is more than minor because it is associated with the procedure quality attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, “Phase 1 – Initial Screening and Characterization of Findings,” the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with decision-making because decisions and the basis for decisions were not communicated to personnel who have a need to know the information in order to perform work safely, in a timely manner [H.1(c)].

Inspection Report# : 2009003 *(pdf)*

Significance: SL-IV Jun 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform Written Safety Evaluation in Accordance with 10 CFR 50.59 for Refueling Water Tank Full Flow Recirculation
The inspectors identified a non-cited Severity Level IV violation of 10 CFR 50.59 requirements for the failure of engineering personnel to perform adequate written safety evaluations prior to implementing changes to the emergency core cooling system. Specifically, between 1987 and February 2009, engineering personnel failed to obtained prior NRC approval for a change that involved two unreviewed safety questions involving emergency core cooling system operability and containment bypass leakage during an accident. The first example involved a change in an emergency core cooling system lineup that could have prevented the fulfillment of the safety functions of the safety injection system to remove residual heat and mitigate the consequences of an accident. The second example involved opening normally locked close valves, while the plant is operating, that could result in the loss of a safety function to control the release of radioactive material as a result of the containment bypass path. This issue was entered into the licensee's corrective action program as Condition Report / Disposition Request 3287805.

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. This finding is also more than minor because it is associated with the configuration control attribute of the Barrier Integrity cornerstone and adversely affects the cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. In accordance with Inspection Manual Chapter 0612, Appendix B, "Issue Disposition Screening," the inspectors determined that traditional enforcement applied because this issue may have impacted the NRC’s ability to perform its regulatory function, and should be evaluated using the traditional enforcement process. The issue was classified as Severity Level IV because the violation of 10 CFR 50.59 involved conditions evaluated as having very low safety significance by the Significance Determination Process. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding required a Phase 2 analysis because the finding represented a loss of safety system function of the safety injection system. The Phase 2 analysis determined that this finding was potentially greater than Green; therefore, a Phase 3 analysis was completed by a regional senior reactor analyst. The Phase 3 analysis determined that this issue was of very low safety significance based on the senior reactor analyst reviewing the licensee's risk estimate of the condition which concluded that the ICCDP was much less than 1.0E-7. The analyst checked portions of the licensee's analysis using the Palo Verde SPAR model, and found the licensee results to be acceptable. Therefore, the significance of the finding was determined to be very low (Green). This finding was evaluated as not having a crosscutting aspect because the performance deficiency is not indicative of current performance.
Inspection Report# : 2009003 *(pdf)*

Significance: G Mar 31, 2009
Identified By: NRC
Item Type: FIN Finding
Failure to Correct Deficient Condition for the Essential Spray Pond Chemical Addition System Valves High Failure Rate

The inspectors identified a finding for the failure of engineering and maintenance personnel to adequately implement timely corrective actions for deficiencies associated with the essential spray pond sodium hypochlorite chemical addition system. Specifically, between May 2006 and March 2009, corrective actions to replace degraded sodium hypochlorite valves with a more reliable chemical addition system were not taken resulting in the Unit 2 spray pond Train A chemistry pH level being out of specification high on two occasions. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3277070.

The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with decision making because the licensee did not communicate bases for decisions to personnel with a need to know such that work is performed safely in a timely manner [H.1(c)].

Inspection Report# : 2009002 *(pdf)*

Significance: G Mar 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform an Adequate Operability Determination for High Chlorine in the Essential Spray Pond
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations personnel to follow procedures to declare the essential spray pond inoperable. Specifically, on November 13, 2008, operations personnel failed to follow procedures to declare Unit 2 essential spray Pond A inoperable and perform a 10 CFR 50.59 screening when a compensatory measure, such as acid addition, was required to restore operability of the spray pond. This resulted in the performance of a calculation and an evaporative test to verify operability of essential spray Pond A for the mission time without taking credit for compensatory measures. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3258988.

The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with decision-making because safety-significant decisions were not verified to validate underlying assumptions and identify unintended consequences [H.1(b)].
Inspection Report# : 2009002 *(pdf)*

Significance: G Mar 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Periodically Inspect or Test, and Repair Fire Penetration Seals
The inspectors identified 5 examples of a non-cited violation of License Condition 2.C.(7), 2.C.(6), and 2.F for Unit 1, Unit 2, and Unit 3, respectively, for the failure of engineering and maintenance personnel to follow procedures to adequately inspect and repair fire penetration seals. Specifically, between 2004 and August 2008, engineering and maintenance personnel failed to inspect and repair fire penetration seals, which provide protection to safety-related equipment during fire events, resulting in the licensee declaring 4 fire penetration seals degraded and 1 non-functional. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3295124.

The finding is more than minor because it was associated with the external factors attribute (i.e. fire) of the mitigating systems cornerstone and affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to require additional evaluation under Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process." Based on the analysis performed, the inspector concluded that the degradation of the fire barrier penetration seals represented a low degradation of the fire confinement element of the fire protection program, the degraded fire barrier penetration seals had no credible fire damage state, and that the fire ignition sources present could not damage the post-fire safe shutdown equipment, and therefore determined the finding to have very low safety significance. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee failed to implement the corrective action program with a low threshold for identifying issues [P.1 (a)].

Inspection Report# : 2009002 *(pdf)*

Significance: G Feb 27, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify and Correct Age-Related Degradation of Safety-Related Inverters
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” for the licensee’s failure to promptly identify and correct a condition adverse to quality. Specifically, the licensee failed to incorporate industry and vendor recommended preventative maintenance requirements to prevent the age related degradation of safety-related inverter components. This finding was entered into the licensees corrective action program as Palo Verde Action Request 3291971.

The inspectors determined that the failure to identify the necessary maintenance practices and take corrective actions prior to the 2008 inverter failures was a performance deficiency. This finding is more than minor because it affects the equipment performance attribute of the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheets, the team determined that a Phase 2 analysis was required because the finding represented a loss of system safety function. A Phase 2/Phase 3 significance determination was performed by an NRC senior reactor analyst. Based on a bounding analysis, the analyst determined that the delta core damage frequency result was less than 1.0E-7/yr. This noncited violation was therefore determined to be of very low safety significance. This finding has a crosscutting aspect in the problem identification and resolution component of operating experience, in that the licensee failed to implement operating experience through changes to station procedures [P.2(b)].

Inspection Report# : 2009006 *(pdf)*

Significance: G Feb 27, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Properly Implement Corrective Action Process for Potential Operability Issues with the Safety Related Systems and Systems Important to Safety
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations personnel to follow the corrective action program to ensure that degraded and nonconforming conditions associated with safety related systems and systems important to safety were properly reviewed for operability. Specifically, between December 21, 2006, and January 30, 2009, operations personnel failed to perform adequate operability determinations of Palo Verde Action Requests associated with the component design basis review project and other site projects, resulting in 97 Palo Verde Action Requests that either needed an immediate operability determination or a functional assessment, or needed more information to provide reasonable assurance of operability. Of the 97 examples 20 occurred following implementation of corrective actions associated with the Confirmatory Action Letter to improve this process and therefore are reflective of current performance. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3281099.

The finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because 9 of the 20 examples, reflective of current performance, were not thoroughly evaluated such that the resolutions address causes and extent of conditions, as necessary, including properly evaluating for operability conditions adverse to quality [P.1(c)].

Inspection Report# : 2009006 *(pdf)*

Significance: G Feb 27, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Procedures for Performing Operability Determinations
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the failure of operations personnel to follow the corrective action program to ensure that degraded and nonconforming conditions associated with safety related systems and systems important to safety were reviewed for operability. Specifically, between December 21, 2006 and January 30, 2009, operations personnel failed to perform adequate operability determinations of Palo Verde Action Requests associated with the component design basis review project and other site projects, resulting in 97 Palo Verde Action Requests that either needed an immediate operability determination or a functional assessment, or needed more information to provide reasonable assurance of operability. Of the 97 examples 20 occurred following implementation of corrective actions to improve this process and therefore are reflective of current performance. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3281099.

The finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, “Phase 1 – Initial Screening and Characterization of Findings,” the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with resources because 11 of the 20 examples, reflective of current performance, were the result of inadequate procedural guidance governing the conduct of operability determinations to ensure that conditions adverse to quality are properly evaluated for their potential operability impacts [H.2(c)].

Inspection Report# : 2009006 *(pdf)*

Significance: G Dec 31, 2008
Identified By: NRC
Item Type: FIN Finding
Failure to Promptly Identify and Correct Degraded Hydrostatic Penetration Seals
The inspectors identified a finding at Palo Verde Nuclear Generating Station Procedure 01DP-0AP10, "Corrective Action Program," Revision 1, for the failure of operations and engineering personnel to promptly identify and correct a condition adverse to quality. Specifically, between February 13, 2007 and July 18, 2008, operations and engineering personnel failed to identify and correct degraded hydrostatic flood penetration seals which provide protection to safety-related equipment during internal flooding events. This resulted in over 100 hydrostatic penetration seals in the control, diesel, and main steam support structure buildings being left degraded for greater than 12 months. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3264501.

The finding is greater than minor because it is associated with the protection against external factors (i.e. flood hazard) attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability and

capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with operating experience because operations and engineering personnel failed to implement and institutionalize operating experience through changes to station processes, procedures, equipment, and training programs [P.2(b)].

Inspection Report# : 2008005 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Mar 13, 2009
Identified By: NRC
Item Type: FIN Finding
Assessment of PVNGS Corrective Action Program
The team concluded that the implementation of the corrective action program at the Palo Verde Nuclear Generating Station was generally effective. Once entered into the system, items were screened and prioritized in a timely manner using established criteria. The station properly evaluated items entered into the corrective action program commensurate with their safety significance. Corrective actions addressed the identified causes. The team selected and reviewed approximately 350 risk-informed action requests, work orders, associated root and apparent cause evaluations, and other supporting documentation to assess problem identification and resolution activities. The inspectors verified that the licensee had taken actions to address previous NRC findings. The team performed a five year review of the diesel generator performance and a focused review of inverter systems to determine whether problems were being effectively addressed and that the corrective action program was effective in identifying problems. As a result of these reviews, the team concluded that when site personnel identified problems, they entered

them into the corrective action program at a low threshold; however, the team identified several issues with the quality of evaluations and linking of corrective action documents. Corrective actions were generally implemented in a timely manner, although the team identified several corrective actions associated with conditions adverse to quality that were not completed in a timely manner. The team also identified that operability assessments and reportability reviews were not being implemented consistent with procedural guidance and, although the equipment remained operable, many of these assessments did not demonstrate the appropriate level of technical rigor to support conclusions made for operability.

The team determined that in most cases the licensee identified, reviewed, and applied industry operating experience relevant to the facility, and had entered applicable items into the corrective action program. The team noted that the licensee was evaluating industry operating experience when performing root cause and apparent cause evaluations. The team also noted that Quality Assurance audits and other self-assessment activities were generally effective.

Based on 34 interviews conducted during this inspection, observations of plant activities, and reviews of the corrective action and nuclear safety concerns programs, the team determined that site personnel were willing to raise safety issues and document them in the corrective action program. The team observed that workers at the site felt free to report problems to their management, and were willing to use the Employee Concerns Program.

Inspection Report# : 2009006 *(pdf)*

Last modified : December 10, 2009

Palo Verde 2
4Q/2009 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Sep 30, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Correct a Condition Adverse to Quality with the Emergency Diesel Generator Train B Fuel Oil Transfer Pump in a Timely Manner
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure of maintenance personnel to promptly identify and correct a deficiency associated with the Unit 2 emergency diesel generator train B fuel oil transfer pump. Specifically, in December of 2004 Unit 3 train A diesel fuel oil transfer pump failed due to water intrusion through electrical conduit. During an extent of condition review water intrusion was also found to affect Unit 2 train B transfer pump. Due to ineffective corrective actions, on April 22, 2009 Unit 2 train B diesel fuel oil transfer pump failed due to the effects of water intrusion causing an electrical short to ground. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3385257.

The finding is greater than minor because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to require a Phase 2 and Phase 3 analysis by a senior reactor analyst, because the finding resulted in an actual loss of safety function of a single train for greater than its technical specification allowed outage time. Based on the analysis performed, the analyst concluded that the finding had very low safety significance because the fuel oil transfer pump was capable of performing a majority of its intended safety function resulting in a core damage frequency of approximately 1.7E-7. This finding was evaluated as not having a crosscutting aspect because the performance deficiency is not indicative of current performance

Inspection Report# : 2009004 *(pdf)*

Significance: G Sep 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Ineffective Corrective Actions for Vaults Containing Station Blackout Cables
The team identified a noncited violation of very low safety significance for failure to effectively implement the corrective action requirements of Regulatory Guide 1.155, "Station Blackout," Appendix A, Criterion 8, "Corrective Action," which were adopted by the licensee in order to meet 10 CFR 50.63, "Loss of All Alternating Current." Although the licensee started a vault monitoring program for water intrusion in vaults with electrical cables in 2003, the effort to prevent exposure of medium voltage cables to submerged conditions has been ineffective for certain vaults that contain the 15kV station blackout generator output cables. Additionally, there are 27 splices in these cables which have contributed to cable test failures in previous meggar resistance tests that, in some cases, required splice replacement in order to pass resistance tests. The licensee entered this issue into their corrective action program as Palo Verde Action Requests 3350712, 3350713, 3350939, and 3352858.

This finding is more than minor because it is associated with the design control and equipment performance attribute

of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The risk significance of this finding was determined using Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings." The finding is of very low safety significance (Green) since the finding did not result in a loss of operability, a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or an actual loss of safety function for greater than 24 hours and the finding did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding was reviewed for crosscutting aspects and none were identified.

Inspection Report# : 2009008 *(pdf)*

Significance: G Sep 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform an Adequate Operability Evaluation for the Condensate Storage Tank
The team identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to perform an adequate operability evaluation for the condensate storage tank as required by site procedures. Specifically, upon discovery of the condition, the licensee performed an immediate operability determination evaluation based on concerns with the capability of the loop seal to provide protection from vacuum conditions. Subsequently, the licensee performed additional assessments of their overall program which included the specified operability evaluation in a component design bases review and closure of a confirmatory action letter and failed to identify the inadequacy. During the inspection, the team reviewed the operability determination and identified that the licensee failed to consider or identify concerns with the ability of the condensate storage tank pressure relief valves to operate after a design basis earthquake. The licensee entered this issue into their corrective action program as Palo Verde Action Request 3353683.

This finding is more than minor because it is associated with the protection against external events (seismic) attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The risk significance of this finding was determined using Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings." The finding is of very low safety significance (Green) since the finding did not result in a loss of operability, a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or an actual loss of safety function for greater than 24 hours and the finding did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program since the licensee failed to properly evaluate for operability.

Inspection Report# : 2009008 *(pdf)*

Significance: G Sep 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Incorporate Vendor Information for Reactor Trip Breakers
The team identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," with programmatic implications for the licensee's failure to follow site procedures and incorporate updated vendor information for the reactor trip breakers. Specifically, the licensee failed to incorporate an updated revision of the maintenance program manual and at least two technical bulletins from the reactor trip breaker vendor. The licensee entered this issue into their corrective action program as Palo Verde Action Requests 3354252 and 3355082.

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The risk significance of this finding was determined using Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings." The finding is of very low safety significance (Green) since the finding did not result in

a loss of operability, a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or an actual loss of safety function for greater than 24 hours and the finding did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with operating experience since the licensee failed to implement changes to station processes, procedures, equipment, and training programs.

Inspection Report# : 2009008 *(pdf)*

Significance: G Jun 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Develop an Adequate Procedure to Ensure Operability of the Essential Cooling Water Heat Exchangers
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations, chemistry, and engineering personnel to develop a procedure with appropriate quantitative or qualitative acceptance criteria for chloride levels to ensure operability of the essential cooling water system heat exchangers. Specifically, from plant startup until April 28, 2009, chemistry personnel's Policy CDP1-14, "Chemistry Department Policies," stated, in part, that a Palo Verde Action Request will be generated for entry into any Action Level 1, 2, 3 or 5, and did not give actions for Action Level 4. This resulted in chlorides exceeding Action Level 4 quantitative acceptance criterion in the essential cooling water system Train A without a Palo Verde Action Request being generated, or an operability determination being performed in a timely manner. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3347097.

The finding is more than minor because it is associated with the procedure quality attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with decision-making because decisions and the basis for decisions were not communicated to personnel who have a need to know the information in order to perform work safely, in a timely manner [H.1(c)].

Inspection Report# : 2009003 *(pdf)*

Significance: SL-IV Jun 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform Written Safety Evaluation in Accordance with 10 CFR 50.59 for Refueling Water Tank Full Flow Recirculation
The inspectors identified a non-cited Severity Level IV violation of 10 CFR 50.59 requirements for the failure of engineering personnel to perform adequate written safety evaluations prior to implementing changes to the emergency core cooling system. Specifically, between 1987 and February 2009, engineering personnel failed to obtained prior NRC approval for a change that involved two unreviewed safety questions involving emergency core cooling system operability and containment bypass leakage during an accident. The first example involved a change in an emergency core cooling system lineup that could have prevented the fulfillment of the safety functions of the safety injection system to remove residual heat and mitigate the consequences of an accident. The second example involved opening normally locked close valves, while the plant is operating, that could result in the loss of a safety function to control the release of radioactive material as a result of the containment bypass path. This issue was entered into the licensee's corrective action program as Condition Report / Disposition Request 3287805.

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. This finding is also more than minor because it is associated

with the configuration control attribute of the Barrier Integrity cornerstone and adversely affects the cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. In accordance with Inspection Manual Chapter 0612, Appendix B, "Issue Disposition Screening," the inspectors determined that traditional enforcement applied because this issue may have impacted the NRC's ability to perform its regulatory function, and should be evaluated using the traditional enforcement process. The issue was classified as Severity Level IV because the violation of 10 CFR 50.59 involved conditions evaluated as having very low safety significance by the Significance Determination Process. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding required a Phase 2 analysis because the finding represented a loss of safety system function of the safety injection system. The Phase 2 analysis determined that this finding was potentially greater than Green; therefore, a Phase 3 analysis was completed by a regional senior reactor analyst. The Phase 3 analysis determined that this issue was of very low safety significance based on the senior reactor analyst reviewing the licensee's risk estimate of the condition which concluded that the ICCDP was much less than 1.0E-7. The analyst checked portions of the licensee's analysis using the Palo Verde SPAR model, and found the licensee results to be acceptable. Therefore, the significance of the finding was determined to be very low (Green). This finding was evaluated as not having a crosscutting aspect because the performance deficiency is not indicative of current performance.
Inspection Report# : 2009003 *(pdf)*

Significance: G Mar 31, 2009
Identified By: NRC
Item Type: FIN Finding
Failure to Correct Deficient Condition for the Essential Spray Pond Chemical Addition System Valves High Failure Rate
The inspectors identified a finding for the failure of engineering and maintenance personnel to adequately implement timely corrective actions for deficiencies associated with the essential spray pond sodium hypochlorite chemical addition system. Specifically, between May 2006 and March 2009, corrective actions to replace degraded sodium hypochlorite valves with a more reliable chemical addition system were not taken resulting in the Unit 2 spray pond Train A chemistry pH level being out of specification high on two occasions. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3277070.

The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with decision making because the licensee did not communicate bases for decisions to personnel with a need to know such that work is performed safely in a timely manner [H.1(c)].

Inspection Report# : 2009002 *(pdf)*

Significance: G Mar 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform an Adequate Operability Determination for High Chlorine in the Essential Spray Pond
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations personnel to follow procedures to declare the essential spray pond inoperable. Specifically, on November 13, 2008, operations personnel failed to follow procedures to declare Unit 2 essential spray Pond A inoperable and perform a 10 CFR 50.59 screening when a compensatory measure, such as acid addition, was required to restore operability of the spray pond. This resulted in the performance of a calculation and an evaporative test to verify operability of essential spray Pond A for the mission time without taking credit for compensatory measures. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3258988.

The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with decision-making because safety-significant decisions were not verified to validate underlying assumptions and identify unintended consequences [H.1(b)].
Inspection Report# : 2009002 *(pdf)*

Significance: G Mar 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Periodically Inspect or Test, and Repair Fire Penetration Seals
The inspectors identified 5 examples of a non-cited violation of License Condition 2.C.(7), 2.C.(6), and 2.F for Unit 1, Unit 2, and Unit 3, respectively, for the failure of engineering and maintenance personnel to follow procedures to adequately inspect and repair fire penetration seals. Specifically, between 2004 and August 2008, engineering and maintenance personnel failed to inspect and repair fire penetration seals, which provide protection to safety-related equipment during fire events, resulting in the licensee declaring 4 fire penetration seals degraded and 1 non-functional. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3295124.

The finding is more than minor because it was associated with the external factors attribute (i.e. fire) of the mitigating systems cornerstone and affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to require additional evaluation under Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process." Based on the analysis performed, the inspector concluded that the degradation of the fire barrier penetration seals represented a low degradation of the fire confinement element of the fire protection program, the degraded fire barrier penetration seals had no credible fire damage state, and that the fire ignition sources present could not damage the post-fire safe shutdown equipment, and therefore determined the finding to have very low safety significance. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee failed to implement the corrective action program with a low threshold for identifying issues [P.1 (a)].

Inspection Report# : 2009002 *(pdf)*

Significance: G Feb 27, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify and Correct Age-Related Degradation of Safety-Related Inverters
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” for the licensee’s failure to promptly identify and correct a condition adverse to quality. Specifically, the licensee failed to incorporate industry and vendor recommended preventative maintenance requirements to prevent the age related degradation of safety-related inverter components. This finding was entered into the licensees corrective action program as Palo Verde Action Request 3291971.

The inspectors determined that the failure to identify the necessary maintenance practices and take corrective actions prior to the 2008 inverter failures was a performance deficiency. This finding is more than minor because it affects the equipment performance attribute of the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheets, the team determined that a Phase 2 analysis was required because the finding represented a loss of system safety function. A Phase 2/Phase 3 significance

determination was performed by an NRC senior reactor analyst. Based on a bounding analysis, the analyst determined that the delta core damage frequency result was less than 1.0E-7/yr. This noncited violation was therefore determined to be of very low safety significance. This finding has a crosscutting aspect in the problem identification and resolution component of operating experience, in that the licensee failed to implement operating experience through changes to station procedures [P.2(b)].

Inspection Report# : 2009006 *(pdf)*

Significance: G Feb 27, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Properly Implement Corrective Action Process for Potential Operability Issues with the Safety Related Systems and Systems Important to Safety
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations personnel to follow the corrective action program to ensure that degraded and nonconforming conditions associated with safety related systems and systems important to safety were properly reviewed for operability. Specifically, between December 21, 2006, and January 30, 2009, operations personnel failed to perform adequate operability determinations of Palo Verde Action Requests associated with the component design basis review project and other site projects, resulting in 97 Palo Verde Action Requests that either needed an immediate operability determination or a functional assessment, or needed more information to provide reasonable assurance of operability. Of the 97 examples 20 occurred following implementation of corrective actions associated with the Confirmatory Action Letter to improve this process and therefore are reflective of current performance. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3281099.

The finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because 9 of the 20 examples, reflective of current performance, were not thoroughly evaluated such that the resolutions address causes and extent of conditions, as necessary, including properly evaluating for operability conditions adverse to quality [P.1(c)].

Inspection Report# : 2009006 *(pdf)*

Significance: G Feb 27, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Procedures for Performing Operability Determinations
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the failure of operations personnel to follow the corrective action program to ensure that degraded and nonconforming conditions associated with safety related systems and systems important to safety were reviewed for operability. Specifically, between December 21, 2006 and January 30, 2009, operations personnel failed to perform adequate operability determinations of Palo Verde Action Requests associated with the component design basis review project and other site projects, resulting in 97 Palo Verde Action Requests that either needed an immediate operability determination or a functional assessment, or needed more information to provide reasonable assurance of operability. Of the 97 examples 20 occurred following implementation of corrective actions to improve this process and therefore are reflective of current performance. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3281099.

The finding is greater than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, “Phase 1 – Initial Screening

and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with resources because 11 of the 20 examples, reflective of current performance, were the result of inadequate procedural guidance governing the conduct of operability determinations to ensure that conditions adverse to quality are properly evaluated for their potential operability impacts [H.2(c)].

Inspection Report# : 2009006 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : March 01, 2010

Palo Verde 2
1Q/2010 Plant Inspection Findings

Initiating Events

Significance: G Dec 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate Procedures to Diagnose and Mitigate a Loss of Instrument Air to the Containment
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for the failure of operations personnel to adequately establish and implement procedures associated with a loss of instrument air to containment. Specifically, on December 3, 2009, the alarm response and abnormal operating procedures available to the Unit 3 control room operating staff were inadequate to consistently diagnose and mitigate a loss of instrument air to containment. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request (CRDR) 3411457.

The performance deficiency associated with this finding involved the failure of operations personnel to adequately establish and implement alarm response and abnormal operating procedures associated with a loss of instrument air to containment. The finding is more than minor because it is associated with the procedure quality attribute of the Initiating Events Cornerstone and affects the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee failed to implement the corrective action program with a low threshold for identifying issues.
Inspection Report# : 2009005 *(pdf)*

Mitigating Systems

Significance: G Mar 31, 2010
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Mispositioning of Valve Renders Essential Chiller Inoperable
A self-revealing noncited violation of Technical Specification 5.4.1, "Procedures," was identified for the failure of operations personnel to adequately implement Procedure 40DP-9OP19, "Locked Valve, Breaker, and Component Tracking." Specifically, between December 24, 2009 and January 26, 2010, refrigerant head pressure bypass control valve 2-EWBV-349 was in the locked open position as opposed to its required position of locked closed. This issue has been entered into the licensee's corrective action program as Palo Verde Action Request 3430116 which included corrective actions to train operations personnel on the requirements for independent verification.

The finding is more than minor because it is associated with the configuration control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to require a Phase 2 and Phase 3 analysis by a senior reactor analyst, because the finding resulted in an actual loss of safety function of a single train for greater than its technical specification allowed outage time. A senior reactor analyst performed a bounding Phase 3 significance determination and found the finding to be of very low safety significance (Green) because the dominant core damage sequences only included a failure of multiple auxiliary feedwater pumps and because the

chiller was only inoperable for a narrow range of initiating events. The finding has a cross-cutting aspect in the area of Human Performance associated with work practices because the licensee failed to use human error prevention techniques such as self and peer checking commensurate with the risk of the assigned task [H.4(a)].

Inspection Report# : 2010002 *(pdf)*

Significance: G Dec 31, 2009
Identified By: NRC
Item Type: VIO Violation
Failure to Establish Adequate Procedures to Control Potential Tornado Borne Missile Hazards Near the Essential Spray Ponds
The inspectors identified a cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of engineering personnel to establish adequate procedures to ensure evaluation and approval of transient missile hazards that have an effect on the operability of the essential spray ponds. Specifically, since January 15, 1997, civil engineering personnel failed to develop an adequate procedure to verify missile density criteria are not exceeded to ensure operability of the essential spray ponds during severe weather. Due to the licensee's failure to restore compliance from the previous NCV 05000528/2008004-04 within a reasonable time, this violation is being cited in a Notice of Violation consistent with Section VI.A of the NRC Enforcement Policy. This issue was entered into the licensee's corrective action program as CRDR 3397839.

The finding is more than minor because it is associated with the external factors attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because appropriate corrective actions were not taken to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.

Inspection Report# : 2009005 *(pdf)*

Significance: G Sep 30, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Correct a Condition Adverse to Quality with the Emergency Diesel Generator Train B Fuel Oil Transfer Pump in a Timely Manner
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” was identified for the failure of maintenance personnel to promptly identify and correct a deficiency associated with the Unit 2 emergency diesel generator train B fuel oil transfer pump. Specifically, in December of 2004 Unit 3 train A diesel fuel oil transfer pump failed due to water intrusion through electrical conduit. During an extent of condition review water intrusion was also found to affect Unit 2 train B transfer pump. Due to ineffective corrective actions, on April 22, 2009 Unit 2 train B diesel fuel oil transfer pump failed due to the effects of water intrusion causing an electrical short to ground. This issue was entered into the licensee’s corrective action program as Palo Verde Action Request 3385257.

The finding is greater than minor because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, “Phase 1 – Initial Screening and Characterization of Findings,” the finding was determined to require a Phase 2 and Phase 3 analysis by a senior reactor analyst, because the finding resulted in an actual loss of safety function of a single train for greater than its technical specification allowed outage time. Based on the analysis performed, the analyst concluded that the finding had very low safety significance because the fuel oil transfer pump was capable of performing a majority of its intended safety function resulting in a core damage frequency of approximately 1.7E-7. This finding was evaluated as

not having a crosscutting aspect because the performance deficiency is not indicative of current performance

Inspection Report# : 2009004 *(pdf)*

Significance: G Sep 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Ineffective Corrective Actions for Vaults Containing Station Blackout Cables
The team identified a noncited violation of very low safety significance for failure to effectively implement the corrective action requirements of Regulatory Guide 1.155, "Station Blackout," Appendix A, Criterion 8, "Corrective Action," which were adopted by the licensee in order to meet 10 CFR 50.63, "Loss of All Alternating Current." Although the licensee started a vault monitoring program for water intrusion in vaults with electrical cables in 2003, the effort to prevent exposure of medium voltage cables to submerged conditions has been ineffective for certain vaults that contain the 15kV station blackout generator output cables. Additionally, there are 27 splices in these cables which have contributed to cable test failures in previous meggar resistance tests that, in some cases, required splice replacement in order to pass resistance tests. The licensee entered this issue into their corrective action program as Palo Verde Action Requests 3350712, 3350713, 3350939, and 3352858.

This finding is more than minor because it is associated with the design control and equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The risk significance of this finding was determined using Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings." The finding is of very low safety significance (Green) since the finding did not result in a loss of operability, a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or an actual loss of safety function for greater than 24 hours and the finding did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding was reviewed for crosscutting aspects and none were identified.

Inspection Report# : 2009008 *(pdf)*

Significance: G Sep 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform an Adequate Operability Evaluation for the Condensate Storage Tank
The team identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to perform an adequate operability evaluation for the condensate storage tank as required by site procedures. Specifically, upon discovery of the condition, the licensee performed an immediate operability determination evaluation based on concerns with the capability of the loop seal to provide protection from vacuum conditions. Subsequently, the licensee performed additional assessments of their overall program which included the specified operability evaluation in a component design bases review and closure of a confirmatory action letter and failed to identify the inadequacy. During the inspection, the team reviewed the operability determination and identified that the licensee failed to consider or identify concerns with the ability of the condensate storage tank pressure relief valves to operate after a design basis earthquake. The licensee entered this issue into their corrective action program as Palo Verde Action Request 3353683.

This finding is more than minor because it is associated with the protection against external events (seismic) attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The risk significance of this finding was determined using Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings." The finding is of very low safety significance (Green) since the finding did not result in a loss of operability, a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or an actual loss of safety function for greater than 24 hours and the finding did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated

with the corrective action program since the licensee failed to properly evaluate for operability.

Inspection Report# : 2009008 *(pdf)*

Significance: G Sep 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Incorporate Vendor Information for Reactor Trip Breakers
The team identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," with programmatic implications for the licensee's failure to follow site procedures and incorporate updated vendor information for the reactor trip breakers. Specifically, the licensee failed to incorporate an updated revision of the maintenance program manual and at least two technical bulletins from the reactor trip breaker vendor. The licensee entered this issue into their corrective action program as Palo Verde Action Requests 3354252 and 3355082.

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The risk significance of this finding was determined using Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings." The finding is of very low safety significance (Green) since the finding did not result in a loss of operability, a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or an actual loss of safety function for greater than 24 hours and the finding did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with operating experience since the licensee failed to implement changes to station processes, procedures, equipment, and training programs.

Inspection Report# : 2009008 *(pdf)*

Significance: G Jun 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Develop an Adequate Procedure to Ensure Operability of the Essential Cooling Water Heat Exchangers
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations, chemistry, and engineering personnel to develop a procedure with appropriate quantitative or qualitative acceptance criteria for chloride levels to ensure operability of the essential cooling water system heat exchangers. Specifically, from plant startup until April 28, 2009, chemistry personnel's Policy CDP1-14, "Chemistry Department Policies," stated, in part, that a Palo Verde Action Request will be generated for entry into any Action Level 1, 2, 3 or 5, and did not give actions for Action Level 4. This resulted in chlorides exceeding Action Level 4 quantitative acceptance criterion in the essential cooling water system Train A without a Palo Verde Action Request being generated, or an operability determination being performed in a timely manner. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3347097.

The finding is more than minor because it is associated with the procedure quality attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of human performance associated with decision-making because decisions and the basis for decisions were not communicated to personnel who have a need to know the information in order to perform work safely, in a timely manner [H.1(c)].

Inspection Report# : 2009003 *(pdf)*

Significance: SL-IV Jun 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform Written Safety Evaluation in Accordance with 10 CFR 50.59 for Refueling Water Tank Full Flow Recirculation
The inspectors identified a non-cited Severity Level IV violation of 10 CFR 50.59 requirements for the failure of engineering personnel to perform adequate written safety evaluations prior to implementing changes to the emergency core cooling system. Specifically, between 1987 and February 2009, engineering personnel failed to obtained prior NRC approval for a change that involved two unreviewed safety questions involving emergency core cooling system operability and containment bypass leakage during an accident. The first example involved a change in an emergency core cooling system lineup that could have prevented the fulfillment of the safety functions of the safety injection system to remove residual heat and mitigate the consequences of an accident. The second example involved opening normally locked close valves, while the plant is operating, that could result in the loss of a safety function to control the release of radioactive material as a result of the containment bypass path. This issue was entered into the licensee's corrective action program as Condition Report / Disposition Request 3287805.

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. This finding is also more than minor because it is associated with the configuration control attribute of the Barrier Integrity cornerstone and adversely affects the cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. In accordance with Inspection Manual Chapter 0612, Appendix B, "Issue Disposition Screening," the inspectors determined that traditional enforcement applied because this issue may have impacted the NRC’s ability to perform its regulatory function, and should be evaluated using the traditional enforcement process. The issue was classified as Severity Level IV because the violation of 10 CFR 50.59 involved conditions evaluated as having very low safety significance by the Significance Determination Process. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding required a Phase 2 analysis because the finding represented a loss of safety system function of the safety injection system. The Phase 2 analysis determined that this finding was potentially greater than Green; therefore, a Phase 3 analysis was completed by a regional senior reactor analyst. The Phase 3 analysis determined that this issue was of very low safety significance based on the senior reactor analyst reviewing the licensee's risk estimate of the condition which concluded that the ICCDP was much less than 1.0E-7. The analyst checked portions of the licensee's analysis using the Palo Verde SPAR model, and found the licensee results to be acceptable. Therefore, the significance of the finding was determined to be very low (Green). This finding was evaluated as not having a crosscutting aspect because the performance deficiency is not indicative of current performance.
Inspection Report# : 2009003 *(pdf)*

Barrier Integrity

Significance: G Dec 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Maintain Containment Closure Capability
A self-revealing noncited violation of Technical Specification 5.4.1.a, “Procedures,” was identified for the failure of maintenance personnel to maintain containment closure capability as required by Procedure 70DP-0RA01, “Shutdown Risk Assessments.” Specifically, on October 8, 2009 maintenance personnel designated for emergency closure of the containment equipment hatch left containment to attend a safety briefing for more than four hours before they returned to perform their required duties. This issue was entered into the licensee's corrective action program as PVAR 3389284.

The performance deficiency associated with this finding involved the failure of maintenance personnel to follow the

requirements of Procedure 70DP-0RA01, ”Shutdown Risk Assessments”, and ensure a containment closure team was in containment and capable of closing the containment equipment hatch within 30 minutes. The finding was more than minor because it affected the configuration control attribute of the Barrier Integrity Cornerstone, and affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using Manual Chapter 0609, Appendix H, “Containment Integrity Significance Determination Process,” the finding was determined to be a type B finding because it affected only large early release frequency, not core damage frequency, at shutdown. A phase 2 analysis using Table 6.4, “Phase 2 Risk Significance-Type B Findings at Shutdown,” was performed with the following considerations: the plant was in cold shutdown with the reactor coolant system vented, steam generators not available, and within eight days of shutdown, the condition existed for less than eight hours, and there was mitigation equipment out of service. The senior reactor analyst determined that that the finding has very low safety significance (Green) based on the short time period that the condition existed, the low probability of a loss of cooling event during this period with two fully-functional trains available, and the time it would have taken to close the hatch was well less than the time until the core would have become uncovered. This finding was determined to have a cross cutting aspect in the area of human performance associated with work control because the licensee failed to appropriately coordinate work activities by incorporating actions to address plant conditions that may affect work activities.
Inspection Report# : 2009005 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance: G Dec 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Comply with High Radiation Area Entry Requirements
A self-revealing noncited violation of Technical Specification 5.7.1, “High Radiation Areas,” was identified for the failure of radiological protection personnel to perform a prejob briefing to ensure workers are aware of radiological conditions in a high radiation area as required by the radiation exposure permit. Specifically, on October 20, 2009, nine contract workers were preparing to install an anticontamination sock over the Unit 2 old reactor vessel head, signed onto a radiation exposure permit which allowed access to a high radiation area but failed to receive a brief on the local dose rates surrounding the reactor vessel head by the job coverage radiation protection technician. This issue was entered into the corrective action program as CRDR 3394172.

The finding was more than minor because it was associated with the exposure control attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective to properly control access to a high radiation area and had the potential to increase personnel dose. Using Manual Chapter 0609, Appendix C, “Occupational Radiation Safety Significance Determination Process,” the finding was determined to have very low safety significance because it was not associated with “as low as reasonably achievable”, there was no overexposure, there was no substantial potential for an overexposure; and the ability to assess dose was not compromised. This finding has a crosscutting aspect in the area of human performance associated with work practices because the licensee’s radiation protection staff failed to communicate expectations to contract personnel.
Inspection Report# : 2009005 *(pdf)*

Public Radiation Safety

Significance: SL-IV Dec 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation

Failure to Periodically Update the UFSAR
The inspectors identified a noncited violation of 10 CFR 50.71 “Maintenance of Records,” because the licensee failed to update their updated final safety analysis report with submittals that include the effects of a change made to the facility. Specifically, the licensee built the old steam generator storage facility on the owner controlled area for long-term radwaste storage of six decommissioned steam generators and three reactor vessel heads and failed to update the updated final safety analysis report to include these changes to the facility and all safety analyses and evaluations performed. This issue was entered in the licensee’s corrective action program as CRDR 3398042.

This issue was dispositioned using traditional enforcement because it had the potential for impacting the NRC’s ability to perform its regulatory function. The finding is more than minor because it has a material impact on licensed activities in that the six decommissioned steam generators and the Unit 2 reactor vessel head, with a significant radioactive source term have been relocated from the plant radiological controlled area to the owner controlled area. In addition, the radwaste management program was affected because the licensee determined that this low-level radwaste facility will store these large components until the site is decommissioned. The finding is characterized as a Severity Level IV, noncited violation in accordance with NRC Enforcement Policy, Supplement I, and was treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy. This finding was reviewed for crosscutting aspects and none were identified because the performance deficiency is not indicative of current performance.
Inspection Report# : 2009005 *(pdf)*

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : May 26, 2010

Palo Verde 2
2Q/2010 Plant Inspection Findings

Initiating Events

Significance: G Dec 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate Procedures to Diagnose and Mitigate a Loss of Instrument Air to the Containment
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for the failure of operations personnel to adequately establish and implement procedures associated with a loss of instrument air to containment. Specifically, on December 3, 2009, the alarm response and abnormal operating procedures available to the Unit 3 control room operating staff were inadequate to consistently diagnose and mitigate a loss of instrument air to containment. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request (CRDR) 3411457.

The performance deficiency associated with this finding involved the failure of operations personnel to adequately establish and implement alarm response and abnormal operating procedures associated with a loss of instrument air to containment. The finding is more than minor because it is associated with the procedure quality attribute of the Initiating Events Cornerstone and affects the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee failed to implement the corrective action program with a low threshold for identifying issues.
Inspection Report# : 2009005 *(pdf)*

Mitigating Systems

Significance: G Mar 31, 2010
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Mispositioning of Valve Renders Essential Chiller Inoperable
A self-revealing noncited violation of Technical Specification 5.4.1, "Procedures," was identified for the failure of operations personnel to adequately implement Procedure 40DP-9OP19, "Locked Valve, Breaker, and Component Tracking." Specifically, between December 24, 2009 and January 26, 2010, refrigerant head pressure bypass control valve 2-EWBV-349 was in the locked open position as opposed to its required position of locked closed. This issue has been entered into the licensee's corrective action program as Palo Verde Action Request 3430116 which included corrective actions to train operations personnel on the requirements for independent verification.

The finding is more than minor because it is associated with the configuration control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to require a Phase 2 and Phase 3 analysis by a senior reactor analyst, because the finding resulted in an actual loss of safety function of a single train for greater than its technical specification allowed outage time. A senior reactor analyst performed a bounding Phase 3 significance determination and found the finding to be of very low safety significance (Green) because the dominant core damage sequences only included a failure of multiple auxiliary feedwater pumps and because the

chiller was only inoperable for a narrow range of initiating events. The finding has a cross-cutting aspect in the area of Human Performance associated with work practices because the licensee failed to use human error prevention techniques such as self and peer checking commensurate with the risk of the assigned task [H.4(a)].

Inspection Report# : 2010002 *(pdf)*

Significance: G Dec 31, 2009
Identified By: NRC
Item Type: VIO Violation
Failure to Establish Adequate Procedures to Control Potential Tornado Borne Missile Hazards Near the Essential Spray Ponds
The inspectors identified a cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of engineering personnel to establish adequate procedures to ensure evaluation and approval of transient missile hazards that have an effect on the operability of the essential spray ponds. Specifically, since January 15, 1997, civil engineering personnel failed to develop an adequate procedure to verify missile density criteria are not exceeded to ensure operability of the essential spray ponds during severe weather. Due to the licensee's failure to restore compliance from the previous NCV 05000528/2008004-04 within a reasonable time, this violation is being cited in a Notice of Violation consistent with Section VI.A of the NRC Enforcement Policy. This issue was entered into the licensee's corrective action program as CRDR 3397839.

The finding is more than minor because it is associated with the external factors attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because appropriate corrective actions were not taken to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.

Inspection Report# : 2009005 *(pdf)*

Significance: G Sep 30, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Correct a Condition Adverse to Quality with the Emergency Diesel Generator Train B Fuel Oil Transfer Pump in a Timely Manner
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” was identified for the failure of maintenance personnel to promptly identify and correct a deficiency associated with the Unit 2 emergency diesel generator train B fuel oil transfer pump. Specifically, in December of 2004 Unit 3 train A diesel fuel oil transfer pump failed due to water intrusion through electrical conduit. During an extent of condition review water intrusion was also found to affect Unit 2 train B transfer pump. Due to ineffective corrective actions, on April 22, 2009 Unit 2 train B diesel fuel oil transfer pump failed due to the effects of water intrusion causing an electrical short to ground. This issue was entered into the licensee’s corrective action program as Palo Verde Action Request 3385257.

The finding is greater than minor because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, “Phase 1 – Initial Screening and Characterization of Findings,” the finding was determined to require a Phase 2 and Phase 3 analysis by a senior reactor analyst, because the finding resulted in an actual loss of safety function of a single train for greater than its technical specification allowed outage time. Based on the analysis performed, the analyst concluded that the finding had very low safety significance because the fuel oil transfer pump was capable of performing a majority of its intended safety function resulting in a core damage frequency of approximately 1.7E-7. This finding was evaluated as

not having a crosscutting aspect because the performance deficiency is not indicative of current performance

Inspection Report# : 2009004 *(pdf)*

Significance: G Sep 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Ineffective Corrective Actions for Vaults Containing Station Blackout Cables
The team identified a noncited violation of very low safety significance for failure to effectively implement the corrective action requirements of Regulatory Guide 1.155, "Station Blackout," Appendix A, Criterion 8, "Corrective Action," which were adopted by the licensee in order to meet 10 CFR 50.63, "Loss of All Alternating Current." Although the licensee started a vault monitoring program for water intrusion in vaults with electrical cables in 2003, the effort to prevent exposure of medium voltage cables to submerged conditions has been ineffective for certain vaults that contain the 15kV station blackout generator output cables. Additionally, there are 27 splices in these cables which have contributed to cable test failures in previous meggar resistance tests that, in some cases, required splice replacement in order to pass resistance tests. The licensee entered this issue into their corrective action program as Palo Verde Action Requests 3350712, 3350713, 3350939, and 3352858.

This finding is more than minor because it is associated with the design control and equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The risk significance of this finding was determined using Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings." The finding is of very low safety significance (Green) since the finding did not result in a loss of operability, a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or an actual loss of safety function for greater than 24 hours and the finding did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding was reviewed for crosscutting aspects and none were identified.

Inspection Report# : 2009008 *(pdf)*

Significance: G Sep 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform an Adequate Operability Evaluation for the Condensate Storage Tank
The team identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to perform an adequate operability evaluation for the condensate storage tank as required by site procedures. Specifically, upon discovery of the condition, the licensee performed an immediate operability determination evaluation based on concerns with the capability of the loop seal to provide protection from vacuum conditions. Subsequently, the licensee performed additional assessments of their overall program which included the specified operability evaluation in a component design bases review and closure of a confirmatory action letter and failed to identify the inadequacy. During the inspection, the team reviewed the operability determination and identified that the licensee failed to consider or identify concerns with the ability of the condensate storage tank pressure relief valves to operate after a design basis earthquake. The licensee entered this issue into their corrective action program as Palo Verde Action Request 3353683.

This finding is more than minor because it is associated with the protection against external events (seismic) attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The risk significance of this finding was determined using Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings." The finding is of very low safety significance (Green) since the finding did not result in a loss of operability, a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or an actual loss of safety function for greater than 24 hours and the finding did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated

with the corrective action program since the licensee failed to properly evaluate for operability.

Inspection Report# : 2009008 *(pdf)*

Significance: G Sep 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Incorporate Vendor Information for Reactor Trip Breakers
The team identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," with programmatic implications for the licensee's failure to follow site procedures and incorporate updated vendor information for the reactor trip breakers. Specifically, the licensee failed to incorporate an updated revision of the maintenance program manual and at least two technical bulletins from the reactor trip breaker vendor. The licensee entered this issue into their corrective action program as Palo Verde Action Requests 3354252 and 3355082.

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The risk significance of this finding was determined using Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings." The finding is of very low safety significance (Green) since the finding did not result in a loss of operability, a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or an actual loss of safety function for greater than 24 hours and the finding did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with operating experience since the licensee failed to implement changes to station processes, procedures, equipment, and training programs.

Inspection Report# : 2009008 *(pdf)*

Barrier Integrity

Significance: G Dec 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Maintain Containment Closure Capability
A self-revealing noncited violation of Technical Specification 5.4.1.a, "Procedures," was identified for the failure of maintenance personnel to maintain containment closure capability as required by Procedure 70DP-0RA01, "Shutdown Risk Assessments." Specifically, on October 8, 2009 maintenance personnel designated for emergency closure of the containment equipment hatch left containment to attend a safety briefing for more than four hours before they returned to perform their required duties. This issue was entered into the licensee's corrective action program as PVAR 3389284.

The performance deficiency associated with this finding involved the failure of maintenance personnel to follow the requirements of Procedure 70DP-0RA01, "Shutdown Risk Assessments", and ensure a containment closure team was in containment and capable of closing the containment equipment hatch within 30 minutes. The finding was more than minor because it affected the configuration control attribute of the Barrier Integrity Cornerstone, and affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using Manual Chapter 0609, Appendix H, "Containment Integrity Significance Determination Process," the finding was determined to be a type B finding because it affected only large early release frequency, not core damage frequency, at shutdown. A phase 2 analysis using Table 6.4, "Phase 2 Risk Significance-Type B Findings at Shutdown," was performed with the following considerations: the plant was in cold shutdown with the reactor coolant system vented, steam generators not available, and within eight days of shutdown, the condition existed for less than eight hours, and there was mitigation equipment out of service.

The senior reactor analyst determined that that the finding has very low safety significance (Green) based on the short time period that the condition existed, the low probability of a loss of cooling event during this period with two fully-functional trains available, and the time it would have taken to close the hatch was well less than the time until the core would have become uncovered. This finding was determined to have a cross cutting aspect in the area of human performance associated with work control because the licensee failed to appropriately coordinate work activities by incorporating actions to address plant conditions that may affect work activities.
Inspection Report# : 2009005 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance: G Dec 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Comply with High Radiation Area Entry Requirements
A self-revealing noncited violation of Technical Specification 5.7.1, "High Radiation Areas," was identified for the failure of radiological protection personnel to perform a prejob briefing to ensure workers are aware of radiological conditions in a high radiation area as required by the radiation exposure permit. Specifically, on October 20, 2009, nine contract workers were preparing to install an anticontamination sock over the Unit 2 old reactor vessel head, signed onto a radiation exposure permit which allowed access to a high radiation area but failed to receive a brief on the local dose rates surrounding the reactor vessel head by the job coverage radiation protection technician. This issue was entered into the corrective action program as CRDR 3394172.

The finding was more than minor because it was associated with the exposure control attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective to properly control access to a high radiation area and had the potential to increase personnel dose. Using Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," the finding was determined to have very low safety significance because it was not associated with "as low as reasonably achievable", there was no overexposure, there was no substantial potential for an overexposure; and the ability to assess dose was not compromised. This finding has a crosscutting aspect in the area of human performance associated with work practices because the licensee's radiation protection staff failed to communicate expectations to contract personnel.
Inspection Report# : 2009005 *(pdf)*

Public Radiation Safety

Significance: SL-IV Dec 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Periodically Update the UFSAR
The inspectors identified a noncited violation of 10 CFR 50.71 "Maintenance of Records," because the licensee failed to update their updated final safety analysis report with submittals that include the effects of a change made to the facility. Specifically, the licensee built the old steam generator storage facility on the owner controlled area for long-term radwaste storage of six decommissioned steam generators and three reactor vessel heads and failed to update the updated final safety analysis report to include these changes to the facility and all safety analyses and evaluations performed. This issue was entered in the licensee's corrective action program as CRDR 3398042.

This issue was dispositioned using traditional enforcement because it had the potential for impacting the NRC's ability to perform its regulatory function. The finding is more than minor because it has a material impact on licensed

activities in that the six decommissioned steam generators and the Unit 2 reactor vessel head, with a significant radioactive source term have been relocated from the plant radiological controlled area to the owner controlled area. In addition, the radwaste management program was affected because the licensee determined that this low-level radwaste facility will store these large components until the site is decommissioned. The finding is characterized as a Severity Level IV, noncited violation in accordance with NRC Enforcement Policy, Supplement I, and was treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy. This finding was reviewed for crosscutting aspects and none were identified because the performance deficiency is not indicative of current performance.
Inspection Report# : 2009005 *(pdf)*

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : September 02, 2010

Palo Verde 2
3Q/2010 Plant Inspection Findings

Initiating Events

Significance: G Dec 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate Procedures to Diagnose and Mitigate a Loss of Instrument Air to the Containment
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for the failure of operations personnel to adequately establish and implement procedures associated with a loss of instrument air to containment. Specifically, on December 3, 2009, the alarm response and abnormal operating procedures available to the Unit 3 control room operating staff were inadequate to consistently diagnose and mitigate a loss of instrument air to containment. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request (CRDR) 3411457.

The performance deficiency associated with this finding involved the failure of operations personnel to adequately establish and implement alarm response and abnormal operating procedures associated with a loss of instrument air to containment. The finding is more than minor because it is associated with the procedure quality attribute of the Initiating Events Cornerstone and affects the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee failed to implement the corrective action program with a low threshold for identifying issues.
Inspection Report# : 2009005 *(pdf)*

Mitigating Systems

Significance: G Aug 21, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Promptly Identify and Correct a Condition Adverse to Quality for Foreign Material in the Pneumatic Supply Lines to the Atmospheric Dump Valves Actuators
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure of engineering personnel to promptly identify and correct a condition adverse to quality associated with foreign material in the nitrogen and instrument air supply to the atmospheric dump valve. Specifically, between July 2009 and August 2010, corrective actions to address foreign material in the Unit 3 instrument air supply to atmospheric dump valve ADV-185 failed to promptly identify and remove similar debris in remaining instrument air or nitrogen supply lines. The licensee is developing new work orders to flush and inspect pneumatic supply lines to the atmospheric dump valves. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3531638.

The performance deficiency was more than minor, and is therefore a finding, because it affected the equipment reliability attribute of the Mitigating Systems Cornerstone, and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system

safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding was determined to have a crosscutting aspect in the area of human performance associated with the decision making component because the licensee failed to conduct effectiveness reviews of safety significant decisions to verify the validity of assumptions, identify possible unintended consequences, and determine how to improve future decisions.
Inspection Report# : 2010004 *(pdf)*

Significance: G Apr 10, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Unqualified Coatings in Containment
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V," Instructions, Procedures, and Drawings," for an inadequate procedure for the application of coatings in containment. Specifically, during construction, Specification 13-AM-314, "Installation Specification for Surface Coating Systems for Concrete," improperly required a dry-film thickness of 2 to 5 mils for Mobil/Valspar 84-V-200, which is beyond the limits of 2 to 5 mils wet-film thickness that was allowed by the vendor instructions. Mobil/Valspar 84-V-200 was found to lack design basis testing and subsequent testing demonstrated that 50 percent of the coating in excess of 2 mils thickness failed as particulate, rather than chips, which increases debris loading on the containment sump. The licensee plans to revise calculation N001-1106-00002, "Debris Generation Due to LOCA within Containment for Resolution of GSI-191," to incorporate the added debris loading from the unqualified coatings as a corrective action. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3469133.

The performance deficiency was more than minor, and is therefore a finding, because it affected the design control attribute of the Mitigating Systems Cornerstone, and affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding was evaluated as not having a crosscutting aspect because the performance deficiency is not reflective of current performance.
Inspection Report# : 2010004 *(pdf)*

Significance: G Mar 31, 2010
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Mispositioning of Valve Renders Essential Chiller Inoperable
A self-revealing noncited violation of Technical Specification 5.4.1, "Procedures," was identified for the failure of operations personnel to adequately implement Procedure 40DP-9OP19, "Locked Valve, Breaker, and Component Tracking." Specifically, between December 24, 2009 and January 26, 2010, refrigerant head pressure bypass control valve 2-EWBV-349 was in the locked open position as opposed to its required position of locked closed. This issue has been entered into the licensee's corrective action program as Palo Verde Action Request 3430116 which included corrective actions to train operations personnel on the requirements for independent verification.

The finding is more than minor because it is associated with the configuration control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to require a Phase 2 and Phase 3 analysis by a senior reactor analyst, because the finding resulted in an actual loss of safety function of a single train for greater than its technical specification allowed outage time. A senior reactor analyst performed a bounding Phase 3 significance determination and found the finding to be of very low safety significance (Green) because the dominant core damage sequences only included a failure of multiple auxiliary feedwater pumps and because the chiller was only inoperable for a narrow range of initiating events. The finding has a cross-cutting aspect in the area of Human Performance associated with work practices because the licensee failed to use human error prevention techniques such as self and peer checking commensurate with the risk of the assigned task [H.4(a)].

Inspection Report# : 2010002 *(pdf)*

Significance: G Dec 31, 2009
Identified By: NRC
Item Type: VIO Violation
Failure to Establish Adequate Procedures to Control Potential Tornado Borne Missile Hazards Near the Essential Spray Ponds
The inspectors identified a cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of engineering personnel to establish adequate procedures to ensure evaluation and approval of transient missile hazards that have an effect on the operability of the essential spray ponds. Specifically, since January 15, 1997, civil engineering personnel failed to develop an adequate procedure to verify missile density criteria are not exceeded to ensure operability of the essential spray ponds during severe weather. Due to the licensee's failure to restore compliance from the previous NCV 05000528/2008004-04 within a reasonable time, this violation is being cited in a Notice of Violation consistent with Section VI.A of the NRC Enforcement Policy. This issue was entered into the licensee's corrective action program as CRDR 3397839.

The finding is more than minor because it is associated with the external factors attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because appropriate corrective actions were not taken to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.

Inspection Report# : 2009005 *(pdf)*

Barrier Integrity

Significance: G Dec 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Maintain Containment Closure Capability
A self-revealing noncited violation of Technical Specification 5.4.1.a, "Procedures," was identified for the failure of maintenance personnel to maintain containment closure capability as required by Procedure 70DP-0RA01, "Shutdown Risk Assessments." Specifically, on October 8, 2009 maintenance personnel designated for emergency closure of the containment equipment hatch left containment to attend a safety briefing for more than four hours before they returned to perform their required duties. This issue was entered into the licensee's corrective action program as PVAR 3389284.

The performance deficiency associated with this finding involved the failure of maintenance personnel to follow the requirements of Procedure 70DP-0RA01, "Shutdown Risk Assessments", and ensure a containment closure team was in containment and capable of closing the containment equipment hatch within 30 minutes. The finding was more than minor because it affected the configuration control attribute of the Barrier Integrity Cornerstone, and affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using Manual Chapter 0609, Appendix H, "Containment Integrity Significance Determination Process," the finding was determined to be a type B finding because it affected only large early release frequency, not core damage frequency, at shutdown. A phase 2 analysis using Table 6.4, "Phase 2 Risk Significance-Type B Findings at Shutdown," was performed with the following considerations: the plant was in cold shutdown with the reactor coolant system vented, steam generators not available, and within eight

days of shutdown, the condition existed for less than eight hours, and there was mitigation equipment out of service. The senior reactor analyst determined that that the finding has very low safety significance (Green) based on the short time period that the condition existed, the low probability of a loss of cooling event during this period with two fully-functional trains available, and the time it would have taken to close the hatch was well less than the time until the core would have become uncovered. This finding was determined to have a cross cutting aspect in the area of human performance associated with work control because the licensee failed to appropriately coordinate work activities by incorporating actions to address plant conditions that may affect work activities.
Inspection Report# : 2009005 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance: G Dec 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Comply with High Radiation Area Entry Requirements
A self-revealing noncited violation of Technical Specification 5.7.1, "High Radiation Areas," was identified for the failure of radiological protection personnel to perform a prejob briefing to ensure workers are aware of radiological conditions in a high radiation area as required by the radiation exposure permit. Specifically, on October 20, 2009, nine contract workers were preparing to install an anticontamination sock over the Unit 2 old reactor vessel head, signed onto a radiation exposure permit which allowed access to a high radiation area but failed to receive a brief on the local dose rates surrounding the reactor vessel head by the job coverage radiation protection technician. This issue was entered into the corrective action program as CRDR 3394172.

The finding was more than minor because it was associated with the exposure control attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective to properly control access to a high radiation area and had the potential to increase personnel dose. Using Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," the finding was determined to have very low safety significance because it was not associated with "as low as reasonably achievable", there was no overexposure, there was no substantial potential for an overexposure; and the ability to assess dose was not compromised. This finding has a crosscutting aspect in the area of human performance associated with work practices because the licensee's radiation protection staff failed to communicate expectations to contract personnel.
Inspection Report# : 2009005 *(pdf)*

Public Radiation Safety

Significance: SL-IV Dec 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Periodically Update the UFSAR
The inspectors identified a noncited violation of 10 CFR 50.71 "Maintenance of Records," because the licensee failed to update their updated final safety analysis report with submittals that include the effects of a change made to the facility. Specifically, the licensee built the old steam generator storage facility on the owner controlled area for long-term radwaste storage of six decommissioned steam generators and three reactor vessel heads and failed to update the updated final safety analysis report to include these changes to the facility and all safety analyses and evaluations performed. This issue was entered in the licensee's corrective action program as CRDR 3398042.

This issue was dispositioned using traditional enforcement because it had the potential for impacting the NRC's

ability to perform its regulatory function. The finding is more than minor because it has a material impact on licensed activities in that the six decommissioned steam generators and the Unit 2 reactor vessel head, with a significant radioactive source term have been relocated from the plant radiological controlled area to the owner controlled area. In addition, the radwaste management program was affected because the licensee determined that this low-level radwaste facility will store these large components until the site is decommissioned. The finding is characterized as a Severity Level IV, noncited violation in accordance with NRC Enforcement Policy, Supplement I, and was treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy. This finding was reviewed for crosscutting aspects and none were identified because the performance deficiency is not indicative of current performance.
Inspection Report# : 2009005 *(pdf)*

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : November 29, 2010

Palo Verde 2
4Q/2010 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Dec 17, 2010
Identified By: NRC
Item Type: VIO Violation
Failure to Correct a Significant Condition Adverse to Quality Associated with the Unit 2 Fuel Oil Transfer Pumps
Inspectors identified a Green cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action", for the failure of the licensee to correct a significant condition adverse to quality associated with the emergency diesel generator fuel oil transfer pumps. Specifically, from April 2009 to September 2010, the licensee failed to correct a water intrusion path to the motor termination box for the Unit 2 emergency diesel generator fuel oil transfer pumps, resulting with degraded electrical connections. As an interim corrective action, splices have been placed in the cabling to prevent water from reaching the motor terminations. Due to the licensee's failure to restore compliance to a previous violation NCV 05000529/2009004-02 within a reasonable time, this violation is being cited as a Notice of Violation consistent with the NRC Enforcement Policy. This has been entered into the licensee's corrective action program as Condition Report Disposition Request 3529151.
The performance deficiency associated with this finding was the failure of the licensee to correct a significant condition adverse to quality and prevent recurrence. The finding is more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to require a Phase 2 and Phase 3 analysis by a senior reactor analyst because the finding resulted in an actual loss of safety function of a single train for greater than its technical specification allowed outage time. A Region IV senior reactor analyst performed a Phase 2 significance determination using the pre-solved worksheet from the "Risk Informed Inspection Notebook for the Palo Verde Nuclear Generating Station," Revision 2.01a. The analyst assumed an exposure period of one year. The finding was potentially Yellow, which warranted further review. The senior reactor analyst subsequently performed a bounding Phase 3 significance determination and found the finding to be of very low safety significance (Green). The dominant cutsets included a loss of offsite power initiating event, failure to align the turbine driven generator and failures of the turbine driven auxiliary feedwater pump. Since most of this same equipment remained available, the components helped to mitigate the significance of the finding. The finding had a cross-cutting aspect in the area of Problem Identification and Resolution associated with the corrective action program component because the licensee failed to thoroughly evaluate problems such that the resolutions address causes and extent of condition, as necessary. [P.1.(c)]

Inspection Report# : 2010008 *(pdf)*

Significance: G Aug 21, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Promptly Identify and Correct a Condition Adverse to Quality for Foreign Material in the Pneumatic Supply Lines to the Atmospheric Dump Valves Actuators
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure of engineering personnel to promptly identify and correct a condition adverse to quality associated with foreign material in the nitrogen and instrument air supply to the atmospheric dump valve. Specifically, between July

2009 and August 2010, corrective actions to address foreign material in the Unit 3 instrument air supply to atmospheric dump valve ADV-185 failed to promptly identify and remove similar debris in remaining instrument air or nitrogen supply lines. The licensee is developing new work orders to flush and inspect pneumatic supply lines to the atmospheric dump valves. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3531638.

The performance deficiency was more than minor, and is therefore a finding, because it affected the equipment reliability attribute of the Mitigating Systems Cornerstone, and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, “Phase 1 – Initial Screening and Characterization of Findings,” the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding was determined to have a crosscutting aspect in the area of human performance associated with the decision making component because the licensee failed to conduct effectiveness reviews of safety significant decisions to verify the validity of assumptions, identify possible unintended consequences, and determine how to improve future decisions.
Inspection Report# : 2010004 *(pdf)*

Significance: G Apr 10, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Unqualified Coatings in Containment
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V,” Instructions, Procedures, and Drawings,” for an inadequate procedure for the application of coatings in containment. Specifically, during construction, Specification 13-AM-314, “Installation Specification for Surface Coating Systems for Concrete,” improperly required a dry-film thickness of 2 to 5 mils for Mobil/Valspar 84-V-200, which is beyond the limits of 2 to 5 mils wet-film thickness that was allowed by the vendor instructions. Mobil/Valspar 84-V-200 was found to lack design basis testing and subsequent testing demonstrated that 50 percent of the coating in excess of 2 mils thickness failed as particulate, rather than chips, which increases debris loading on the containment sump. The licensee plans to revise calculation N001-1106-00002, “Debris Generation Due to LOCA within Containment for Resolution of GSI-191,” to incorporate the added debris loading from the unqualified coatings as a corrective action. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3469133.

The performance deficiency was more than minor, and is therefore a finding, because it affected the design control attribute of the Mitigating Systems Cornerstone, and affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding was evaluated as not having a crosscutting aspect because the performance deficiency is not reflective of current performance.
Inspection Report# : 2010004 *(pdf)*

Significance: G Mar 31, 2010
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Mispositioning of Valve Renders Essential Chiller Inoperable
A self-revealing noncited violation of Technical Specification 5.4.1, "Procedures," was identified for the failure of operations personnel to adequately implement Procedure 40DP-9OP19, "Locked Valve, Breaker, and Component Tracking." Specifically, between December 24, 2009 and January 26, 2010, refrigerant head pressure bypass control valve 2-EWBV-349 was in the locked open position as opposed to its required position of locked closed. This issue has been entered into the licensee's corrective action program as Palo Verde Action Request 3430116 which included corrective actions to train operations personnel on the requirements for independent verification.

The finding is more than minor because it is associated with the configuration control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to require a Phase 2 and Phase 3 analysis by a senior reactor analyst, because the finding resulted in an actual loss of safety function of a single train for greater than its technical specification allowed outage time. A senior reactor analyst performed a bounding Phase 3 significance determination and found the finding to be of very low safety significance (Green) because the dominant core damage sequences only included a failure of multiple auxiliary feedwater pumps and because the chiller was only inoperable for a narrow range of initiating events. The finding has a cross-cutting aspect in the area of Human Performance associated with work practices because the licensee failed to use human error prevention techniques such as self and peer checking commensurate with the risk of the assigned task [H.4(a)].

Inspection Report# : 2010002 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Dec 17, 2010
Identified By: NRC
Item Type: FIN Finding
Palo Verde Nuclear Generating Station Biennial PI&R Inspection Summary
The team concluded that the corrective action program at Palo Verde Nuclear Generating Station was generally effective. The team concluded that site personnel identify problems at a low threshold and enter them into the corrective action program. The licensee utilizes a rigorous screening process to characterize issues and that the vast majority of issues are appropriately evaluated and adequate corrective actions are taken. The team did identify isolated cases where problem evaluation could have been more effective at addressing the underlying causes of issues as well as a number of examples where corrective actions were not timely or adequate to address identified problems. The team also determined that though the overall process for identifying and correcting issues was well established, certain incidents of procedural violations associated with corrective action program processes led to delays and less than

adequate actions to correct material deficiencies. Though the team identified areas in which the licensee could improve their corrective action program, the overall process was determined to be effective in identifying and correcting conditions adverse to quality.
The licensee appropriately evaluated industry operating experience for relevance to the facility, entered applicable items in the corrective action program, and subsequently utilized OE in root cause and apparent cause evaluations. The team did determine that that the licensee could improve its utilization of OE to prevent the occurrence of similar events at Palo Verde. The team determined that the licensee performed very effective quality assurance audits and self assessments.
The team performed 7 safety culture focus group discussions involving approximately 70 licensee personnel in order assess the safety conscious work environment of the site. The team felt that most of the work groups interviewed had a strong safety conscious work environment; however, 3 of the 7 work groups interviewed exhibited weaknesses in safety culture. Specifically, the team found that although there were many individuals who felt comfortable raising safety concerns without fear of retaliation, there were some individuals in the operations department who expressed the perception that they would or might be retaliated against for raising certain safety concerns.

Inspection Report# : 2010008 *(pdf)*

Last modified : March 03, 2011

Palo Verde 2
1Q/2011 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Mar 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Corrective Action Program Procedure
DRAFT:
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criteria V, “Instructions, Procedures, and Drawings,” after the licensee failed to promptly evaluate a nonconforming condition for operability as required by Procedure 01PR-0AP04, “Corrective Action Program.” On November 23, 2010, the licensee completed an apparent cause evaluation for a failure of the Unit 3 “B” spent fuel pool cooling pump and concluded the cause of the failure was a misalignment by the vendor of the bell alarm bracket within the K-600S 480 VAC Class 1E circuit breaker. On December 7, 2010, the extent of condition review identified 76 breakers installed in the three units that could be susceptible to the same failure mechanism. On January 28, 2011, control room operators completed an immediate operability determination for the nonconforming condition and concluded the affected systems, structures, and components remained capable of performing their safety functions. The inspectors concluded that the licensee failed to follow Procedure 01PR-0AP04, “Corrective Action Program,” Step 3.2.1.5, which states “Operability shall be determined immediately upon discovery that an SSC subject to technical specification or that supports SSCs subject to technical specification is in a degraded or nonconforming condition.” The licensee entered the performance deficiency into the corrective action program as Palo Verde Action Request 3587124 and has not completed corrective actions for this issue.

The inspectors concluded that the failure of the licensee personnel to promptly evaluate nonconforming conditions for the effect on operability, in accordance with Procedure 01PR-0AP04, was a performance deficiency. The finding is more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors used Inspection Manual Chapter 609, Attachment 4, “Phase 1 - Initial Screening and Characterization of Findings,” to analyze the finding and concluded it was of very low safety significance (Green) because it did not represent a loss of system safety function, represent actual loss of safety function of a single train for greater than its technical specification allowed outage time, represent an actual loss of safety function of one or more non-technical specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors concluded that this finding had a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee failed to adequately evaluate the condition adverse to quality and identify that affected plant equipment needed to be evaluated for operability.
Inspection Report# : 2011002 *(pdf)*

Significance: G Mar 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Establish Adequate Procedures to Control Essential Chiller Compressor Oil Level
DRAFT:
The inspectors identified a noncited violation of Technical Specification 5.4.1, "Procedures," was identified for the

failure of operations, engineering, and maintenance personnel to establish and implement procedures recommended in Regulatory Guide 1.33. Specifically, monitoring procedures and preventive maintenance schedules were not developed and implemented to ensure essential chiller oil reservoir level remained in the range to support chiller operability. The licensee has implemented operating procedure revisions and is currently evaluating preventive maintenance practices to preclude compressor oil level from reaching out of specification conditions. The licensee entered the issue into the corrective action program as Palo Verde Action Request 3677610.

The inspectors concluded the finding was more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone, and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using NRC Manual Chapter 0609, Attachment 4, "Initial Screening and Characterization of Findings," the inspectors determined the finding had a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined this finding had a crosscutting aspect in the area of problem identification and resolution associated with the operating experience component because the licensee failed to institutionalize internal operating experience through changes to station processes, procedures, and equipment.
Inspection Report# : 2011002 *(pdf)*

Significance: SL-IV Mar 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform a 10 CFR Part 21 Evaluation
DRAFT:
The inspectors identified a Severity Level IV noncited violation of 10 CFR Part 21 after Palo Verde Nuclear Generating Station failed to evaluate an identified deviation within 60 days of discovery to determine if there is a substantial safety hazard. On November 23, 2010, the licensee completed an apparent cause evaluation for a failure of the Unit 3 "B" spent fuel pool cooling pump and concluded the cause of the failure was a misalignment by the vendor of the bell alarm bracket within the K-600S 480 VAC Class 1E circuit breaker. Additionally, the apparent cause evaluation identified similar failures of the same type of breaker dating back to April 29, 2009. The inspectors questioned whether the licensee should have performed an evaluation in accordance with 10 CFR Part 21 to determine if a defect existed. On February 15, 2011, the licensee completed an evaluation of prior deviations related to the alignment of bell alarm switches and concluded the deviations were defects that were reportable per 10 CFR Part 21. The licensee subsequently submitted Part 21 report 2011-07-00 on February 24, 2011. Additionally, the licensee completed an operability determination for the potentially affected breakers currently installed in the units and concluded that the equipment continued to be able to perform their respective safety functions. The licensee entered the performance deficiency into the corrective action program as Palo Verde Action Request 3593672 and has not completed corrective actions for this issue.

The inspectors evaluated this violation using the traditional enforcement process because the failure to submit a required report affected the NRC's ability to perform its regulatory function. Consistent with the guidance in Section IV.A.3 and Supplement I, Paragraph D.4, of the NRC Enforcement Policy, the inspectors concluded the violation was a Severity Level IV because the licensee failed to make a timely written report. The inspectors also concluded that the violation was a finding under the Reactor Oversight Process because the failure of licensee personnel to follow station procedures was a performance deficiency. The inspectors concluded that the finding is more than minor because the failure to follow procedures could reasonably be seen to lead to a more significant safety concern. The inspectors concluded that the finding had very low safety significance because the failure to follow procedures did not result in an actual loss of a system safety function or equipment required by technical specifications, or involve the loss or degradation of equipment specifically designed to mitigate a seismic, flooding, or severe weather initiating event, and did not involve the total loss of any safety function that contributes to an external event initiated core damage accident sequence. The inspectors concluded that this finding had a crosscutting aspect in the area of human performance associated with the resources component because licensee processes and procedures did not provide adequate instructions on identifying and evaluating defects for reportability.
Inspection Report# : 2011002 *(pdf)*

Significance: G Dec 17, 2010

Identified By: NRC
Item Type: VIO Violation
Failure to Correct a Significant Condition Adverse to Quality Associated with the Unit 2 Fuel Oil Transfer Pumps
Inspectors identified a Green cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action”, for the failure of the licensee to correct a significant condition adverse to quality associated with the emergency diesel generator fuel oil transfer pumps. Specifically, from April 2009 to September 2010, the licensee failed to correct a water intrusion path to the motor termination box for the Unit 2 emergency diesel generator fuel oil transfer pumps, resulting with degraded electrical connections. As an interim corrective action, splices have been placed in the cabling to prevent water from reaching the motor terminations. Due to the licensee’s failure to restore compliance to a previous violation NCV 05000529/2009004-02 within a reasonable time, this violation is being cited as a Notice of Violation consistent with the NRC Enforcement Policy. This has been entered into the licensee’s corrective action program as Condition Report Disposition Request 3529151.
The performance deficiency associated with this finding was the failure of the licensee to correct a significant condition adverse to quality and prevent recurrence. The finding is more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, “Phase 1 – Initial Screening and Characterization of Findings,” the finding was determined to require a Phase 2 and Phase 3 analysis by a senior reactor analyst because the finding resulted in an actual loss of safety function of a single train for greater than its technical specification allowed outage time. A Region IV senior reactor analyst performed a Phase 2 significance determination using the pre-solved worksheet from the “Risk Informed Inspection Notebook for the Palo Verde Nuclear Generating Station,” Revision 2.01a. The analyst assumed an exposure period of one year. The finding was potentially Yellow, which warranted further review. The senior reactor analyst subsequently performed a bounding Phase 3 significance determination and found the finding to be of very low safety significance (Green). The dominant cutsets included a loss of offsite power initiating event, failure to align the turbine driven generator and failures of the turbine driven auxiliary feedwater pump. Since most of this same equipment remained available, the components helped to mitigate the significance of the finding. The finding had a cross-cutting aspect in the area of Problem Identification and Resolution associated with the corrective action program component because the licensee failed to thoroughly evaluate problems such that the resolutions address causes and extent of condition, as necessary. [P.1.(c)]

Inspection Report# : 2010008 *(pdf)*

Significance: G Sep 30, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Unqualified Coatings in Containment
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V,” Instructions, Procedures, and Drawings,” for an inadequate procedure for the application of coatings in containment. Specifically, during construction, Specification 13-AM-314, “Installation Specification for Surface Coating Systems for Concrete,” improperly required a dry-film thickness of 2 to 5 mils for Mobil/Valspar 84-V-200, which is beyond the limits of 2 to 5 mils wet-film thickness that was allowed by the vendor instructions. Mobil/Valspar 84-V-200 was found to lack design basis testing and subsequent testing demonstrated that 50 percent of the coating in excess of 2 mils thickness failed as particulate, rather than chips, which increases debris loading on the containment sump. The licensee plans to revise calculation N001-1106-00002, “Debris Generation Due to LOCA within Containment for Resolution of GSI-191,” to incorporate the added debris loading from the unqualified coatings as a corrective action. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3469133.

The performance deficiency was more than minor, and is therefore a finding, because it affected the design control attribute of the Mitigating Systems Cornerstone, and affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding was evaluated as not having a crosscutting aspect because the performance deficiency is not reflective of current performance.

Inspection Report# : 2010004 *(pdf)*

Significance: G Sep 10, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain Operator Licensing Examination Integrity
The inspectors identified a noncited violation of 10 CFR 55.49, "Integrity of Examinations and Tests," for the failure of the licensee to ensure that the integrity of an operating test administered to licensed operators was maintained. During the week of December 8, 2009, twenty-four licensed operators received three job performance measures and one additional licensed operator received five job performance measures for their operating tests that had been previously administered to other licensed operators in previous weeks. This failure resulted in a compromise of examination integrity because it exceeded the 50 percent overlap required by quality procedure LOCT-TPD-R56, "Licensed Operator Continuing Training Program," Revision 56, for this portion of the examination, but did not lead to an actual effect on the equitable and consistent administration of the examination. This issue was entered into the licensee's corrective action program as Condition Report Disposition Request 3527071.

The failure of the licensee's training staff to maintain the integrity of examinations administered to licensed operations personnel was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it adversely impacted the human performance attribute of the mitigating systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, if left uncorrected, the performance deficiency could have become more significant in that allowing licensed operators to return to the control room without valid demonstration of appropriate knowledge on the biennial examinations could be a precursor to a more significant event. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheets, and the corresponding Appendix I, "Licensed Operator Requalification Significance Determination Process," the finding was determined to have very low safety significance (Green) because, although the finding resulted in a compromise of the integrity of operating test job performance measures and compensatory actions were not immediately taken when the compromise should have been discovered in 2009, the equitable and consistent administration of the test was not actually impacted by this compromise. This finding has a crosscutting aspect in the area of human performance associated with the resources component because the licensee failed to ensure that procedures were accurately translated from industry standards such that the 50 percent maximum overlap was not exceeded.
Inspection Report# : 2010005 *(pdf)*

Significance: G Sep 09, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Procedures for Medical Examinations of Licensed Operators
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of the licensee to follow their quality procedure 01DP-0EM13, "Licensed Operator Medical Examinations," Revision, which provides the medical examination requirements for licensed operators at Palo Verde Nuclear Generating Station. Of the 15 medical records reviewed by the inspectors, 7 licensed senior reactor operator medical records did not contain the proper no-solo restrictions imposed by the NRC when these individuals were licensed. Additionally, the software that the licensee used to track these restrictions (Station Work Management System or SWMS) did not reflect the proper restrictions for these 7 individuals. This issue was entered into the licensee's corrective action program as Condition Report Disposition Requests 3527072 and 3526979.

The failure of the licensee's medical staff to follow their procedure for implementing the required medical examination program was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it adversely impacted the human performance attribute of the mitigating systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheets, and the corresponding Appendix I, "Licensed Operator Requalification Significance Determination Process," the finding was determined to have very low safety significance and is being characterized as a Green, noncited violation. The finding was determined to be Green, using Appendix I of Manual Chapter 0609, because more than 20 percent of the medical records reviewed contained significant deficiencies. The finding was also determined to have very low

safety significance (Green) because: (1) the finding did not result in any events in the control room; and (2) no health requirements required by ANS/ANSI 3.4-1983 “Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants” were exceeded by any licensed operator while on watch. This finding has a crosscutting aspect in the area of human performance associated with the work practices component because this procedure and its associated software are the two principle mechanisms that the facility uses to ensure that licensed operators are fit for duty.
Inspection Report# : 2010005 *(pdf)*

Significance: G Aug 21, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Promptly Identify and Correct a Condition Adverse to Quality for Foreign Material in the Pneumatic Supply Lines to the Atmospheric Dump Valves Actuators
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” for the failure of engineering personnel to promptly identify and correct a condition adverse to quality associated with foreign material in the nitrogen and instrument air supply to the atmospheric dump valve. Specifically, between July 2009 and August 2010, corrective actions to address foreign material in the Unit 3 instrument air supply to atmospheric dump valve ADV-185 failed to promptly identify and remove similar debris in remaining instrument air or nitrogen supply lines. The licensee is developing new work orders to flush and inspect pneumatic supply lines to the atmospheric dump valves. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3531638.

The performance deficiency was more than minor, and is therefore a finding, because it affected the equipment reliability attribute of the Mitigating Systems Cornerstone, and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, “Phase 1 – Initial Screening and Characterization of Findings,” the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding was determined to have a crosscutting aspect in the area of human performance associated with the decision making component because the licensee failed to conduct effectiveness reviews of safety significant decisions to verify the validity of assumptions, identify possible unintended consequences, and determine how to improve future decisions.
Inspection Report# : 2010004 *(pdf)*

Significance: SL-IV Sep 09, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Ensure All License Conditions Are Met for Licensed Operators
The inspectors identified a Severity Level IV violation of 10 CFR 55.3, “License Requirements,” for the failure of the licensee to ensure that all individuals authorized by a license to operate the controls of the facility met all the conditions of their licenses as defined in 10 CFR 55.3. Specifically, the requirement to have a biennial physical completed and certified by the facility’s physician during the continuous two year period for all licensed operators was not met for three licensed operators. Two of these licensed operators performed licensed operator duties 42 times between February 8 and March 25, 2010, after the deadline for their biennial examinations had passed. Upon discovery, the licensee removed these individuals from watchstanding duties pending follow-up medical evaluations. This issue was entered into the licensee’s corrective action program as Condition Report Disposition Request 3526981.

The failure of the licensee to ensure that all individuals authorized by a license to operate the controls of the facility met all the conditions of their licenses as defined in 10 CFR 55.3 is a performance deficiency. Specifically, the requirement to have a biennial physical completed and certified by the facility’s physician during the continuous two year period for all licensed operators (as required in 10 CFR 55.21) was not met for three licensed operators, two of which were standing watch with expired medical examinations. The finding was evaluated using the traditional enforcement process because the failure to determine an operator’s medical condition and general health has the potential to impact the NRC’s ability to perform its regulatory function; the NRC was not notified nor allowed an

opportunity to review the specific medical conditions of the two operators whose medical qualifications had expired while they were standing watch or eligible to stand watch. Using the NRC's Enforcement Policy, section 6.4.d, Severity Level IV violation examples, this finding is similar to example 1 which states, in part that "an unqualified individual performing the functions of an operator or senior operator." Two licensed operators stood watch without a certified medical examination within the two year period that the medical examination is required to be completed and certified by the physician. Because: (1) the medical conditions of the two licensed operators did not change when they received their medical examinations in recent weeks; (2) the finding did not cause any plant events or transients while the individuals were on watch; (3) it was not repetitive or willful; and (4) it was entered into the corrective action program, the finding was determined to be of very low safety significance and is being treated as a Severity Level IV noncited violation consistent with the NRC Enforcement Policy. This finding has a crosscutting aspect in the area of human performance associated with the work practices component because medical staff supervisors did not oversee the biennial physical examination due dates such that nuclear safety was supported.
Inspection Report# : 2010005 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Dec 17, 2010
Identified By: NRC
Item Type: FIN Finding
Palo Verde Nuclear Generating Station Biennial PI&R Inspection Summary
The team concluded that the corrective action program at Palo Verde Nuclear Generating Station was generally effective. The team concluded that site personnel identify problems at a low threshold and enter them into the corrective action program. The licensee utilizes a rigorous screening process to characterize issues and that the vast majority of issues are appropriately evaluated and adequate corrective actions are taken. The team did identify isolated cases where problem evaluation could have been more effective at addressing the underlying causes of issues as well as a number of examples where corrective actions were not timely or adequate to address identified problems. The team also determined that though the overall process for identifying and correcting issues was well established, certain incidents of procedural violations associated with corrective action program processes led to delays and less than

adequate actions to correct material deficiencies. Though the team identified areas in which the licensee could improve their corrective action program, the overall process was determined to be effective in identifying and correcting conditions adverse to quality.
The licensee appropriately evaluated industry operating experience for relevance to the facility, entered applicable items in the corrective action program, and subsequently utilized OE in root cause and apparent cause evaluations. The team did determine that that the licensee could improve its utilization of OE to prevent the occurrence of similar events at Palo Verde. The team determined that the licensee performed very effective quality assurance audits and self assessments.
The team performed 7 safety culture focus group discussions involving approximately 70 licensee personnel in order assess the safety conscious work environment of the site. The team felt that most of the work groups interviewed had a strong safety conscious work environment; however, 3 of the 7 work groups interviewed exhibited weaknesses in safety culture. Specifically, the team found that although there were many individuals who felt comfortable raising safety concerns without fear of retaliation, there were some individuals in the operations department who expressed the perception that they would or might be retaliated against for raising certain safety concerns.

Inspection Report# : 2010008 *(pdf)*

Last modified : June 07, 2011

Palo Verde 2
2Q/2011 Plant Inspection Findings

Initiating Events

Significance: G Jun 30, 2011
Identified By: Self-Revealing
Item Type: FIN Finding
Failure of 13.8kV Splice due to Inadequate Maintenance
Inspectors reviewed a Green self-revealing finding for failure to properly repair a 13.8kV cable associated with the AENANX02 startup transformer. Specifically, the work performed failed to achieve an acceptable level of quality as required by Procedure 30DP-9MP01 "Conduct of Maintenance," and as a result the splice failed causing valid actuations of the emergency diesel generators due to a partial loss of offsite power to both Unit 1 and Unit 3. The licensee plans to revise Specification 13-EN-306, "Installation Specification for Cable Splicing and Terminations for PVNGS," to remove the use of taped splices for 13.8kV cable. The licensee entered this issue into the corrective action program as Condition Report / Disposition Requests 3616634.

The failure of the licensee to perform work with an acceptable level of quality for 13.8kV cable splicing was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it adversely affected the equipment reliability attribute of the Initiating Events Cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using Inspection Manual Chapter 0609, Attachment 4, "Initial Screening and Characterization of Findings," the inspectors concluded that the finding is of very low safety significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. This finding had a cross-cutting aspect in the area of human performance associated with the resources component because the licensee failed to provide complete, accurate and up-to-date procedures and work packages for splicing of 13.8kV electrical cable.
Inspection Report# : 2011003 *(pdf)*

Mitigating Systems

Significance: G Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Complete an Immediate Operability Determination for Code System Leakage Test
The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," which states "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings." Contrary to the above, from March 11 through April 19, 2011, the licensee failed to complete an immediate operability determination in accordance with Procedure 01PR-0AP04, "Corrective Action Program," when the licensee discovered the system leakage test methodology for the diesel fuel oil transfer system did not conform to ASME Code, Section XI testing requirements. This condition was placed in the corrective action program as Palo Verde Action Requests 3704003.

The inspectors determined that the failure to complete an immediate operability determination in accordance with paragraph 3.2.1.5 of Procedure 01PR-0AP04 was a performance deficiency. The performance deficiency is more than minor because the nonconforming condition created a reasonable doubt on the operability of the diesel fuel oil transfer system. Using Phase 1 of NRC Manual Chapter 0609, "Significance Determination Process," the finding screens as having very low safety significance (Green) because the finding is a design or qualification deficiency confirmed not

to result in the loss of operability or functionality of the system. The finding has a cross-cutting aspect in the area of problem identification and resolution, associated with the corrective action program component, because the licensee failed to identify issues completely, accurately, and in a timely manner commensurate with their safety significance. Specifically, the licensee failed to accurately document the nonconforming condition identified in Palo Verde Action Requests 3654452 which led to a failure to complete an immediate operability determination as required.
Inspection Report# : 2011003 *(pdf)*

Significance: G Mar 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Corrective Action Program Procedure
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criteria V, “Instructions, Procedures, and Drawings,” after the licensee failed to promptly evaluate a nonconforming condition for operability as required by Procedure 01PR-0AP04, “Corrective Action Program.” Procedure 01PR-0AP04, “Corrective Action Program,” step 3.2.1.5, stated “Operability shall be determined immediately upon discovery that an SSC subject to technical specification or that supports SSCs subject to technical specification is in a degraded or nonconforming condition.” Operators failed to perform an operability determination immediately following the licensee’s discovery of a potentially degraded and nonconforming condition associated with a manufacturing defect in K-600S 480 VAC Class 1E circuit breakers. On December 7, 2010, an extent of condition review identified 76 breakers installed in the three units that could be susceptible to the same failure mechanism. However, operators did not perform an immediate operability determination until January 28, 2011. Operators subsequently concluded the affected breakers remained capable of performing their safety functions. The licensee entered the performance deficiency into the corrective action program as Palo Verde Action Request 3587124 and has not completed corrective actions for this issue.

The inspectors concluded the finding was more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using NRC Manual Chapter 0609, Attachment 4, “Phase 1 - Initial Screening and Characterization of Findings,” the inspectors determined the finding had a very low safety significance (Green) because it did not represent a loss of system safety function, represent actual loss of safety function of a single train for greater than its technical specification allowed outage time, represent an actual loss of safety function of one or more non-technical specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors concluded that this finding had a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee failed to implement a corrective action program with a low threshold for identifying issues. In this case, the licensee failed to initiate a Palo Verde Action Request that would have required a review for operability when the extent of condition review identified that safety-related components were affected.

Inspection Report# : 2011002 *(pdf)*

Significance: G Mar 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Establish Adequate Procedures to Control Essential Chiller Compressor Oil Level
The inspectors identified a noncited violation of Technical Specification 5.4.1, "Procedures," for the failure of operations, engineering, and maintenance personnel to establish and implement procedures recommended in Regulatory Guide 1.33. Specifically, monitoring procedures and preventive maintenance schedules were not developed and implemented to ensure essential chiller oil reservoir level remained in the range to support chiller operability. The licensee has implemented operating procedure revisions and is currently evaluating preventive maintenance practices to preclude compressor oil level from reaching out of specification conditions. Engineering practices, operations procedures, and preventative maintenance schedules did not effectively manage chiller oil inventory and resulted in the chiller becoming inoperable on multiple occasions. The licensee entered the issue into the corrective action program as Palo Verde Action Request 3677610.

The inspectors concluded the performance deficiency was more than minor because it affected the equipment

performance attribute of the Mitigating Systems Cornerstone, and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using NRC Manual Chapter 0609, Attachment 4, "Initial Screening and Characterization of Findings," the inspectors determined the finding had a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined this finding had a crosscutting aspect in the area of problem identification and resolution associated with the operating experience component because the licensee failed to institutionalize internal operating experience through changes to station processes, procedures, and equipment.

Inspection Report# : 2011002 *(pdf)*

Significance: SL-IV Mar 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform a 10 CFR Part 21 Evaluation
The inspectors identified a Severity Level IV noncited violation of 10 CFR Part 21 after Palo Verde Nuclear Generating Station failed to evaluate an identified deviation within 60 days of discovery to determine if there was a substantial safety hazard. On November 23, 2010, the licensee completed an apparent cause evaluation for a failure of the Unit 3 train B spent fuel pool cooling pump and concluded the cause of the failure was a misalignment by the vendor of the bell alarm bracket within the K-600S 480 VAC Class 1E circuit breaker. Additionally, the apparent cause evaluation identified similar failures of the same type of breaker dating back to April 29, 2009. On December 7, 2010, the extent of condition review identified seventy six breakers, including some in safety related applications, installed in the three units that could be impacted by the same failure mechanism. The inspectors questioned whether the licensee should have performed an evaluation in accordance with 10 CFR Part 21 to determine if a defect existed. On February 15, 2011, the licensee completed an evaluation of prior deviations related to the alignment of bell alarm switches and concluded the deviations were defects that were reportable per 10 CFR Part 21. The licensee subsequently submitted Part 21 Report 2011-07-00 on February 24, 2011. The licensee entered the performance deficiency into the corrective action program as Palo Verde Action Request 3593672 and has not completed corrective actions for this issue.

The inspectors concluded that the failure to perform the substantial safety hazard evaluation within 60 days as required by 10 CFR 21.21(a)(1) was a violation of NRC requirements. The inspectors evaluated this violation using the traditional enforcement process because the failure to submit a required report affected the NRC's ability to perform its regulatory function. Consistent with the guidance in Section 2.2.2 and Section 6.9.d of the NRC Enforcement Policy, the inspectors concluded the violation was a Severity Level IV because the licensee failed to make a timely written report that resulted in no or relatively inappreciable potential safety consequences.
Inspection Report# : 2011002 *(pdf)*

Significance: SL-IV Feb 08, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Ensure All License Conditions Are Met for Licensed Operators
The inspectors identified a Severity Level IV violation of 10 CFR 55.3, "License Requirements," for the failure of the licensee to ensure that all individuals authorized by a license to operate the controls of the facility met all the conditions of their licenses as defined in 10 CFR 55.3. Specifically, the requirement to have a biennial physical completed and certified by the facility's physician during the continuous two year period for all licensed operators was not met for three licensed operators. Two of these licensed operators performed licensed operator duties 42 times between February 8 and March 25, 2010, after the deadline for their biennial examinations had passed. Upon discovery, the licensee removed these individuals from watchstanding duties pending follow-up medical evaluations. This issue was entered into the licensee's corrective action program as Condition Report Disposition Request 3526981.

The failure of the licensee to ensure that all individuals authorized by a license to operate the controls of the facility met all the conditions of their licenses as defined in 10 CFR 55.3 is a performance deficiency. Specifically, the requirement to have a biennial physical completed and certified by the facility's physician during the continuous two year period for all licensed operators (as required in 10 CFR 55.21) was not met for three licensed operators, two of

which were standing watch with expired medical examinations. The finding was evaluated using the traditional enforcement process because the failure to determine an operator's medical condition and general health has the potential to impact the NRC's ability to perform its regulatory function; the NRC was not notified nor allowed an opportunity to review the specific medical conditions of the two operators whose medical qualifications had expired while they were standing watch or eligible to stand watch. Using the NRC's Enforcement Policy, section 6.4.d, Severity Level IV violation examples, this finding is similar to example 1 which states, in part that "an unqualified individual performing the functions of an operator or senior operator." Two licensed operators stood watch without a certified medical examination within the two year period that the medical examination is required to be completed and certified by the physician. Because: (1) the medical conditions of the two licensed operators did not change when they received their medical examinations in recent weeks; (2) the finding did not cause any plant events or transients while the individuals were on watch; (3) it was not repetitive or willful; and (4) it was entered into the corrective action program, the finding was determined to be of very low safety significance and is being treated as a Severity Level IV noncited violation consistent with the NRC Enforcement Policy. This finding has a crosscutting aspect in the area of human performance associated with the work practices component because medical staff supervisors did not oversee the biennial physical examination due dates such that nuclear safety was supported.
Inspection Report# : 2010005 *(pdf)*

Significance: G Dec 17, 2010
Identified By: NRC
Item Type: VIO Violation
Failure to Correct a Significant Condition Adverse to Quality Associated with the Unit 2 Fuel Oil Transfer Pumps
Inspectors identified a Green cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action", for the failure of the licensee to correct a significant condition adverse to quality associated with the emergency diesel generator fuel oil transfer pumps. Specifically, from April 2009 to September 2010, the licensee failed to correct a water intrusion path to the motor termination box for the Unit 2 emergency diesel generator fuel oil transfer pumps, resulting in degraded electrical connections. As an interim corrective action, splices have been placed in the cabling to prevent water from reaching the motor terminations. Due to the licensee's failure to restore compliance to a previous violation (NCV 05000529/2009004-02) within a reasonable time, this violation is being cited as a Notice of Violation consistent with the NRC Enforcement Policy. This has been entered into the licensee's corrective action program as Condition Report Disposition Request 3529151.
The performance deficiency associated with this finding was the failure of the licensee to correct a significant condition adverse to quality and prevent recurrence. The finding is more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to require a Phase 2 and Phase 3 analysis by a senior reactor analyst because the finding resulted in an actual loss of safety function of a single train for greater than its technical specification allowed outage time. The senior reactor analyst performed a bounding Phase 3 significance determination and found the finding to be of very low safety significance (Green). The dominant cutsets included a loss of offsite power initiating event, failure to align the turbine driven generator and failures of the turbine driven auxiliary feedwater pump. The finding had a cross-cutting aspect in the area of Problem Identification and Resolution associated with the corrective action program component because the licensee failed to thoroughly evaluate problems such that the resolutions address causes and extent of condition, as necessary.
Inspection Report# : 2010008 *(pdf)*

Significance: G Sep 30, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Unqualified Coatings in Containment
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V," Instructions, Procedures, and Drawings," for an inadequate procedure for the application of coatings in containment. Specifically, during construction, Specification 13-AM-314, "Installation Specification for Surface Coating Systems for Concrete," improperly required a dry-film thickness of 2 to 5 mils for Mobil/Valspar 84-V-200, which is beyond the limits of 2 to 5 mils wet-film thickness that was allowed by the vendor instructions. Mobil/Valspar 84-V-200 was found to lack

design basis testing and subsequent testing demonstrated that 50 percent of the coating in excess of 2 mils thickness failed as particulate, rather than chips, which increases debris loading on the containment sump. The licensee plans to revise calculation N001-1106-00002, “Debris Generation Due to LOCA within Containment for Resolution of GSI-191,” to incorporate the added debris loading from the unqualified coatings as a corrective action. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3469133.

The performance deficiency was more than minor, and is therefore a finding, because it affected the design control attribute of the Mitigating Systems Cornerstone, and affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding was evaluated as not having a crosscutting aspect because the performance deficiency is not reflective of current performance.
Inspection Report# : 2010004 *(pdf)*

Significance: G Sep 10, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain Operator Licensing Examination Integrity
The inspectors identified a noncited violation of 10 CFR 55.49, “Integrity of Examinations and Tests,” for the failure of the licensee to ensure that the integrity of an operating test administered to licensed operators was maintained. During the week of December 8, 2009, twenty-four licensed operators received three job performance measures and one additional licensed operator received five job performance measures for their operating tests that had been previously administered to other licensed operators in previous weeks. This failure resulted in a compromise of examination integrity because it exceeded the 50 percent overlap required by quality procedure LOCT-TPD-R56, “Licensed Operator Continuing Training Program,” Revision 56, for this portion of the examination, but did not lead to an actual effect on the equitable and consistent administration of the examination. This issue was entered into the licensee’s corrective action program as Condition Report Disposition Request 3527071.

The failure of the licensee’s training staff to maintain the integrity of examinations administered to licensed operations personnel was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it adversely impacted the human performance attribute of the mitigating systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, if left uncorrected, the performance deficiency could have become more significant in that allowing licensed operators to return to the control room without valid demonstration of appropriate knowledge on the biennial examinations could be a precursor to a more significant event. Using Manual Chapter 0609, “Significance Determination Process,” Phase 1 worksheets, and the corresponding Appendix I, “Licensed Operator Requalification Significance Determination Process,” the finding was determined to have very low safety significance (Green) because, although the finding resulted in a compromise of the integrity of operating test job performance measures and compensatory actions were not immediately taken when the compromise should have been discovered in 2009, the equitable and consistent administration of the test was not actually impacted by this compromise. This finding has a crosscutting aspect in the area of human performance associated with the resources component because the licensee failed to ensure that procedures were accurately translated from industry standards such that the 50 percent maximum overlap was not exceeded.
Inspection Report# : 2010005 *(pdf)*

Significance: G Sep 09, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Procedures for Medical Examinations of Licensed Operators
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the failure of the licensee to follow their quality procedure 01DP-0EM13, “Licensed Operator Medical Examinations,” Revision, which provides the medical examination requirements for licensed operators at Palo Verde Nuclear Generating Station. Of the 15 medical records reviewed by the inspectors, 7 licensed senior

reactor operator medical records did not contain the proper no-solo restrictions imposed by the NRC when these individuals were licensed. Additionally, the software that the licensee used to track these restrictions (Station Work Management System or SWMS) did not reflect the proper restrictions for these 7 individuals. This issue was entered into the licensee's corrective action program as Condition Report Disposition Requests 3527072 and 3526979.

The failure of the licensee's medical staff to follow their procedure for implementing the required medical examination program was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it adversely impacted the human performance attribute of the mitigating systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheets, and the corresponding Appendix I, "Licensed Operator Requalification Significance Determination Process," the finding was determined to have very low safety significance and is being characterized as a Green, noncited violation. The finding was determined to be Green, using Appendix I of Manual Chapter 0609, because more than 20 percent of the medical records reviewed contained significant deficiencies. The finding was also determined to have very low safety significance (Green) because: (1) the finding did not result in any events in the control room; and (2) no health requirements required by ANS/ANSI 3.4-1983 "Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants" were exceeded by any licensed operator while on watch. This finding has a crosscutting aspect in the area of human performance associated with the work practices component because this procedure and its associated software are the two principle mechanisms that the facility uses to ensure that licensed operators are fit for duty.
Inspection Report# : 2010005 *(pdf)*

Significance: G Aug 21, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Promptly Identify and Correct a Condition Adverse to Quality for Foreign Material in the Pneumatic Supply Lines to the Atmospheric Dump Valves Actuators
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure of engineering personnel to promptly identify and correct a condition adverse to quality associated with foreign material in the nitrogen and instrument air supply to the atmospheric dump valve. Specifically, between July 2009 and August 2010, corrective actions to address foreign material in the Unit 3 instrument air supply to atmospheric dump valve ADV-185 failed to promptly identify and remove similar debris in remaining instrument air or nitrogen supply lines. The licensee is developing new work orders to flush and inspect pneumatic supply lines to the atmospheric dump valves. This issue was entered into the licensee's corrective action program as Palo Verde Action Request 3531638.

The performance deficiency was more than minor, and is therefore a finding, because it affected the equipment reliability attribute of the Mitigating Systems Cornerstone, and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding was determined to have a crosscutting aspect in the area of human performance associated with the decision making component because the licensee failed to conduct effectiveness reviews of safety significant decisions to verify the validity of assumptions, identify possible unintended consequences, and determine how to improve future decisions.
Inspection Report# : 2010004 *(pdf)*

Barrier Integrity

Significance: G Jun 30, 2011
Identified By: NRC

Item Type: NCV NonCited Violation
Failure to Include Screening Criteria in the Boric Acid Corrosion Control Program
The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," which states, in part, that "Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished." Specifically, Procedure 70TI-9ZC01, "Boric Acid Walkdown Leak Detection," Revision 11 did not include appropriate screening criteria to satisfactorily evaluate boric acid leaks and deposits that may cause degradation of risk significant system barriers. The condition was placed in the corrective action program as Palo Verde Action Request 3691351.

The inspectors determined the failure to include appropriate screening criteria into Procedure 70TI-9ZC01 was a performance deficiency. The performance deficiency is more than minor because it is associated with the procedure quality attribute of the Barrier Integrity Cornerstone and adversely affects the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using Phase 1 of NRC Manual Chapter 0609, "Significance Determination Process," the finding screens as having very low safety significance (Green) because the finding does not represent a degradation of a radiological barrier, does not represent a degradation of the control room toxic barrier functions, does not represent an actual open pathway of reactor containment, and does not involve an actual degradation of hydrogen igniters in the reactor containment. The finding includes a cross-cutting aspect in the area of problem identification and resolution, associated with the corrective action program component, because the licensee failed to take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity. Specifically, the licensee identified similar deficiencies in the self assessment of the boric acid program in September 2010 however, failed to take appropriate corrective actions to fully correct the identified deficiencies.
Inspection Report# : 2011003 *(pdf)*

Significance: SL-IV Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Submit an LER for a Condition Prohibited by the Plant's Technical Specifications
The inspectors identified a Severity Level IV noncited violation of 10 CFR 50.73(a)(1) for failure to submit a Licensee Event Report within 60 days following discovery of a condition prohibited by Technical Specifications. The licensee made a procedure change in 1986 to Procedure 41OP-1HJ01, "Control Room Handswitch/Valve Checklist," to maintain control room outside air dampers normally closed instead of the normally open position stipulated in the final safety analysis report. The inspectors concluded that the incorrect alignment of the dampers was a condition prohibited by Technical Specification 3.3.9, "Control Room Essential Filtration Actuation Signal" and that the licensee failed to adequately evaluate the issue for reportability. The licensee entered the issue into the corrective action program as Palo Verde Action Request 3791486.

The inspectors concluded the failure of Arizona Public Service to report a condition prohibited by Technical Specifications was a performance deficiency. The inspectors evaluated this performance deficiency using the traditional enforcement process because the failure to submit a required report affected the NRC's ability to perform its regulatory function. Consistent with the guidance in Section 2.2.2 and Section 6.9.d of the NRC Enforcement Policy, the inspectors concluded the finding was a Severity Level IV violation because the licensee failed to make a timely written report that resulted in no or relatively inappreciable potential safety consequences.
Inspection Report# : 2011003 *(pdf)*

Significance:  Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Have Adequate Documentation for Verification of ASME Code Compliance
The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion VII "Control of Purchased Material, Equipment, And Services" for the failure of licensee personnel to maintain radiographs onsite for the verification of ASME Code, Section III compliance. Specifically, radiographs for welds associated with the reactor head vent line were neither received nor reviewed as required. When the radiographs were obtained, reviews identified that welds for Units 1 and 2 did not meet the standards of Section III of the ASME Boiler and Pressure

Vessel Code. The licensee corrected the non-conforming weld in Unit 2 during refueling outage 2R16 and Unit 1 welds will be restored to Section III standards during the next refueling outage beginning October 1, 2011. The licensee entered the issue into the corrective action program as Condition Report / Disposition Requests 3540575.

Inspectors determined that the failure to maintain radiographs onsite for review was a performance deficiency. The performance deficiency was more than minor because it adversely affected the RCS equipment and barrier performance attribute of the Barrier Integrity Cornerstone's objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using Inspection Manual Chapter 0609, Attachment 4, "Initial Screening and Characterization of Findings," the inspectors concluded that the finding is of very low safety significance (Green) because the reactor coolant system barrier remained intact, was not associated with the fuel barrier, and did not constitute a spent fuel pool issue. This finding had a cross-cutting aspect in the area of human performance associated with the work practices component because the licensee failed to communicate expectations regarding procedural compliance and personnel follow procedures.
Inspection Report# : 2011003 *(pdf)*

Emergency Preparedness

Significance: G Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Critique a Weakness during a Biennial Exercise
The inspectors identified a Green noncited violation for failure to critique weak performance in the Technical Support Center during a biennial exercise conducted March 1, 2011, as required by 10 CFR Part 50, Appendix E, IV(F)(2)(g). Specifically, the licensee did not identify that the Technical Support Center did not understand the radiological release path and that they had developed ineffective mitigation strategies based on their inaccurate understanding.

This performance deficiency is more than minor because it affected the emergency preparedness cornerstone and was associated with the emergency response organization performance attribute. The finding had a credible impact on the emergency preparedness cornerstone objective because a lack of understanding of the release path for radioactive material affects the licensee's ability to implement adequate measures to protect the health and safety of the public. The finding was evaluated using the emergency preparedness significance determination process and was determined to be of very low safety significance (Green) because it was a failure to comply with NRC requirements, was associated with Emergency Planning Standard 50.47(b)(14), was not a risk significant planning standard issue, and was not a functional failure of the planning standard. The issue was entered into the licensee's corrective action program as Condition Report / Disposition Requests 3693235. This finding was assigned a cross-cutting aspect in the area of problem identification and resolution because the licensee failed to identify a performance issue completely and accurately.
Inspection Report# : 2011003 *(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings

pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Dec 17, 2010
Identified By: NRC
Item Type: FIN Finding
Palo Verde Nuclear Generating Station Biennial PI&R Inspection Summary
The team concluded that the corrective action program at Palo Verde Nuclear Generating Station was generally effective. The team concluded that site personnel identify problems at a low threshold and enter them into the corrective action program. The licensee utilizes a rigorous screening process to characterize issues and that the vast majority of issues are appropriately evaluated and adequate corrective actions are taken. The team did identify isolated cases where problem evaluation could have been more effective at addressing the underlying causes of issues as well as a number of examples where corrective actions were not timely or adequate to address identified problems. The team also determined that though the overall process for identifying and correcting issues was well established, certain incidents of procedural violations associated with corrective action program processes led to delays and less than adequate actions to correct material deficiencies. Though the team identified areas in which the licensee could improve its corrective action program, the overall process was determined to be effective in identifying and correcting conditions adverse to quality.
The licensee appropriately evaluated industry operating experience for relevance to the facility, entered applicable items in the corrective action program, and subsequently utilized operating experience in root and apparent cause evaluations. The team did determine that that the licensee could improve its utilization of operating experience to prevent the occurrence of similar events at Palo Verde. The team determined that the licensee performed effective quality assurance audits and self assessments.
The team performed seven safety culture focus group discussions involving approximately 70 licensee personnel in order to assess the safety conscious work environment of the site. The team felt that a strong safety conscious work environment existed in most of the work groups interviewed; however, one work group interviewed exhibited weaknesses in this area. Specifically, the team found that although there were many individuals who felt comfortable raising safety concerns without fear of retaliation, there were some individuals in the operations department who expressed the perception that they would or might be retaliated against for raising certain safety concerns using certain avenues available to them. In all instances, these individuals stated they would use one avenue or another to raise their concerns.

Inspection Report# : 2010008 *(pdf)*

Last modified : October 14, 2011

Palo Verde 2
3Q/2011 Plant Inspection Findings

Initiating Events

Significance: G Jun 30, 2011
Identified By: Self-Revealing
Item Type: FIN Finding
Failure of 13.8kV Splice due to Inadequate Maintenance
Inspectors reviewed a Green self-revealing finding for failure to properly repair a 13.8kV cable associated with the AENANX02 startup transformer. Specifically, the work performed failed to achieve an acceptable level of quality as required by Procedure 30DP-9MP01 "Conduct of Maintenance," and as a result the splice failed causing valid actuations of the emergency diesel generators due to a partial loss of offsite power to both Unit 1 and Unit 3. The licensee plans to revise Specification 13-EN-306, "Installation Specification for Cable Splicing and Terminations for PVNGS," to remove the use of taped splices for 13.8kV cable. The licensee entered this issue into the corrective action program as Condition Report / Disposition Requests 3616634.

The failure of the licensee to perform work with an acceptable level of quality for 13.8kV cable splicing was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it adversely affected the equipment reliability attribute of the Initiating Events Cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using Inspection Manual Chapter 0609, Attachment 4, "Initial Screening and Characterization of Findings," the inspectors concluded that the finding is of very low safety significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. This finding had a cross-cutting aspect in the area of human performance associated with the resources component because the licensee failed to provide complete, accurate and up-to-date procedures and work packages for splicing of 13.8kV electrical cable.
Inspection Report# : 2011003 *(pdf)*

Mitigating Systems

Significance: G Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Complete an Immediate Operability Determination for Code System Leakage Test
The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," which states "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings." Contrary to the above, from March 11 through April 19, 2011, the licensee failed to complete an immediate operability determination in accordance with Procedure 01PR-0AP04, "Corrective Action Program," when the licensee discovered the system leakage test methodology for the diesel fuel oil transfer system did not conform to ASME Code, Section XI testing requirements. This condition was placed in the corrective action program as Palo Verde Action Requests 3704003.

The inspectors determined that the failure to complete an immediate operability determination in accordance with paragraph 3.2.1.5 of Procedure 01PR-0AP04 was a performance deficiency. The performance deficiency is more than minor because the nonconforming condition created a reasonable doubt on the operability of the diesel fuel oil transfer system. Using Phase 1 of NRC Manual Chapter 0609, "Significance Determination Process," the finding screens as having very low safety significance (Green) because the finding is a design or qualification deficiency confirmed not

to result in the loss of operability or functionality of the system. The finding has a cross-cutting aspect in the area of problem identification and resolution, associated with the corrective action program component, because the licensee failed to identify issues completely, accurately, and in a timely manner commensurate with their safety significance. Specifically, the licensee failed to accurately document the nonconforming condition identified in Palo Verde Action Requests 3654452 which led to a failure to complete an immediate operability determination as required.
Inspection Report# : 2011003 *(pdf)*

Significance: G Mar 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Corrective Action Program Procedure
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criteria V, “Instructions, Procedures, and Drawings,” after the licensee failed to promptly evaluate a nonconforming condition for operability as required by Procedure 01PR-0AP04, “Corrective Action Program.” Procedure 01PR-0AP04, “Corrective Action Program,” step 3.2.1.5, stated “Operability shall be determined immediately upon discovery that an SSC subject to technical specification or that supports SSCs subject to technical specification is in a degraded or nonconforming condition.” Operators failed to perform an operability determination immediately following the licensee’s discovery of a potentially degraded and nonconforming condition associated with a manufacturing defect in K-600S 480 VAC Class 1E circuit breakers. On December 7, 2010, an extent of condition review identified 76 breakers installed in the three units that could be susceptible to the same failure mechanism. However, operators did not perform an immediate operability determination until January 28, 2011. Operators subsequently concluded the affected breakers remained capable of performing their safety functions. The licensee entered the performance deficiency into the corrective action program as Palo Verde Action Request 3587124 and has not completed corrective actions for this issue.

The inspectors concluded the finding was more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using NRC Manual Chapter 0609, Attachment 4, “Phase 1 - Initial Screening and Characterization of Findings,” the inspectors determined the finding had a very low safety significance (Green) because it did not represent a loss of system safety function, represent actual loss of safety function of a single train for greater than its technical specification allowed outage time, represent an actual loss of safety function of one or more non-technical specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors concluded that this finding had a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee failed to implement a corrective action program with a low threshold for identifying issues. In this case, the licensee failed to initiate a Palo Verde Action Request that would have required a review for operability when the extent of condition review identified that safety-related components were affected.

Inspection Report# : 2011002 *(pdf)*

Significance: G Mar 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Establish Adequate Procedures to Control Essential Chiller Compressor Oil Level
The inspectors identified a noncited violation of Technical Specification 5.4.1, "Procedures," for the failure of operations, engineering, and maintenance personnel to establish and implement procedures recommended in Regulatory Guide 1.33. Specifically, monitoring procedures and preventive maintenance schedules were not developed and implemented to ensure essential chiller oil reservoir level remained in the range to support chiller operability. The licensee has implemented operating procedure revisions and is currently evaluating preventive maintenance practices to preclude compressor oil level from reaching out of specification conditions. Engineering practices, operations procedures, and preventative maintenance schedules did not effectively manage chiller oil inventory and resulted in the chiller becoming inoperable on multiple occasions. The licensee entered the issue into the corrective action program as Palo Verde Action Request 3677610.

The inspectors concluded the performance deficiency was more than minor because it affected the equipment

performance attribute of the Mitigating Systems Cornerstone, and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using NRC Manual Chapter 0609, Attachment 4, "Initial Screening and Characterization of Findings," the inspectors determined the finding had a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined this finding had a crosscutting aspect in the area of problem identification and resolution associated with the operating experience component because the licensee failed to institutionalize internal operating experience through changes to station processes, procedures, and equipment.

Inspection Report# : 2011002 *(pdf)*

Significance: SL-IV Mar 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform a 10 CFR Part 21 Evaluation
The inspectors identified a Severity Level IV noncited violation of 10 CFR Part 21 after Palo Verde Nuclear Generating Station failed to evaluate an identified deviation within 60 days of discovery to determine if there was a substantial safety hazard. On November 23, 2010, the licensee completed an apparent cause evaluation for a failure of the Unit 3 train B spent fuel pool cooling pump and concluded the cause of the failure was a misalignment by the vendor of the bell alarm bracket within the K-600S 480 VAC Class 1E circuit breaker. Additionally, the apparent cause evaluation identified similar failures of the same type of breaker dating back to April 29, 2009. On December 7, 2010, the extent of condition review identified seventy six breakers, including some in safety related applications, installed in the three units that could be impacted by the same failure mechanism. The inspectors questioned whether the licensee should have performed an evaluation in accordance with 10 CFR Part 21 to determine if a defect existed. On February 15, 2011, the licensee completed an evaluation of prior deviations related to the alignment of bell alarm switches and concluded the deviations were defects that were reportable per 10 CFR Part 21. The licensee subsequently submitted Part 21 Report 2011-07-00 on February 24, 2011. The licensee entered the performance deficiency into the corrective action program as Palo Verde Action Request 3593672 and has not completed corrective actions for this issue.

The inspectors concluded that the failure to perform the substantial safety hazard evaluation within 60 days as required by 10 CFR 21.21(a)(1) was a violation of NRC requirements. The inspectors evaluated this violation using the traditional enforcement process because the failure to submit a required report affected the NRC's ability to perform its regulatory function. Consistent with the guidance in Section 2.2.2 and Section 6.9.d of the NRC Enforcement Policy, the inspectors concluded the violation was a Severity Level IV because the licensee failed to make a timely written report that resulted in no or relatively inappreciable potential safety consequences.
Inspection Report# : 2011002 *(pdf)*

Significance: SL-IV Feb 08, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Ensure All License Conditions Are Met for Licensed Operators
The inspectors identified a Severity Level IV violation of 10 CFR 55.3, "License Requirements," for the failure of the licensee to ensure that all individuals authorized by a license to operate the controls of the facility met all the conditions of their licenses as defined in 10 CFR 55.3. Specifically, the requirement to have a biennial physical completed and certified by the facility's physician during the continuous two year period for all licensed operators was not met for three licensed operators. Two of these licensed operators performed licensed operator duties 42 times between February 8 and March 25, 2010, after the deadline for their biennial examinations had passed. Upon discovery, the licensee removed these individuals from watchstanding duties pending follow-up medical evaluations. This issue was entered into the licensee's corrective action program as Condition Report Disposition Request 3526981.

The failure of the licensee to ensure that all individuals authorized by a license to operate the controls of the facility met all the conditions of their licenses as defined in 10 CFR 55.3 is a performance deficiency. Specifically, the requirement to have a biennial physical completed and certified by the facility's physician during the continuous two year period for all licensed operators (as required in 10 CFR 55.21) was not met for three licensed operators, two of

which were standing watch with expired medical examinations. The finding was evaluated using the traditional enforcement process because the failure to determine an operator's medical condition and general health has the potential to impact the NRC's ability to perform its regulatory function; the NRC was not notified nor allowed an opportunity to review the specific medical conditions of the two operators whose medical qualifications had expired while they were standing watch or eligible to stand watch. Using the NRC's Enforcement Policy, section 6.4.d, Severity Level IV violation examples, this finding is similar to example 1 which states, in part that "an unqualified individual performing the functions of an operator or senior operator." Two licensed operators stood watch without a certified medical examination within the two year period that the medical examination is required to be completed and certified by the physician. Because: (1) the medical conditions of the two licensed operators did not change when they received their medical examinations in recent weeks; (2) the finding did not cause any plant events or transients while the individuals were on watch; (3) it was not repetitive or willful; and (4) it was entered into the corrective action program, the finding was determined to be of very low safety significance and is being treated as a Severity Level IV noncited violation consistent with the NRC Enforcement Policy. This finding has a crosscutting aspect in the area of human performance associated with the work practices component because medical staff supervisors did not oversee the biennial physical examination due dates such that nuclear safety was supported.
Inspection Report# : 2010005 *(pdf)*

Significance: G Dec 17, 2010
Identified By: NRC
Item Type: VIO Violation
Failure to Correct and Prevent Recurrence of a Significant Condition Adverse to Quality Associated with the Emergency Diesel Generator Fuel Oil Transfer Pumps
Inspectors identified a Green cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action", for the failure of the licensee to correct a significant condition adverse to quality associated with the emergency diesel generator fuel oil transfer pumps. Specifically, from April 2009 to September 2010, the licensee failed to correct a water intrusion path to the motor termination box for the Unit 2 emergency diesel generator fuel oil transfer pumps, resulting in degraded electrical connections. As an interim corrective action, splices have been placed in the cabling to prevent water from reaching the motor terminations. Due to the licensee's failure to restore compliance to a previous violation (NCV 05000529/2009004-02) within a reasonable time, this violation is being cited as a Notice of Violation consistent with the NRC Enforcement Policy. This has been entered into the licensee's corrective action program as Condition Report Disposition Request 3529151.
The performance deficiency associated with this finding was the failure of the licensee to correct a significant condition adverse to quality and prevent recurrence. The finding is more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to require a Phase 2 and Phase 3 analysis by a senior reactor analyst because the finding resulted in an actual loss of safety function of a single train for greater than its technical specification allowed outage time. The senior reactor analyst performed a bounding Phase 3 significance determination and found the finding to be of very low safety significance (Green). The dominant cutsets included a loss of offsite power initiating event, failure to align the turbine driven generator and failures of the turbine driven auxiliary feedwater pump. The finding had a cross-cutting aspect in the area of Problem Identification and Resolution associated with the corrective action program component because the licensee failed to thoroughly evaluate problems such that the resolutions address causes and extent of condition, as necessary.
Inspection Report# : 2010008 *(pdf)*
Inspection Report# : 2011004 *(pdf)*

Barrier Integrity

Significance: G Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Include Screening Criteria in the Boric Acid Corrosion Control Program

The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” which states, in part, that “Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished.” Specifically, Procedure 70TI-9ZC01, “Boric Acid Walkdown Leak Detection,” Revision 11 did not include appropriate screening criteria to satisfactorily evaluate boric acid leaks and deposits that may cause degradation of risk significant system barriers. The condition was placed in the corrective action program as Palo Verde Action Request 3691351.

The inspectors determined the failure to include appropriate screening criteria into Procedure 70TI-9ZC01 was a performance deficiency. The performance deficiency is more than minor because it is associated with the procedure quality attribute of the Barrier Integrity Cornerstone and adversely affects the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using Phase 1 of NRC Manual Chapter 0609, “Significance Determination Process,” the finding screens as having very low safety significance (Green) because the finding does not represent a degradation of a radiological barrier, does not represent a degradation of the control room toxic barrier functions, does not represent an actual open pathway of reactor containment, and does not involve an actual degradation of hydrogen igniters in the reactor containment. The finding includes a cross-cutting aspect in the area of problem identification and resolution, associated with the corrective action program component, because the licensee failed to take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity. Specifically, the licensee identified similar deficiencies in the self assessment of the boric acid program in September 2010 however, failed to take appropriate corrective actions to fully correct the identified deficiencies.
Inspection Report# : 2011003 *(pdf)*

Significance: SL-IV Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Submit an LER for a Condition Prohibited by the Plant’s Technical Specifications
The inspectors identified a Severity Level IV noncited violation of 10 CFR 50.73(a)(1) for failure to submit a Licensee Event Report within 60 days following discovery of a condition prohibited by Technical Specifications. The licensee made a procedure change in 1986 to Procedure 41OP-1HJ01, “Control Room Handswitch/Valve Checklist,” to maintain control room outside air dampers normally closed instead of the normally open position stipulated in the final safety analysis report. The inspectors concluded that the incorrect alignment of the dampers was a condition prohibited by Technical Specification 3.3.9, “Control Room Essential Filtration Actuation Signal” and that the licensee failed to adequately evaluate the issue for reportability. The licensee entered the issue into the corrective action program as Palo Verde Action Request 3791486.

The inspectors concluded the failure of Arizona Public Service to report a condition prohibited by Technical Specifications was a performance deficiency. The inspectors evaluated this performance deficiency using the traditional enforcement process because the failure to submit a required report affected the NRC’s ability to perform its regulatory function. Consistent with the guidance in Section 2.2.2 and Section 6.9.d of the NRC Enforcement Policy, the inspectors concluded the finding was a Severity Level IV violation because the licensee failed to make a timely written report that resulted in no or relatively inappreciable potential safety consequences.
Inspection Report# : 2011003 *(pdf)*

Significance: G Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Have Adequate Documentation for Verification of ASME Code Compliance
The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion VII “Control of Purchased Material, Equipment, And Services” for the failure of licensee personnel to maintain radiographs onsite for the verification of ASME Code, Section III compliance. Specifically, radiographs for welds associated with the reactor head vent line were neither received nor reviewed as required. When the radiographs were obtained, reviews identified that welds for Units 1 and 2 did not meet the standards of Section III of the ASME Boiler and Pressure Vessel Code. The licensee corrected the non-conforming weld in Unit 2 during refueling outage 2R16 and Unit 1 welds will be restored to Section III standards during the next refueling outage beginning October 1, 2011. The

licensee entered the issue into the corrective action program as Condition Report / Disposition Requests 3540575.

Inspectors determined that the failure to maintain radiographs onsite for review was a performance deficiency. The performance deficiency was more than minor because it adversely affected the RCS equipment and barrier performance attribute of the Barrier Integrity Cornerstone's objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using Inspection Manual Chapter 0609, Attachment 4, "Initial Screening and Characterization of Findings," the inspectors concluded that the finding is of very low safety significance (Green) because the reactor coolant system barrier remained intact, was not associated with the fuel barrier, and did not constitute a spent fuel pool issue. This finding had a cross-cutting aspect in the area of human performance associated with the work practices component because the licensee failed to communicate expectations regarding procedural compliance and personnel follow procedures.
Inspection Report# : 2011003 *(pdf)*

Emergency Preparedness

Significance: G Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Critique a Weakness during a Biennial Exercise
The inspectors identified a Green noncited violation for failure to critique weak performance in the Technical Support Center during a biennial exercise conducted March 1, 2011, as required by 10 CFR Part 50, Appendix E, IV(F)(2)(g). Specifically, the licensee did not identify that the Technical Support Center did not understand the radiological release path and that they had developed ineffective mitigation strategies based on their inaccurate understanding.

This performance deficiency is more than minor because it affected the emergency preparedness cornerstone and was associated with the emergency response organization performance attribute. The finding had a credible impact on the emergency preparedness cornerstone objective because a lack of understanding of the release path for radioactive material affects the licensee's ability to implement adequate measures to protect the health and safety of the public. The finding was evaluated using the emergency preparedness significance determination process and was determined to be of very low safety significance (Green) because it was a failure to comply with NRC requirements, was associated with Emergency Planning Standard 50.47(b)(14), was not a risk significant planning standard issue, and was not a functional failure of the planning standard. The issue was entered into the licensee's corrective action program as Condition Report / Disposition Requests 3693235. This finding was assigned a cross-cutting aspect in the area of problem identification and resolution because the licensee failed to identify a performance issue completely and accurately.
Inspection Report# : 2011003 *(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Dec 17, 2010
Identified By: NRC
Item Type: FIN Finding
Palo Verde Nuclear Generating Station Biennial PI&R Inspection Summary
The team concluded that the corrective action program at Palo Verde Nuclear Generating Station was generally effective. The team concluded that site personnel identify problems at a low threshold and enter them into the corrective action program. The licensee utilizes a rigorous screening process to characterize issues and that the vast majority of issues are appropriately evaluated and adequate corrective actions are taken. The team did identify isolated cases where problem evaluation could have been more effective at addressing the underlying causes of issues as well as a number of examples where corrective actions were not timely or adequate to address identified problems. The team also determined that though the overall process for identifying and correcting issues was well established, certain incidents of procedural violations associated with corrective action program processes led to delays and less than adequate actions to correct material deficiencies. Though the team identified areas in which the licensee could improve its corrective action program, the overall process was determined to be effective in identifying and correcting conditions adverse to quality.
The licensee appropriately evaluated industry operating experience for relevance to the facility, entered applicable items in the corrective action program, and subsequently utilized operating experience in root and apparent cause evaluations. The team did determine that that the licensee could improve its utilization of operating experience to prevent the occurrence of similar events at Palo Verde. The team determined that the licensee performed effective quality assurance audits and self assessments.
The team performed seven safety culture focus group discussions involving approximately 70 licensee personnel in order to assess the safety conscious work environment of the site. The team felt that a strong safety conscious work environment existed in most of the work groups interviewed; however, one work group interviewed exhibited weaknesses in this area. Specifically, the team found that although there were many individuals who felt comfortable raising safety concerns without fear of retaliation, there were some individuals in the operations department who expressed the perception that they would or might be retaliated against for raising certain safety concerns using certain avenues available to them. In all instances, these individuals stated they would use one avenue or another to raise their concerns.

Inspection Report# : 2010008 *(pdf)*

Last modified : January 04, 2012

Palo Verde 2
4Q/2011 Plant Inspection Findings

Initiating Events

Significance: G Jun 30, 2011
Identified By: Self-Revealing
Item Type: FIN Finding
Failure of 13.8kV Splice due to Inadequate Maintenance
Inspectors reviewed a Green self-revealing finding for failure to properly repair a 13.8kV cable associated with the AENANX02 startup transformer. Specifically, the work performed failed to achieve an acceptable level of quality as required by Procedure 30DP-9MP01 "Conduct of Maintenance," and as a result the splice failed causing valid actuations of the emergency diesel generators due to a partial loss of offsite power to both Unit 1 and Unit 3. The licensee plans to revise Specification 13-EN-306, "Installation Specification for Cable Splicing and Terminations for PVNGS," to remove the use of taped splices for 13.8kV cable. The licensee entered this issue into the corrective action program as Condition Report / Disposition Requests 3616634.

The failure of the licensee to perform work with an acceptable level of quality for 13.8kV cable splicing was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it adversely affected the equipment reliability attribute of the Initiating Events Cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using Inspection Manual Chapter 0609, Attachment 4, "Initial Screening and Characterization of Findings," the inspectors concluded that the finding is of very low safety significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. This finding had a cross-cutting aspect in the area of human performance associated with the resources component because the licensee failed to provide complete, accurate and up-to-date procedures and work packages for splicing of 13.8kV electrical cable.
Inspection Report# : 2011003 *(pdf)*

Mitigating Systems

Significance: G Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Complete an Immediate Operability Determination for Code System Leakage Test
The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," which states "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings." Contrary to the above, from March 11 through April 19, 2011, the licensee failed to complete an immediate operability determination in accordance with Procedure 01PR-0AP04, "Corrective Action Program," when the licensee discovered the system leakage test methodology for the diesel fuel oil transfer system did not conform to ASME Code, Section XI testing requirements. This condition was placed in the corrective action program as Palo Verde Action Requests 3704003.

The inspectors determined that the failure to complete an immediate operability determination in accordance with paragraph 3.2.1.5 of Procedure 01PR-0AP04 was a performance deficiency. The performance deficiency is more than minor because the nonconforming condition created a reasonable doubt on the operability of the diesel fuel oil transfer system. Using Phase 1 of NRC Manual Chapter 0609, "Significance Determination Process," the finding screens as having very low safety significance (Green) because the finding is a design or qualification deficiency confirmed not

to result in the loss of operability or functionality of the system. The finding has a cross-cutting aspect in the area of problem identification and resolution, associated with the corrective action program component, because the licensee failed to identify issues completely, accurately, and in a timely manner commensurate with their safety significance. Specifically, the licensee failed to accurately document the nonconforming condition identified in Palo Verde Action Requests 3654452 which led to a failure to complete an immediate operability determination as required.
Inspection Report# : 2011003 *(pdf)*

Significance: G Mar 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Corrective Action Program Procedure
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criteria V, “Instructions, Procedures, and Drawings,” after the licensee failed to promptly evaluate a nonconforming condition for operability as required by Procedure 01PR-0AP04, “Corrective Action Program.” Procedure 01PR-0AP04, “Corrective Action Program,” step 3.2.1.5, stated “Operability shall be determined immediately upon discovery that an SSC subject to technical specification or that supports SSCs subject to technical specification is in a degraded or nonconforming condition.” Operators failed to perform an operability determination immediately following the licensee’s discovery of a potentially degraded and nonconforming condition associated with a manufacturing defect in K-600S 480 VAC Class 1E circuit breakers. On December 7, 2010, an extent of condition review identified 76 breakers installed in the three units that could be susceptible to the same failure mechanism. However, operators did not perform an immediate operability determination until January 28, 2011. Operators subsequently concluded the affected breakers remained capable of performing their safety functions. The licensee entered the performance deficiency into the corrective action program as Palo Verde Action Request 3587124 and has not completed corrective actions for this issue.

The inspectors concluded the finding was more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using NRC Manual Chapter 0609, Attachment 4, “Phase 1 - Initial Screening and Characterization of Findings,” the inspectors determined the finding had a very low safety significance (Green) because it did not represent a loss of system safety function, represent actual loss of safety function of a single train for greater than its technical specification allowed outage time, represent an actual loss of safety function of one or more non-technical specification trains of equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors concluded that this finding had a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee failed to implement a corrective action program with a low threshold for identifying issues. In this case, the licensee failed to initiate a Palo Verde Action Request that would have required a review for operability when the extent of condition review identified that safety-related components were affected.

Inspection Report# : 2011002 *(pdf)*

Significance: G Mar 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Establish Adequate Procedures to Control Essential Chiller Compressor Oil Level
The inspectors identified a noncited violation of Technical Specification 5.4.1, "Procedures," for the failure of operations, engineering, and maintenance personnel to establish and implement procedures recommended in Regulatory Guide 1.33. Specifically, monitoring procedures and preventive maintenance schedules were not developed and implemented to ensure essential chiller oil reservoir level remained in the range to support chiller operability. The licensee has implemented operating procedure revisions and is currently evaluating preventive maintenance practices to preclude compressor oil level from reaching out of specification conditions. Engineering practices, operations procedures, and preventative maintenance schedules did not effectively manage chiller oil inventory and resulted in the chiller becoming inoperable on multiple occasions. The licensee entered the issue into the corrective action program as Palo Verde Action Request 3677610.

The inspectors concluded the performance deficiency was more than minor because it affected the equipment

performance attribute of the Mitigating Systems Cornerstone, and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using NRC Manual Chapter 0609, Attachment 4, "Initial Screening and Characterization of Findings," the inspectors determined the finding had a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined this finding had a crosscutting aspect in the area of problem identification and resolution associated with the operating experience component because the licensee failed to institutionalize internal operating experience through changes to station processes, procedures, and equipment.

Inspection Report# : 2011002 *(pdf)*

Significance: SL-IV Mar 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform a 10 CFR Part 21 Evaluation
The inspectors identified a Severity Level IV noncited violation of 10 CFR Part 21 after Palo Verde Nuclear Generating Station failed to evaluate an identified deviation within 60 days of discovery to determine if there was a substantial safety hazard. On November 23, 2010, the licensee completed an apparent cause evaluation for a failure of the Unit 3 train B spent fuel pool cooling pump and concluded the cause of the failure was a misalignment by the vendor of the bell alarm bracket within the K-600S 480 VAC Class 1E circuit breaker. Additionally, the apparent cause evaluation identified similar failures of the same type of breaker dating back to April 29, 2009. On December 7, 2010, the extent of condition review identified seventy six breakers, including some in safety related applications, installed in the three units that could be impacted by the same failure mechanism. The inspectors questioned whether the licensee should have performed an evaluation in accordance with 10 CFR Part 21 to determine if a defect existed. On February 15, 2011, the licensee completed an evaluation of prior deviations related to the alignment of bell alarm switches and concluded the deviations were defects that were reportable per 10 CFR Part 21. The licensee subsequently submitted Part 21 Report 2011-07-00 on February 24, 2011. The licensee entered the performance deficiency into the corrective action program as Palo Verde Action Request 3593672 and has not completed corrective actions for this issue.

The inspectors concluded that the failure to perform the substantial safety hazard evaluation within 60 days as required by 10 CFR 21.21(a)(1) was a violation of NRC requirements. The inspectors evaluated this violation using the traditional enforcement process because the failure to submit a required report affected the NRC's ability to perform its regulatory function. Consistent with the guidance in Section 2.2.2 and Section 6.9.d of the NRC Enforcement Policy, the inspectors concluded the violation was a Severity Level IV because the licensee failed to make a timely written report that resulted in no or relatively inappreciable potential safety consequences.
Inspection Report# : 2011002 *(pdf)*

Significance: SL-IV Feb 08, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Ensure All License Conditions Are Met for Licensed Operators
The inspectors identified a Severity Level IV violation of 10 CFR 55.3, "License Requirements," for the failure of the licensee to ensure that all individuals authorized by a license to operate the controls of the facility met all the conditions of their licenses as defined in 10 CFR 55.3. Specifically, the requirement to have a biennial physical completed and certified by the facility's physician during the continuous two year period for all licensed operators was not met for three licensed operators. Two of these licensed operators performed licensed operator duties 42 times between February 8 and March 25, 2010, after the deadline for their biennial examinations had passed. Upon discovery, the licensee removed these individuals from watchstanding duties pending follow-up medical evaluations. This issue was entered into the licensee's corrective action program as Condition Report Disposition Request 3526981.

The failure of the licensee to ensure that all individuals authorized by a license to operate the controls of the facility met all the conditions of their licenses as defined in 10 CFR 55.3 is a performance deficiency. Specifically, the requirement to have a biennial physical completed and certified by the facility's physician during the continuous two year period for all licensed operators (as required in 10 CFR 55.21) was not met for three licensed operators, two of

which were standing watch with expired medical examinations. The finding was evaluated using the traditional enforcement process because the failure to determine an operator's medical condition and general health has the potential to impact the NRC's ability to perform its regulatory function; the NRC was not notified nor allowed an opportunity to review the specific medical conditions of the two operators whose medical qualifications had expired while they were standing watch or eligible to stand watch. Using the NRC's Enforcement Policy, section 6.4.d, Severity Level IV violation examples, this finding is similar to example 1 which states, in part that "an unqualified individual performing the functions of an operator or senior operator." Two licensed operators stood watch without a certified medical examination within the two year period that the medical examination is required to be completed and certified by the physician. Because: (1) the medical conditions of the two licensed operators did not change when they received their medical examinations in recent weeks; (2) the finding did not cause any plant events or transients while the individuals were on watch; (3) it was not repetitive or willful; and (4) it was entered into the corrective action program, the finding was determined to be of very low safety significance and is being treated as a Severity Level IV noncited violation consistent with the NRC Enforcement Policy. This finding has a crosscutting aspect in the area of human performance associated with the work practices component because medical staff supervisors did not oversee the biennial physical examination due dates such that nuclear safety was supported.
Inspection Report# : 2010005 *(pdf)*

Barrier Integrity

Significance: G Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Include Screening Criteria in the Boric Acid Corrosion Control Program
The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," which states, in part, that "Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished." Specifically, Procedure 70TI-9ZC01, "Boric Acid Walkdown Leak Detection," Revision 11 did not include appropriate screening criteria to satisfactorily evaluate boric acid leaks and deposits that may cause degradation of risk significant system barriers. The condition was placed in the corrective action program as Palo Verde Action Request 3691351.

The inspectors determined the failure to include appropriate screening criteria into Procedure 70TI-9ZC01 was a performance deficiency. The performance deficiency is more than minor because it is associated with the procedure quality attribute of the Barrier Integrity Cornerstone and adversely affects the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using Phase 1 of NRC Manual Chapter 0609, "Significance Determination Process," the finding screens as having very low safety significance (Green) because the finding does not represent a degradation of a radiological barrier, does not represent a degradation of the control room toxic barrier functions, does not represent an actual open pathway of reactor containment, and does not involve an actual degradation of hydrogen igniters in the reactor containment. The finding includes a cross-cutting aspect in the area of problem identification and resolution, associated with the corrective action program component, because the licensee failed to take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity. Specifically, the licensee identified similar deficiencies in the self assessment of the boric acid program in September 2010 however, failed to take appropriate corrective actions to fully correct the identified deficiencies.
Inspection Report# : 2011003 *(pdf)*

Significance: SL-IV Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Submit an LER for a Condition Prohibited by the Plant's Technical Specifications
The inspectors identified a Severity Level IV noncited violation of 10 CFR 50.73(a)(1) for failure to submit a Licensee Event Report within 60 days following discovery of a condition prohibited by Technical Specifications. The licensee made a procedure change in 1986 to Procedure 41OP-1HJ01, "Control Room Handswitch/Valve Checklist,"

to maintain control room outside air dampers normally closed instead of the normally open position stipulated in the final safety analysis report. The inspectors concluded that the incorrect alignment of the dampers was a condition prohibited by Technical Specification 3.3.9, “Control Room Essential Filtration Actuation Signal” and that the licensee failed to adequately evaluate the issue for reportability. The licensee entered the issue into the corrective action program as Palo Verde Action Request 3791486.

The inspectors concluded the failure of Arizona Public Service to report a condition prohibited by Technical Specifications was a performance deficiency. The inspectors evaluated this performance deficiency using the traditional enforcement process because the failure to submit a required report affected the NRC’s ability to perform its regulatory function. Consistent with the guidance in Section 2.2.2 and Section 6.9.d of the NRC Enforcement Policy, the inspectors concluded the finding was a Severity Level IV violation because the licensee failed to make a timely written report that resulted in no or relatively inappreciable potential safety consequences.
Inspection Report# : 2011003 *(pdf)*

Significance: G Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Have Adequate Documentation for Verification of ASME Code Compliance
The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion VII “Control of Purchased Material, Equipment, And Services” for the failure of licensee personnel to maintain radiographs onsite for the verification of ASME Code, Section III compliance. Specifically, radiographs for welds associated with the reactor head vent line were neither received nor reviewed as required. When the radiographs were obtained, reviews identified that welds for Units 1 and 2 did not meet the standards of Section III of the ASME Boiler and Pressure Vessel Code. The licensee corrected the non-conforming weld in Unit 2 during refueling outage 2R16 and Unit 1 welds will be restored to Section III standards during the next refueling outage beginning October 1, 2011. The licensee entered the issue into the corrective action program as Condition Report / Disposition Requests 3540575.

Inspectors determined that the failure to maintain radiographs onsite for review was a performance deficiency. The performance deficiency was more than minor because it adversely affected the RCS equipment and barrier performance attribute of the Barrier Integrity Cornerstone’s objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using Inspection Manual Chapter 0609, Attachment 4, “Initial Screening and Characterization of Findings,” the inspectors concluded that the finding is of very low safety significance (Green) because the reactor coolant system barrier remained intact, was not associated with the fuel barrier, and did not constitute a spent fuel pool issue. This finding had a cross-cutting aspect in the area of human performance associated with the work practices component because the licensee failed to communicate expectations regarding procedural compliance and personnel follow procedures.
Inspection Report# : 2011003 *(pdf)*

Emergency Preparedness

Significance: G Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Critique a Weakness during a Biennial Exercise
The inspectors identified a Green noncited violation for failure to critique weak performance in the Technical Support Center during a biennial exercise conducted March 1, 2011, as required by 10 CFR Part 50, Appendix E, IV(F)(2)(g). Specifically, the licensee did not identify that the Technical Support Center did not understand the radiological release path and that they had developed ineffective mitigation strategies based on their inaccurate understanding.

This performance deficiency is more than minor because it affected the emergency preparedness cornerstone and was associated with the emergency response organization performance attribute. The finding had a credible impact on the emergency preparedness cornerstone objective because a lack of understanding of the release path for radioactive material affects the licensee’s ability to implement adequate measures to protect the health and safety of the public.

The finding was evaluated using the emergency preparedness significance determination process and was determined to be of very low safety significance (Green) because it was a failure to comply with NRC requirements, was associated with Emergency Planning Standard 50.47(b)(14), was not a risk significant planning standard issue, and was not a functional failure of the planning standard. The issue was entered into the licensee's corrective action program as Condition Report / Disposition Requests 3693235. This finding was assigned a cross-cutting aspect in the area of problem identification and resolution because the licensee failed to identify a performance issue completely and accurately.
Inspection Report# : 2011003 *(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : March 02, 2012

Palo Verde 2
1Q/2012 Plant Inspection Findings

Initiating Events

Significance: G Dec 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify and Perform Testing for the Gaseous Radwaste System
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," for the failure of the licensee to assure that all required testing for the gaseous radwaste (GR) system was identified and performed in accordance with written test procedures which incorporated the requirements and acceptance limits contained in applicable design documentation. Specifically, from May 1995 to October 26, 2011, the licensee did not identify nor perform functional testing on GR system equipment which is credited in the Updated Final Safety Analysis Report (UFSAR) to preclude the internal hydrogen explosion event. The licensee developed written test procedures and successfully completed appropriate functional tests on all three units as a corrective action to restore compliance. The licensee documented their corrective actions for this issue in Palo Verde Action Requests 3440072, 3931118, and 4004489.

The licensee's failure to perform functional testing on GR system equipment was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it is associated with the Initiating Events Cornerstone attribute of procedure quality in the area of testing procedure adequacy and it adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Specifically, the lack of having functional testing on GR system components could result in a credible hydrogen explosion event which could initiate a radiological release. Using Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," the finding was determined to have very low safety significance (Green) because the condition represented a low degradation rating due to the fact that nitrogen dilution valves and compressor auto trip features all passed recent functional testing successfully. This finding has no cross-cutting aspect assigned because the finding is not reflective of current performance.
Inspection Report# : 2011005 *(pdf)*

Significance: G Jun 30, 2011
Identified By: Self-Revealing
Item Type: FIN Finding
Failure of 13.8kV Splice due to Inadequate Maintenance
Inspectors reviewed a Green self-revealing finding for failure to properly repair a 13.8kV cable associated with the AENANX02 startup transformer. Specifically, the work performed failed to achieve an acceptable level of quality as required by Procedure 30DP-9MP01 "Conduct of Maintenance," and as a result the splice failed causing valid actuations of the emergency diesel generators due to a partial loss of offsite power to both Unit 1 and Unit 3. The licensee plans to revise Specification 13-EN-306, "Installation Specification for Cable Splicing and Terminations for PVNGS," to remove the use of taped splices for 13.8kV cable. The licensee entered this issue into the corrective action program as Condition Report / Disposition Requests 3616634.

The failure of the licensee to perform work with an acceptable level of quality for 13.8kV cable splicing was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it adversely affected the equipment reliability attribute of the Initiating Events Cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using Inspection Manual Chapter 0609, Attachment 4, "Initial Screening and Characterization of Findings," the inspectors concluded that the finding is of very low safety significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. This finding had a cross-cutting aspect in the area of human performance associated with the resources component because the licensee failed to provide complete, accurate and up-to-date procedures and work packages for

splicing of 13.8kV electrical cable.
Inspection Report# : 2011003 *(pdf)*

Mitigating Systems

Significance: G Jan 25, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform Functionality Assessment for Safety-Related Buildings
DRAFT:
The inspectors identified a green non-cited violation of 10 CFR Part 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations and engineering personnel to follow station procedures to provide a technical justification for continued operation of a degraded structure, system, or component. Specifically, after identifying a potential for insufficient drainage for safety related building roofs and no supporting documentation, plant personnel failed to perform a functional assessment and failed to assess the nonconforming condition to the current licensing basis. The licensee performed the functional assessment when notified one needed to be preformed and revised the assessment to incorporate all relevant information to as corrective action to restore compliance. The licensee entered the issue into the corrective action program as Palo Verde Action Requests 3958463 and 3952605.

The inspectors concluded that the failure of the operations and engineering personnel to evaluate the operability of a safety-related structure, system, or component was a performance deficiency. The inspectors concluded the performance deficiency is more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors concluded that the failure of the operations and engineering personnel to evaluate the operability of a safety-related structure, system, or component was a performance deficiency. The inspectors concluded the performance deficiency is more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Phase I – Initial Screening and Characterization of Findings," and concluded the finding was of very low safety significance (Green) because the finding is a design or qualification issue confirmed not to result in the loss of operability or functionality. The inspectors determined this finding has a crosscutting aspect in the area of human performance associated with the component of decision making because the licensee failed to use conservative assumptions in decision making and adopts a requirement to demonstrate that the proposed action is safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action.

Inspection Report# : 2012002 *(pdf)*

Significance: G Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Complete an Immediate Operability Determination for Code System Leakage Test
The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," which states "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings." Contrary to the above, from March 11 through April 19, 2011, the licensee failed to complete an immediate operability determination in accordance with Procedure 01PR-0AP04, "Corrective Action Program," when the licensee discovered the system leakage test methodology for the diesel fuel oil transfer system did not conform to ASME Code, Section XI testing requirements. This condition was placed in the corrective action program as Palo Verde Action Requests 3704003.

The inspectors determined that the failure to complete an immediate operability determination in accordance with

paragraph 3.2.1.5 of Procedure 01PR-0AP04 was a performance deficiency. The performance deficiency is more than minor because the nonconforming condition created a reasonable doubt on the operability of the diesel fuel oil transfer system. Using Phase 1 of NRC Manual Chapter 0609, "Significance Determination Process," the finding screens as having very low safety significance (Green) because the finding is a design or qualification deficiency confirmed not to result in the loss of operability or functionality of the system. The finding has a cross-cutting aspect in the area of problem identification and resolution, associated with the corrective action program component, because the licensee failed to identify issues completely, accurately, and in a timely manner commensurate with their safety significance. Specifically, the licensee failed to accurately document the nonconforming condition identified in Palo Verde Action Requests 3654452 which led to a failure to complete an immediate operability determination as required.
Inspection Report# : 2011003 *(pdf)*

Barrier Integrity

Significance: G Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Include Screening Criteria in the Boric Acid Corrosion Control Program
The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," which states, in part, that "Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished." Specifically, Procedure 70TI-9ZC01, "Boric Acid Walkdown Leak Detection," Revision 11 did not include appropriate screening criteria to satisfactorily evaluate boric acid leaks and deposits that may cause degradation of risk significant system barriers. The condition was placed in the corrective action program as Palo Verde Action Request 3691351.

The inspectors determined the failure to include appropriate screening criteria into Procedure 70TI-9ZC01 was a performance deficiency. The performance deficiency is more than minor because it is associated with the procedure quality attribute of the Barrier Integrity Cornerstone and adversely affects the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using Phase 1 of NRC Manual Chapter 0609, "Significance Determination Process," the finding screens as having very low safety significance (Green) because the finding does not represent a degradation of a radiological barrier, does not represent a degradation of the control room toxic barrier functions, does not represent an actual open pathway of reactor containment, and does not involve an actual degradation of hydrogen igniters in the reactor containment. The finding includes a cross-cutting aspect in the area of problem identification and resolution, associated with the corrective action program component, because the licensee failed to take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity. Specifically, the licensee identified similar deficiencies in the self assessment of the boric acid program in September 2010 however, failed to take appropriate corrective actions to fully correct the identified deficiencies.
Inspection Report# : 2011003 *(pdf)*

Significance: SL-IV Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Submit an LER for a Condition Prohibited by the Plant's Technical Specifications
The inspectors identified a Severity Level IV noncited violation of 10 CFR 50.73(a)(1) for failure to submit a Licensee Event Report within 60 days following discovery of a condition prohibited by Technical Specifications. The licensee made a procedure change in 1986 to Procedure 41OP-1HJ01, "Control Room Handswitch/Valve Checklist," to maintain control room outside air dampers normally closed instead of the normally open position stipulated in the final safety analysis report. The inspectors concluded that the incorrect alignment of the dampers was a condition prohibited by Technical Specification 3.3.9, "Control Room Essential Filtration Actuation Signal" and that the licensee failed to adequately evaluate the issue for reportability. The licensee entered the issue into the corrective action program as Palo Verde Action Request 3791486.

The inspectors concluded the failure of Arizona Public Service to report a condition prohibited by Technical Specifications was a performance deficiency. The inspectors evaluated this performance deficiency using the traditional enforcement process because the failure to submit a required report affected the NRC's ability to perform its regulatory function. Consistent with the guidance in Section 2.2.2 and Section 6.9.d of the NRC Enforcement Policy, the inspectors concluded the finding was a Severity Level IV violation because the licensee failed to make a timely written report that resulted in no or relatively inappreciable potential safety consequences.
Inspection Report# : 2011003 *(pdf)*

Significance: G Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Have Adequate Documentation for Verification of ASME Code Compliance
The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion VII "Control of Purchased Material, Equipment, And Services" for the failure of licensee personnel to maintain radiographs onsite for the verification of ASME Code, Section III compliance. Specifically, radiographs for welds associated with the reactor head vent line were neither received nor reviewed as required. When the radiographs were obtained, reviews identified that welds for Units 1 and 2 did not meet the standards of Section III of the ASME Boiler and Pressure Vessel Code. The licensee corrected the non-conforming weld in Unit 2 during refueling outage 2R16 and Unit 1 welds will be restored to Section III standards during the next refueling outage beginning October 1, 2011. The licensee entered the issue into the corrective action program as Condition Report / Disposition Requests 3540575.

Inspectors determined that the failure to maintain radiographs onsite for review was a performance deficiency. The performance deficiency was more than minor because it adversely affected the RCS equipment and barrier performance attribute of the Barrier Integrity Cornerstone's objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using Inspection Manual Chapter 0609, Attachment 4, "Initial Screening and Characterization of Findings," the inspectors concluded that the finding is of very low safety significance (Green) because the reactor coolant system barrier remained intact, was not associated with the fuel barrier, and did not constitute a spent fuel pool issue. This finding had a cross-cutting aspect in the area of human performance associated with the work practices component because the licensee failed to communicate expectations regarding procedural compliance and personnel follow procedures.
Inspection Report# : 2011003 *(pdf)*

Emergency Preparedness

Significance: G Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Critique a Weakness during a Biennial Exercise
The inspectors identified a Green noncited violation for failure to critique weak performance in the Technical Support Center during a biennial exercise conducted March 1, 2011, as required by 10 CFR Part 50, Appendix E, IV(F)(2)(g). Specifically, the licensee did not identify that the Technical Support Center did not understand the radiological release path and that they had developed ineffective mitigation strategies based on their inaccurate understanding.

This performance deficiency is more than minor because it affected the emergency preparedness cornerstone and was associated with the emergency response organization performance attribute. The finding had a credible impact on the emergency preparedness cornerstone objective because a lack of understanding of the release path for radioactive material affects the licensee's ability to implement adequate measures to protect the health and safety of the public. The finding was evaluated using the emergency preparedness significance determination process and was determined to be of very low safety significance (Green) because it was a failure to comply with NRC requirements, was associated with Emergency Planning Standard 50.47(b)(14), was not a risk significant planning standard issue, and was not a functional failure of the planning standard. The issue was entered into the licensee's corrective action program as Condition Report / Disposition Requests 3693235. This finding was assigned a cross-cutting aspect in the area of problem identification and resolution because the licensee failed to identify a performance issue completely

and accurately.
Inspection Report# : 2011003 *(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : May 29, 2012

Palo Verde 2
2Q/2012 Plant Inspection Findings

Initiating Events

Significance: G Mar 31, 2012
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Assess and Manage Risk Prior to Troubleshooting on 4.16 kV Bus Supply Breaker Hand Switch
The inspectors reviewed a self-revealing non-cited violation of 10 CFR 50.65a(4), for the licensee's failure to assess and manage an increase in risk prior to planned maintenance activities. Specifically, on January 25, 2012, the licensee failed to include the potential to deenergize a 4.16 kV bus when working on a control room hand switch in the risk assessment for Unit 2, resulting in an unplanned reactor power cutback. The licensee plans to revise procedures, as a corrective action, to develop and implement a structured operational risk assessment process for use by the senior reactor operator when authorizing un-scheduled work to commence in the field. The licensee entered this issue into the corrective action program as Palo Verde Action Request (PVAR) 4036588.

The licensee's failure to assess and manage an increase in risk prior to planned maintenance activities was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it affects the equipment performance attribute of the Initiating Events Cornerstone and its objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Because the licensee utilizes a qualitative risk assessment for these maintenance activities, Manual Chapter 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," Flowchart 2, could not be used to determine the risk significance of the finding. Using the qualitative review process of Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," the finding is determined to have very low safety significance (Green) because it did not result in any additional loss of defense in depth systems, and an assessment by the senior reactor analyst determined the increase in risk due to the initiating event was very small. This finding had a cross-cutting aspect in the area of human performance associated with the resources component because the licensee failed to ensure complete and accurate procedures and work packages are adequate to assure nuclear safety [H.2(c)].
Inspection Report# : 2012002 *(pdf)*

Significance: G Mar 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Obtain NRC Approval for a Change Adverse to Safe Shutdown
The inspectors identified a Severity Level IV non-cited violation of License Conditions 2.C.7, 2.C.6, and 2.F for Palo Verde Units 1, 2, and 3, respectively, for the licensee's failure to maintain the reactor coolant pumps in compliance with fire protection requirements. Specifically, the licensee failed to evaluate changes to a maintenance procedure that resulted in the addition of oil in excess of the capacity of the oil collection system, which was a condition adverse to fire protection.

The failure to perform a fire protection program impact evaluation of changes to a maintenance procedure to add oil to the reactor coolant pumps was a performance deficiency. The performance deficiency is more than minor and therefore a finding, because it adversely affected the external factors attribute of the Initiating Events Cornerstone and its objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Screening under IMC 0609, Appendix F, "Fire Protection Significance Determination Process," the condition represented a low degradation of the fire protection program element of fire prevention through control of combustible materials because of the over flow of oil spilling out of the reservoir. However, the problem impacted the NRC's ability to perform its oversight function and was assessed using the traditional enforcement process. In accordance with Section 6.1.d.2 of the NRC Enforcement Policy, dated July 12,

2011, this violation is categorized as Severity Level IV because the resulting changes were evaluated by the Significance Determination Process as having very low safety significance (Green).
Inspection Report# : 2012002 *(pdf)*

Significance: G Dec 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify and Perform Testing for the Gaseous Radwaste System
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," for the failure of the licensee to assure that all required testing for the gaseous radwaste (GR) system was identified and performed in accordance with written test procedures which incorporated the requirements and acceptance limits contained in applicable design documentation. Specifically, from May 1995 to October 26, 2011, the licensee did not identify nor perform functional testing on GR system equipment which is credited in the Updated Final Safety Analysis Report (UFSAR) to preclude the internal hydrogen explosion event. The licensee developed written test procedures and successfully completed appropriate functional tests on all three units as a corrective action to restore compliance. The licensee documented their corrective actions for this issue in Palo Verde Action Requests 3440072, 3931118, and 4004489.

The licensee's failure to perform functional testing on GR system equipment was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it is associated with the Initiating Events Cornerstone attribute of procedure quality in the area of testing procedure adequacy and it adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Specifically, the lack of having functional testing on GR system components could result in a credible hydrogen explosion event which could initiate a radiological release. Using Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," the finding was determined to have very low safety significance (Green) because the condition represented a low degradation rating due to the fact that nitrogen dilution valves and compressor auto trip features all passed recent functional testing successfully. This finding has no cross-cutting aspect assigned because the finding is not reflective of current performance.
Inspection Report# : 2011005 *(pdf)*

Mitigating Systems

Significance: G Jun 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Comply with Technical Specifications
The inspectors identified a Green non-cited violation of Technical Specification Limiting Condition for Operation (LCO) 3.0.3 for the failure of plant personnel to place Unit 2 in Mode 3 within 7 hours after discovering a condition not permitted by Technical Specifications. Specifically, following the failure of essential ventilation dampers during a surveillance test that rendered the train B DC equipment, inverters, and ESF switchgear inoperable, operators exceeded the Technical Specification time requirements before restoring operability of the equipment. The licensee initiated corrective actions to evaluate equipment operability following essential ventilation system failures, revise procedural guidance and implement compensatory measures to ensure the supported equipment remains capable of performing its required safety functions in the event of essential ventilation system failures. The licensee entered the issue into the corrective action program as Palo Verde Action Request 4033786.

The failure of the licensee to comply with Technical Specifications is a performance deficiency. The resident inspectors performed the initial significance determination for the essential ventilation damper failures using NRC Inspection Manual Chapter 0609, Attachment 0609.04, "Initial Characterization of Findings," and 0609 Appendix A, "The Significance Determination Process (SDP) for Findings at Power." The finding screened to a detailed analysis because it involved an actual loss of safety function of a single train of equipment for greater than its technical specification allowed outage time. A Region IV senior reactor analyst performed a bounding Phase 3 significance

determination and found the finding to be of very low safety significance (Green). The bounding change to the core damage frequency was 9E-8/year. The dominant core damage sequences included: loss of offsite power sequences; failure of remaining safety related train A ventilation; failure of operators to provide alternate room cooling; and the failure of the turbine driven auxiliary feedwater pump. The very short exposure period helped to minimize the significance. The inspectors did not assign a cross-cutting aspect to this finding because the inadequate procedural guidance for responding to essential ventilation system failures was made in 1991 and is not reflective of present performance.
Inspection Report# : 2012003 *(pdf)*

Significance: G Jun 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Post Maintenance Test of the Diesel Fuel Oil Transfer Pump
The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XI, "Test Control," for the failure to assure that testing to demonstrate that the diesel fuel oil transfer pumps would perform satisfactory in service was performed in accordance with written test procedures. Specifically, on April 17, 2011, the licensee failed to conduct post maintenance testing of the Unit 2 diesel generator A fuel oil transfer pump in accordance with the licensee's inservice test procedure. This issue is captured in the corrective action program as Palo Verde Action Request 4161870. Palo Verde subsequently performed successful inservice testing of the Unit 2 A diesel generator fuel oil transfer pump.

The inspector determined that the failure to perform testing of safety-related plant diesel fuel oil transfer pumps in accordance with written procedures following maintenance activities is a performance deficiency. The finding was more than minor because it is associated with the Mitigating Systems Cornerstone attribute of equipment performance and it adversely affect the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Inspection Manual Chapter 0609.04, the inspectors determined that the finding had very low safety significance (Green) because it did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined that the finding had a cross-cutting aspect in the area of human performance associated with work practices because the licensee did not communicate human error prevention techniques such as self and peer checking to ensure that the appropriate pump retest was specified in the post maintenance testing instructions [H.4(a)].
Inspection Report# : 2012003 *(pdf)*

Significance: N/A Jun 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Provide Complete and Accurate Information Regarding Safety Related Roof Drainage Capabilities
The inspectors identified a Severity Level IV violation of 10 CFR 50.9, "Completeness and Accuracy of Information," for the failure of the licensee to provide complete and accurate information in all material respects in response to Generic Letter 88-20, Supplement 4. Specifically, the licensee asserted that roofs are equipped with roof drains and scuppers as backup. As a result, the licensee concluded roof ponding considerations were not applicable to the Palo Verde Nuclear Generating Station site. Inspectors determined that there are no roof drains installed. The licensee initiated corrective actions to provide an accurate depiction of the roof drainage capabilities to the NRC. This finding has been entered into the licensee's corrective action program as Palo Verde Action Request 3952605.

The failure of the licensee to provide complete and accurate information for safety related building roof drainage was a performance deficiency. The Significance Determination Process is not suited to assess the significance of the performance deficiency because it affected the ability of the NRC to perform its regulatory oversight function and as such, it was assessed using traditional enforcement. This issue was determined to be a Severity Level IV violation in accordance with NRC Enforcement Policy examples provided in Section 6.9. No crosscutting aspect was assigned because the performance deficiency was assessed using traditional enforcement.

Inspection Report# : 2012003 *(pdf)*

Significance: G Mar 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Corrective Action Program Procedure
The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criteria V, "Instructions, Procedures, and Drawings," after Arizona Public Service failed to follow station procedures and enter issues into the corrective action program. Specifically, the inspectors identified that Palo Verde Action Requests had not been created, contrary to the requirements of procedure 01DP-0AP12, "Palo Verde Action Request Processing," when significant delays in completing maintenance on safety related components occurred. The licensee entered the issue into the corrective action program as Condition Report Disposition Request 4078014. The licensee initiated corrective actions to conduct training on the requirements to enter issues into the corrective action program and is evaluating further corrective actions.

The failure of plant personnel to enter issues into the corrective action program was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was evaluated under the Significance Determination Process, Inspection Manual Chapter 0609.04, "Phase I – Initial Screening and Characterization of Findings," to be of very low safety significance (Green) because the finding: (1) is not a design or qualification issue; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of non-technical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding has a cross-cutting aspect in the area of human performance associated with the work practices component because the licensee failed to define and effectively communicate expectations to maintenance department personnel regarding the prompt initiation of Palo Verde Action Requests into the corrective action program [H.4(b)].
Inspection Report# : 2012002 *(pdf)*

Significance: G Mar 31, 2012
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Promptly Identify and Correct a Condition Adverse to Quality Associated with Essential Chilled Water System Gas Accumulation
The inspectors reviewed a self-revealing non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to promptly identify and correct a condition adverse to quality associated with essential chilled water system gas accumulation in all three units. Specifically, more frequent biocide additions to the essential chilled water systems resulted in significant bacterial off gassing and voiding in the systems in all three units. The licensee entered the issue into the corrective action program as Condition Report Disposition Request 3850945, initiated corrective actions to vent the systems and monitor for gas accumulation, and is evaluating further corrective actions for the issue.

The inspectors determined the failure of the licensee to promptly identify and correct a condition adverse to quality associated with essential chilled water system gas accumulation in all three units was a performance deficiency. The inspectors concluded the performance deficiency is more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Phase I – Initial Screening and Characterization of Findings," and concluded the finding was of very low safety significance (Green) because the finding: (1) is not a design or qualification issue; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of non-technical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined this finding has a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee failed to trend and assess information from the corrective action program and other assessments to identify this common cause problem [P.1(b)].

Inspection Report# : 2012002 *(pdf)*

Significance: G Mar 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform Functionality Assessment for Safety-Related Buildings
The inspectors identified a non-cited violation of 10 CFR Part 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations and engineering personnel to follow station procedures to provide a technical justification for continued operation of a degraded structure, system, or component. Specifically, after identifying a potential for insufficient drainage for safety related building roofs, plant personnel failed to perform a functional assessment and failed to assess the non-conforming condition to the current licensing basis. The licensee performed the functional assessment and later revised the assessment after the inspectors challenged assumptions used in the assessment. The licensee entered the issue into the corrective action program as Palo Verde Action Requests 3958463 and 3952605.

The failure of the operations and engineering personnel to evaluate the operability of a safety-related structure, system, or component was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Phase I – Initial Screening and Characterization of Findings," and concluded the finding was of very low safety significance (Green) because the finding is a design or qualification issue confirmed not to result in the loss of operability or functionality. The inspectors determined this finding has a cross-cutting aspect in the area of human performance associated with the component of decision making because the licensee failed to use conservative assumptions in decision making and adopts a requirement to demonstrate that the proposed action is safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action [H.1(b)].
Inspection Report# : 2012002 *(pdf)*

Significance: G Mar 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Translate Design Basis Into Drawings and Calculations for Safety-related Roof Drainage Capability
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure of the licensee to translate the safety-related roof drainage capability design basis into drawings and calculations. Specifically, inspectors determined that there were no roof drains installed, although the plant was designed to have roof drains as the primary means for removing water from safety-related building roofs, and the licensee could not provide any design documentation to support adequacy of the roof drainage capacity without roof drains. The licensee performed an engineering evaluation to support the structural integrity of the safety-related buildings in the event of a design basis probable maximum precipitation event and is evaluating further corrective action. The licensee entered the issue into the corrective action program as PVARs 3958463 and 3952605.

The inspectors concluded that the failure of the licensee to translate design basis information into drawings for safety-related building roof drainage was a performance deficiency. The inspectors concluded the performance deficiency was more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the performance deficiency under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Phase I – Initial Screening and Characterization of Findings," and concluded the finding was of very low safety significance (Green) because the finding is a design or qualification issue confirmed not to result in the loss of operability or functionality. No cross-cutting aspect was assigned because the performance deficiency was not indicative of current performance.
Inspection Report# : 2012002 *(pdf)*

Significance: G Aug 18, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Operability Determination for Essential Chilled Water System Gas Voids
The inspectors identified a noncited violation of 10 CFR Part 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations and engineering personnel to follow station procedures and complete a prompt operability determination for the essential chilled water system commensurate with system safety significance. Specifically, after identifying gas voids in the essential chilled water system in Unit 2, and subsequently Units 1 and 3, plant personnel failed to meet timeliness and quality requirements for a prompt operability determination of the essential chilled water systems. The licensee developed an Operational Decision Making Issue Plan and has maintained gas volumes below established limits. The licensee entered the issue into the corrective action program as PVAR 3886168 and has not completed all corrective actions.

The inspectors concluded that the failure of the operations and engineering personnel to adequately evaluate the operability of a safety-related structure, system, or component was a performance deficiency. The inspectors concluded the performance deficiency is more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Phase I – Initial Screening and Characterization of Findings," and concluded the finding was of very low safety significance (Green) because the finding: (1) is not a design or qualification issue; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of non-technical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined this finding has a crosscutting aspect in the area of human performance associated with the component of decision making because the licensee failed to make safety-significant or risk-significant decisions using a systematic process, especially when faced with uncertain or unexpected plant conditions, to ensure safety is maintained.
Inspection Report# : 2011004 *(pdf)*

Barrier Integrity

Emergency Preparedness

Significance: G Mar 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure in the Choice of Protective Actions Consistent with Federal Guidance
The inspectors identified a non-cited violation of 10 CFR 50.47(b)(10) for the licensee's failure to develop and have in-place guidelines for the choice of protective actions during an emergency that were consistent with federal guidance. Specifically, the licensee's procedure EP-0905, "Protective Actions," Revision 2, did not implement the guidance of EPA-400-R-92-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents," which states, in part, that evacuation is rarely justified when the projected dose does not exceed 1 rem (Total Effective Dose Equivalent). This issue is documented in the licensee's corrective action program as Condition Report Disposition Request-3403829.

The licensee's automatic process that extended protective action during plant conditions and changes in wind direction without considering radiation dose was identified as a performance deficiency. This performance deficiency is more than minor, and therefore a finding, because it adversely affects the Emergency Preparedness Cornerstone objective of implementing adequate measures to protect the health and safety of the public in the event of a

radiological emergency, and is associated with the cornerstone attributes of emergency response organization performance and procedure quality. This finding was determined to be of very low safety significance (Green) because it was a failure to comply with NRC requirements, was associated with risk significant planning standard 10 CFR 50.47(b)(10), and was not a risk significant planning standard functional failure or a planning standard degraded function. The finding was not a functional failure or degraded planning standard function because appropriate protective action recommendations for the public would have been made for all areas where protective action guides were exceeded. The finding is related to the corrective action program component of the problem identification and resolution cross-cutting area because the licensee failed take appropriate corrective actions to address the safety issue in a timely manner.
Inspection Report# : 2012002 *(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Significance: G Jun 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Verify a Transferee was Licensed to Receive Byproduct Material
The inspector identified a noncited violation of 10 CFR 30.41 because the licensee failed to verify a transferee was authorized to receive byproduct material before transferring it.

The failure to verify a transferee is licensed to receive the type, form, and quantity of byproduct being transferred is a performance deficiency. The significance was more than minor because radioactive material was actually transferred to an entity which was not licensed to receive the material. Thus, the performance deficiency was associated with the cornerstone attribute of Program & Process and adversely affected the associated cornerstone objective because the release of radioactive material to unlicensed entities could cause unplanned radiation dose or environmental contamination. Using Inspection Manual Chapter 0609, Appendix C, “Public Radiation Safety Significance Determination Process, “ December 12, 2008, page D 13, the inspectors determined the violation had very low safety significance because the violation involved a radioactive material control issue, was not a transportation issue, and did not result in a dose to public of greater than 0.005 rem. This finding had a crosscutting aspect in the human performance area, work practices component, because personnel did not follow procedures. [H.4(b)]

Inspection Report# : 2012003 *(pdf)*

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Significance: N/A May 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Request an Experience Waiver for a Reactor Operator License Applicant
An NRC-identified non-cited violation of 10 CFR 50.9, "Completeness and Accuracy of Information," was identified for failure to request an experience waiver on NRC Form 398 for a Reactor Operator license applicant who did not have three years of responsible nuclear power plant experience as required by NUREG 1021, Revision 9, Supplement 1, ES-202.D.1.a.(1). Upon discovery, the facility licensee submitted a revised NRC Form 398, which included the waiver request, and entered this issue into their corrective action program as Condition Report 4080143.

The examiners evaluated this issue using the traditional enforcement process because the performance deficiency had the potential for impacting the NRC's ability to perform its regulatory function. This performance deficiency was determined to be Severity Level IV because it fits the SL-IV example of Enforcement Policy Section 6.4.d, "Violation Examples: Licensed Reactor Operators." This section states, "Severity Level IV violations involve, for example … cases of inaccurate or incomplete information inadvertently provided to the NRC that does [sic] not contribute to the NRC making an incorrect regulatory decision as a result of the originally submitted information or an unqualified individual performing the functions of an operator or senior operator… ." Because the performance deficiency was corrected before the issuance of a license and an experience waiver was ultimately granted, it did not cause the NRC to make an incorrect regulatory decision. There is no Cross-Cutting Aspect associated with this violation because it was processed using Traditional Enforcement.
Inspection Report# : 2012301 *(pdf)*

Significance: N/A May 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Inaccurate Identification of an Open-Reference Initial Licensing Exam Question as Closed-Reference
An NRC-identified non-cited violation of 10 CFR 50.9, "Completeness and Accuracy of Information," was identified for submitting a final written exam question to the NRC which was identified and approved as "Closed Reference," but administered by the licensee as "Open Reference" by supplying the applicants with an unapproved Technical Specification. On evaluation, the NRC determined that it would not have approved the question had it been properly identified as open-reference on submittal, because the reference made the question a direct lookup and the information in the reference was of a nature that licensed operators are expected to have memorized. No licensing decisions were affected and the facility licensee entered this issue into their corrective action program as Condition Report 4144197.

The examiners evaluated this issue using the traditional enforcement process because the performance deficiency impacted the NRC's ability to perform its regulatory function. This performance deficiency was determined to be Severity Level IV because it fits the SL-IV example of Enforcement Policy Section 6.4.d, "Violation Examples: Licensed Reactor Operators." This section states, "Severity Level IV violations involve, for example … cases of inaccurate or incomplete information inadvertently provided to the NRC that does [sic] not contribute to the NRC making an incorrect regulatory decision as a result of the originally submitted information or an unqualified individual performing the functions of an operator or senior operator… ." The performance deficiency did not cause the NRC to make an incorrect regulatory decision because it did not affect the number of applicants who passed. There is no Cross-Cutting Aspect associated with this violation because it was processed using Traditional Enforcement.
Inspection Report# : 2012301 *(pdf)*

Last modified : September 12, 2012

Palo Verde 2
3Q/2012 Plant Inspection Findings

Initiating Events

Significance: G Mar 31, 2012
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Assess and Manage Risk Prior to Troubleshooting on 4.16 kV Bus Supply Breaker Hand Switch
The inspectors reviewed a self-revealing non-cited violation of 10 CFR 50.65a(4), for the licensee's failure to assess and manage an increase in risk prior to planned maintenance activities. Specifically, on January 25, 2012, the licensee failed to include the potential to deenergize a 4.16 kV bus when working on a control room hand switch in the risk assessment for Unit 2, resulting in an unplanned reactor power cutback. The licensee plans to revise procedures, as a corrective action, to develop and implement a structured operational risk assessment process for use by the senior reactor operator when authorizing un-scheduled work to commence in the field. The licensee entered this issue into the corrective action program as Palo Verde Action Request (PVAR) 4036588.

The licensee's failure to assess and manage an increase in risk prior to planned maintenance activities was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it affects the equipment performance attribute of the Initiating Events Cornerstone and its objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Because the licensee utilizes a qualitative risk assessment for these maintenance activities, Manual Chapter 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," Flowchart 2, could not be used to determine the risk significance of the finding. Using the qualitative review process of Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," the finding is determined to have very low safety significance (Green) because it did not result in any additional loss of defense in depth systems, and an assessment by the senior reactor analyst determined the increase in risk due to the initiating event was very small. This finding had a cross-cutting aspect in the area of human performance associated with the resources component because the licensee failed to ensure complete and accurate procedures and work packages are adequate to assure nuclear safety [H.2(c)].
Inspection Report# : 2012002 *(pdf)*

Significance: G Mar 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Obtain NRC Approval for a Change Adverse to Safe Shutdown
The inspectors identified a Severity Level IV non-cited violation of License Conditions 2.C.7, 2.C.6, and 2.F for Palo Verde Units 1, 2, and 3, respectively, for the licensee's failure to maintain the reactor coolant pumps in compliance with fire protection requirements. Specifically, the licensee failed to evaluate changes to a maintenance procedure that resulted in the addition of oil in excess of the capacity of the oil collection system, which was a condition adverse to fire protection.

The failure to perform a fire protection program impact evaluation of changes to a maintenance procedure to add oil to the reactor coolant pumps was a performance deficiency. The performance deficiency is more than minor and therefore a finding, because it adversely affected the external factors attribute of the Initiating Events Cornerstone and

its objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Screening under IMC 0609, Appendix F, "Fire Protection Significance Determination Process," the condition represented a low degradation of the fire protection program element of fire prevention through control of combustible materials because of the over flow of oil spilling out of the reservoir. However, the problem impacted the NRC's ability to perform its oversight function and was assessed using the traditional enforcement process. In accordance with Section 6.1.d.2 of the NRC Enforcement Policy, dated July 12, 2011, this violation is categorized as Severity Level IV because the resulting changes were evaluated by the Significance Determination Process as having very low safety significance (Green).
Inspection Report# : 2012002 *(pdf)*

Significance: G Dec 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify and Perform Testing for the Gaseous Radwaste System
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," for the failure of the licensee to assure that all required testing for the gaseous radwaste (GR) system was identified and performed in accordance with written test procedures which incorporated the requirements and acceptance limits contained in applicable design documentation. Specifically, from May 1995 to October 26, 2011, the licensee did not identify nor perform functional testing on GR system equipment which is credited in the Updated Final Safety Analysis Report (UFSAR) to preclude the internal hydrogen explosion event. The licensee developed written test procedures and successfully completed appropriate functional tests on all three units as a corrective action to restore compliance. The licensee documented their corrective actions for this issue in Palo Verde Action Requests 3440072, 3931118, and 4004489.

The licensee's failure to perform functional testing on GR system equipment was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it is associated with the Initiating Events Cornerstone attribute of procedure quality in the area of testing procedure adequacy and it adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Specifically, the lack of having functional testing on GR system components could result in a credible hydrogen explosion event which could initiate a radiological release. Using Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," the finding was determined to have very low safety significance (Green) because the condition represented a low degradation rating due to the fact that nitrogen dilution valves and compressor auto trip features all passed recent functional testing successfully. This finding has no cross-cutting aspect assigned because the finding is not reflective of current performance.
Inspection Report# : 2011005 *(pdf)*

Mitigating Systems

Significance: G Jun 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Comply with Technical Specifications
The inspectors identified a Green non-cited violation of Technical Specification Limiting Condition for Operation (LCO) 3.0.3 for the failure of plant personnel to place Unit 2 in Mode 3 within 7 hours after discovering a condition not permitted by Technical Specifications. Specifically, following the failure of essential ventilation dampers during a surveillance test that rendered the train B DC equipment, inverters, and ESF switchgear inoperable, operators

exceeded the Technical Specification time requirements before restoring operability of the equipment. The licensee initiated corrective actions to evaluate equipment operability following essential ventilation system failures, revise procedural guidance and implement compensatory measures to ensure the supported equipment remains capable of performing its required safety functions in the event of essential ventilation system failures. The licensee entered the issue into the corrective action program as Palo Verde Action Request 4033786.

The failure of the licensee to comply with Technical Specifications is a performance deficiency. The resident inspectors performed the initial significance determination for the essential ventilation damper failures using NRC Inspection Manual Chapter 0609, Attachment 0609.04, "Initial Characterization of Findings," and 0609 Appendix A, "The Significance Determination Process (SDP) for Findings at Power." The finding screened to a detailed analysis because it involved an actual loss of safety function of a single train of equipment for greater than its technical specification allowed outage time. A Region IV senior reactor analyst performed a bounding Phase 3 significance determination and found the finding to be of very low safety significance (Green). The bounding change to the core damage frequency was 9E-8/year. The dominant core damage sequences included: loss of offsite power sequences; failure of remaining safety related train A ventilation; failure of operators to provide alternate room cooling; and the failure of the turbine driven auxiliary feedwater pump. The very short exposure period helped to minimize the significance. The inspectors did not assign a cross-cutting aspect to this finding because the inadequate procedural guidance for responding to essential ventilation system failures was made in 1991 and is not reflective of present performance.
Inspection Report# : 2012003 *(pdf)*

Significance: G Jun 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Post Maintenance Test of the Diesel Fuel Oil Transfer Pump
The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XI, "Test Control," for the failure to assure that testing to demonstrate that the diesel fuel oil transfer pumps would perform satisfactory in service was performed in accordance with written test procedures. Specifically, on April 17, 2011, the licensee failed to conduct post maintenance testing of the Unit 2 diesel generator A fuel oil transfer pump in accordance with the licensee's inservice test procedure. This issue is captured in the corrective action program as Palo Verde Action Request 4161870. Palo Verde subsequently performed successful inservice testing of the Unit 2 A diesel generator fuel oil transfer pump.

The inspector determined that the failure to perform testing of safety-related plant diesel fuel oil transfer pumps in accordance with written procedures following maintenance activities is a performance deficiency. The finding was more than minor because it is associated with the Mitigating Systems Cornerstone attribute of equipment performance and it adversely affect the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Inspection Manual Chapter 0609.04, the inspectors determined that the finding had very low safety significance (Green) because it did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined that the finding had a cross-cutting aspect in the area of human performance associated with work practices because the licensee did not communicate human error prevention techniques such as self and peer checking to ensure that the appropriate pump retest was specified in the post maintenance testing instructions [H.4(a)].
Inspection Report# : 2012003 *(pdf)*

Significance: N/A Jun 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation

Failure to Provide Complete and Accurate Information Regarding Safety Related Roof Drainage Capabilities
The inspectors identified a Severity Level IV violation of 10 CFR 50.9, "Completeness and Accuracy of Information," for the failure of the licensee to provide complete and accurate information in all material respects in response to Generic Letter 88-20, Supplement 4. Specifically, the licensee asserted that roofs are equipped with roof drains and scuppers as backup. As a result, the licensee concluded roof ponding considerations were not applicable to the Palo Verde Nuclear Generating Station site. Inspectors determined that there are no roof drains installed. The licensee initiated corrective actions to provide an accurate depiction of the roof drainage capabilities to the NRC. This finding has been entered into the licensee's corrective action program as Palo Verde Action Request 3952605.

The failure of the licensee to provide complete and accurate information for safety related building roof drainage was a performance deficiency. The Significance Determination Process is not suited to assess the significance of the performance deficiency because it affected the ability of the NRC to perform its regulatory oversight function and as such, it was assessed using traditional enforcement. This issue was determined to be a Severity Level IV violation in accordance with NRC Enforcement Policy examples provided in Section 6.9. No crosscutting aspect was assigned because the performance deficiency was assessed using traditional enforcement.

Inspection Report# : 2012003 *(pdf)*

Significance: G Mar 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Corrective Action Program Procedure
The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criteria V, "Instructions, Procedures, and Drawings," after Arizona Public Service failed to follow station procedures and enter issues into the corrective action program. Specifically, the inspectors identified that Palo Verde Action Requests had not been created, contrary to the requirements of procedure 01DP-0AP12, "Palo Verde Action Request Processing," when significant delays in completing maintenance on safety related components occurred. The licensee entered the issue into the corrective action program as Condition Report Disposition Request 4078014. The licensee initiated corrective actions to conduct training on the requirements to enter issues into the corrective action program and is evaluating further corrective actions.

The failure of plant personnel to enter issues into the corrective action program was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was evaluated under the Significance Determination Process, Inspection Manual Chapter 0609.04, "Phase I – Initial Screening and Characterization of Findings," to be of very low safety significance (Green) because the finding: (1) is not a design or qualification issue; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of non-technical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding has a cross-cutting aspect in the area of human performance associated with the work practices component because the licensee failed to define and effectively communicate expectations to maintenance department personnel regarding the prompt initiation of Palo Verde Action Requests into the corrective action program [H.4(b)].
Inspection Report# : 2012002 *(pdf)*

Significance: G Mar 31, 2012
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Promptly Identify and Correct a Condition Adverse to Quality Associated with Essential Chilled

Water System Gas Accumulation
The inspectors reviewed a self-revealing non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to promptly identify and correct a condition adverse to quality associated with essential chilled water system gas accumulation in all three units. Specifically, more frequent biocide additions to the essential chilled water systems resulted in significant bacterial off gassing and voiding in the systems in all three units. The licensee entered the issue into the corrective action program as Condition Report Disposition Request 3850945, initiated corrective actions to vent the systems and monitor for gas accumulation, and is evaluating further corrective actions for the issue.

The inspectors determined the failure of the licensee to promptly identify and correct a condition adverse to quality associated with essential chilled water system gas accumulation in all three units was a performance deficiency. The inspectors concluded the performance deficiency is more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Phase I – Initial Screening and Characterization of Findings," and concluded the finding was of very low safety significance (Green) because the finding: (1) is not a design or qualification issue; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of non-technical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined this finding has a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee failed to trend and assess information from the corrective action program and other assessments to identify this common cause problem [P.1(b)].
Inspection Report# : 2012002 *(pdf)*

Significance:  Mar 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform Functionality Assessment for Safety-Related Buildings
The inspectors identified a non-cited violation of 10 CFR Part 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations and engineering personnel to follow station procedures to provide a technical justification for continued operation of a degraded structure, system, or component. Specifically, after identifying a potential for insufficient drainage for safety related building roofs, plant personnel failed to perform a functional assessment and failed to assess the non-conforming condition to the current licensing basis. The licensee performed the functional assessment and later revised the assessment after the inspectors challenged assumptions used in the assessment. The licensee entered the issue into the corrective action program as Palo Verde Action Requests 3958463 and 3952605.

The failure of the operations and engineering personnel to evaluate the operability of a safety-related structure, system, or component was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Phase I – Initial Screening and Characterization of Findings," and concluded the finding was of very low safety significance (Green) because the finding is a design or qualification issue confirmed not to result in the loss of operability or functionality. The inspectors determined this finding has a cross-cutting aspect in the area of human performance associated with the component of decision making because the licensee failed to use conservative assumptions in decision making and adopts a requirement to demonstrate that the proposed action is safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action [H.1(b)].

Inspection Report# : 2012002 *(pdf)*

Significance: G Mar 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Translate Design Basis Into Drawings and Calculations for Safety-related Roof Drainage Capability
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure of the licensee to translate the safety-related roof drainage capability design basis into drawings and calculations. Specifically, inspectors determined that there were no roof drains installed, although the plant was designed to have roof drains as the primary means for removing water from safety-related building roofs, and the licensee could not provide any design documentation to support adequacy of the roof drainage capacity without roof drains. The licensee performed an engineering evaluation to support the structural integrity of the safety-related buildings in the event of a design basis probable maximum precipitation event and is evaluating further corrective action. The licensee entered the issue into the corrective action program as PVARs 3958463 and 3952605.

The inspectors concluded that the failure of the licensee to translate design basis information into drawings for safety-related building roof drainage was a performance deficiency. The inspectors concluded the performance deficiency was more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the performance deficiency under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Phase I – Initial Screening and Characterization of Findings," and concluded the finding was of very low safety significance (Green) because the finding is a design or qualification issue confirmed not to result in the loss of operability or functionality. No cross-cutting aspect was assigned because the performance deficiency was not indicative of current performance.
Inspection Report# : 2012002 *(pdf)*

Barrier Integrity

Emergency Preparedness

Significance: G Mar 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure in the Choice of Protective Actions Consistent with Federal Guidance
The inspectors identified a non-cited violation of 10 CFR 50.47(b)(10) for the licensee's failure to develop and have in-place guidelines for the choice of protective actions during an emergency that were consistent with federal guidance. Specifically, the licensee's procedure EP-0905, "Protective Actions," Revision 2, did not implement the guidance of EPA-400-R-92-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents," which states, in part, that evacuation is rarely justified when the projected dose does not exceed 1 rem (Total Effective Dose Equivalent). This issue is documented in the licensee's corrective action program as Condition Report Disposition Request-3403829.

The licensee's automatic process that extended protective action during plant conditions and changes in wind direction without considering radiation dose was identified as a performance deficiency. This performance deficiency

is more than minor, and therefore a finding, because it adversely affects the Emergency Preparedness Cornerstone objective of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency, and is associated with the cornerstone attributes of emergency response organization performance and procedure quality. This finding was determined to be of very low safety significance (Green) because it was a failure to comply with NRC requirements, was associated with risk significant planning standard 10 CFR 50.47(b)(10), and was not a risk significant planning standard functional failure or a planning standard degraded function. The finding was not a functional failure or degraded planning standard function because appropriate protective action recommendations for the public would have been made for all areas where protective action guides were exceeded. The finding is related to the corrective action program component of the problem identification and resolution cross-cutting area because the licensee failed take appropriate corrective actions to address the safety issue in a timely manner.
Inspection Report# : 2012002 *(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Significance: G Jun 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Verify a Transferee was Licensed to Receive Byproduct Material
The inspector identified a noncited violation of 10 CFR 30.41 because the licensee failed to verify a transferee was authorized to receive byproduct material before transferring it.

The failure to verify a transferee is licensed to receive the type, form, and quantity of byproduct being transferred is a performance deficiency. The significance was more than minor because radioactive material was actually transferred to an entity which was not licensed to receive the material. Thus, the performance deficiency was associated with the cornerstone attribute of Program & Process and adversely affected the associated cornerstone objective because the release of radioactive material to unlicensed entities could cause unplanned radiation dose or environmental contamination. Using Inspection Manual Chapter 0609, Appendix C, “Public Radiation Safety Significance Determination Process, “ December 12, 2008, page D 13, the inspectors determined the violation had very low safety significance because the violation involved a radioactive material control issue, was not a transportation issue, and did not result in a dose to public of greater than 0.005 rem. This finding had a crosscutting aspect in the human performance area, work practices component, because personnel did not follow procedures. [H.4(b)]

Inspection Report# : 2012003 *(pdf)*

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary.

Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Significance: N/A May 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Request an Experience Waiver for a Reactor Operator License Applicant
An NRC-identified non-cited violation of 10 CFR 50.9, "Completeness and Accuracy of Information," was identified for failure to request an experience waiver on NRC Form 398 for a Reactor Operator license applicant who did not have three years of responsible nuclear power plant experience as required by NUREG 1021, Revision 9, Supplement 1, ES-202.D.1.a.(1). Upon discovery, the facility licensee submitted a revised NRC Form 398, which included the waiver request, and entered this issue into their corrective action program as Condition Report 4080143.

The examiners evaluated this issue using the traditional enforcement process because the performance deficiency had the potential for impacting the NRC's ability to perform its regulatory function. This performance deficiency was determined to be Severity Level IV because it fits the SL-IV example of Enforcement Policy Section 6.4.d, "Violation Examples: Licensed Reactor Operators." This section states, "Severity Level IV violations involve, for example … cases of inaccurate or incomplete information inadvertently provided to the NRC that does [sic] not contribute to the NRC making an incorrect regulatory decision as a result of the originally submitted information or an unqualified individual performing the functions of an operator or senior operator… ." Because the performance deficiency was corrected before the issuance of a license and an experience waiver was ultimately granted, it did not cause the NRC to make an incorrect regulatory decision. There is no Cross-Cutting Aspect associated with this violation because it was processed using Traditional Enforcement.
Inspection Report# : 2012301 *(pdf)*

Significance: N/A May 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Inaccurate Identification of an Open-Reference Initial Licensing Exam Question as Closed-Reference
An NRC-identified non-cited violation of 10 CFR 50.9, "Completeness and Accuracy of Information," was identified for submitting a final written exam question to the NRC which was identified and approved as "Closed Reference," but administered by the licensee as "Open Reference" by supplying the applicants with an unapproved Technical Specification. On evaluation, the NRC determined that it would not have approved the question had it been properly identified as open-reference on submittal, because the reference made the question a direct lookup and the information in the reference was of a nature that licensed operators are expected to have memorized. No licensing decisions were affected and the facility licensee entered this issue into their corrective action program as Condition Report 4144197.

The examiners evaluated this issue using the traditional enforcement process because the performance deficiency impacted the NRC's ability to perform its regulatory function. This performance deficiency was determined to be Severity Level IV because it fits the SL-IV example of Enforcement Policy Section 6.4.d, "Violation Examples: Licensed Reactor Operators." This section states, "Severity Level IV violations involve, for example … cases of inaccurate or incomplete information inadvertently provided to the NRC that does [sic] not contribute to the NRC making an incorrect regulatory decision as a result of the originally submitted information or an unqualified individual performing the functions of an operator or senior operator… ." The performance deficiency did not cause the NRC to make an incorrect regulatory decision because it did not affect the number of applicants who passed. There is no

Cross-Cutting Aspect associated with this violation because it was processed using Traditional Enforcement.
Inspection Report# : 2012301 *(pdf)*

Last modified : November 30, 2012

Palo Verde 2
4Q/2012 Plant Inspection Findings

Initiating Events

Significance: G Sep 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Untimely Corrective Action for Condition Adverse to Fire Protection
The inspectors identified a Green non-cited violation of License Conditions 2.C.7, 2.C.6, and 2.F for Palo Verde Units 1, 2, and 3 for the licensee's failure to take timely corrective actions for a condition adverse to fire protection. Specifically, in 2004, the licensee identified that line thermal detection for 13.8 Kilo Volt cabling in three fire areas were not in conformance with vendor technical documents. Since then, corrective actions for the condition failed to be implemented as scheduled. After several spurious actuations of the fire protection system, the licensee installed the appropriately rated wire in Unit 1 and will install the appropriate detection in Units 2 and 3, respectively, at the next available outage. The licensee entered this issue into the licensee's corrective action program as Palo Verde Action Request (PVAR) 4201472.

The failure to take timely corrective actions for a condition adverse to fire protection was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it affected the protection against external factors of the Initiating Events Cornerstone and its objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process." The finding was determined to be a low degradation of the fixed fire protection system and screens to green using step 1.3.1. The inspectors determined this finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee failed to prioritize corrective actions for conditions adverse to fire protection [P.1(c)].
Inspection Report# : 2012004 *(pdf)*

Significance: G Mar 31, 2012
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Assess and Manage Risk Prior to Troubleshooting on 4.16 kV Bus Supply Breaker Hand Switch
The inspectors reviewed a self-revealing non-cited violation of 10 CFR 50.65a(4), for the licensee's failure to assess and manage an increase in risk prior to planned maintenance activities. Specifically, on January 25, 2012, the licensee failed to include the potential to deenergize a 4.16 kV bus when working on a control room hand switch in the risk assessment for Unit 2, resulting in an unplanned reactor power cutback. The licensee plans to revise procedures, as a corrective action, to develop and implement a structured operational risk assessment process for use by the senior reactor operator when authorizing un-scheduled work to commence in the field. The licensee entered this issue into the corrective action program as Palo Verde Action Request (PVAR) 4036588.

The licensee's failure to assess and manage an increase in risk prior to planned maintenance activities was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it affects the equipment performance attribute of the Initiating Events Cornerstone and its objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Because the licensee utilizes a qualitative risk assessment for these maintenance activities, Manual Chapter 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," Flowchart 2, could not be used to determine the risk significance of the finding. Using the qualitative review process of Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," the finding is determined to have very low safety significance (Green) because it did not result in any additional loss of defense in depth systems,

and an assessment by the senior reactor analyst determined the increase in risk due to the initiating event was very small. This finding had a cross-cutting aspect in the area of human performance associated with the resources component because the licensee failed to ensure complete and accurate procedures and work packages are adequate to assure nuclear safety [H.2(c)].
Inspection Report# : 2012002 *(pdf)*

Significance: G Mar 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Obtain NRC Approval for a Change Adverse to Safe Shutdown
The inspectors identified a Severity Level IV non-cited violation of License Conditions 2.C.7, 2.C.6, and 2.F for Palo Verde Units 1, 2, and 3, respectively, for the licensee's failure to maintain the reactor coolant pumps in compliance with fire protection requirements. Specifically, the licensee failed to evaluate changes to a maintenance procedure that resulted in the addition of oil in excess of the capacity of the oil collection system, which was a condition adverse to fire protection. The licensee has removed the excess oil from Unit 3 reactor coolant pumps and is evaluating further corrective actions for the issue. The licensee entered this issue into the licensee's corrective action program as PVAR 3305719.

The failure to perform a fire protection program impact evaluation of changes to a maintenance procedure to add oil to the reactor coolant pumps was a performance deficiency. The performance deficiency is more than minor and therefore a finding, because it adversely affected the external factors attribute of the Initiating Events Cornerstone and its objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Screening under IMC 0609, Appendix F, "Fire Protection Significance Determination Process," the condition represented a low degradation of the fire protection program element of fire prevention through control of combustible materials because of the over flow of oil spilling out of the reservoir. However, the problem impacted the NRC's ability to perform its oversight function and was assessed using the traditional enforcement process. In accordance with Section 6.1.d.2 of the NRC Enforcement Policy, dated July 12, 2011, this violation is categorized as Severity Level IV because the resulting changes were evaluated by the Significance Determination Process as having very low safety significance.

Inspection Report# : 2012002 *(pdf)*

Mitigating Systems

Significance: G Dec 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify and Correct a Condition Adverse to Fire Protection
The inspectors identified a Green non-cited violation of License Conditions 2.C.7, 2.C.6, and 2.F for Palo Verde Units 1, 2, and 3 for the licensee's failure to identify and correct a condition adverse to fire protection. Specifically, on November 19, 2012, inspectors questioned operations personnel and identified that operators did not know the locations of sound powered telephone equipment, were unfamiliar with their use, and unfamiliar with procedural guidance for their use. This is a communications device used for post-fire safe shutdown credited in the fire protection program and emergency plan. The lack of familiarity with location and use of these communication devices would have adversely affected operations personnel response to an emergency. The licensee completed a self-assessment of emergency preparedness communication on October 31, 2012, and did not identify these weaknesses. The licensee immediately issued a night order and informed operations personnel of the location of the sound powered phones and procedural guidance. The licensee entered this issue into the licensee's corrective action program as Palo Verde Action Request 4294407.
The failure to identify and correct a condition adverse to fire protection was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it adversely affected the human performance attribute of the Mitigating Systems Cornerstone and its objective to ensure the availability, reliability,

and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, “Initial Characterization of Findings,” and Inspection Manual Chapter 0609, Appendix F, “Fire Protection Significance Determination Process.” The finding was determined to be a low degradation of the post-fire safe shutdown program element and screens to Green using Step 1.3.1. The inspectors determined this finding has a crosscutting aspect in the area of problem identification and resolution associated with the self and independent assessments component because the licensee failed to conduct a self-assessment of sufficient depth, that was comprehensive and self-critical, which failed to recognize that operator knowledge was lacking for the use of some communication device [P.3(a)].
Inspection Report# : 2012005 *(pdf)*

Significance: G Dec 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain Licesned Operator Examination Integrity
The inspectors identified a non-cited violation of 10 CFR 55.49, “Integrity of Examinations and Tests,” for the failure of the licensee to ensure the integrity of the licensed operator biennial written examinations. During the 2012 biennial written examination cycle, the exams were administered in a simulator environment that lacked positive controls to ensure that operators could not observe the reference material or examinations of other operators. Operators were allowed to review engineering schematics while standing at a table which allowed an angle to observe the computer screen and desk of another examinee approximately 5 feet away. Having the ability to view exam reference material being displayed on the computer screen during exam administration is considered an exam integrity compromise. However, an evaluation of the written exam results and interviews with the licensed operators signed in on an exam security agreement showed that the compromise did not have an actual effect on the equitable and consistent administration of the examination. The licensee entered the finding into the corrective action program as Action Request PVAR-4238204.
The failure of the licensee’s training staff to maintain the integrity of examinations administered to licensed operations personnel was a performance deficiency. The performance deficiency was more than minor because it adversely affected the Human Performance attribute of the Mitigating Systems Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, if left uncorrected, the performance deficiency could have become more significant in that allowing licensed operators to return to the control room without valid demonstration of appropriate knowledge on the biennial written examinations could be a precursor to a more significant event. Using NRC Inspection Manual Chapter 0609, “Significance Determination Process,” Attachment 4, Table 1 and 2 worksheets; and the corresponding Appendix I, “Licensed Operator Requalification Significance Determination Process,” the finding was determined to have very low safety significance (Green). Although the 2012 finding resulted in a compromise of the integrity of biennial written examinations, compensatory actions were immediately taken, and the equitable and consistent administration of the biennial written examination was not actually affected by this compromise. This finding has a cross-cutting aspect in the area of human performance associated with the work control component because the licensee failed to adequately plan work activities that incorporated job site conditions, including environmental conditions [H.3(a)]
Inspection Report# : 2012005 *(pdf)*

Significance: G Sep 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Correct Scupper Obstruction
The inspectors identified a Green non-cited violation of 10 CFR Part 50 Appendix B, Criterion XVI, “Corrective Action,” for the failure of the licensee to correct a condition adverse to quality. Specifically, on November 7, 2011, after the inspectors notified the licensee about scupper obstruction on safety related building roofs, the licensee failed to enter this issue into the corrective action program and take appropriate corrective actions to remove the obstructions. The licensee rediscovered this condition during post Fukushima walkdowns in response to a Request for Information pursuant to 10 CRF 50.54(f), removed the obstructions and established walkdowns to ensure the scuppers remained unobstructed. The licensee has entered the issue into the corrective action program as PVAR 4255561.

The inspectors concluded that the failure of the licensee to correct a condition adverse to quality was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it affected the protection against external events of the Mitigating Systems Cornerstone and its objective to ensure the availability, reliability, and capability of systems that respond to initialing events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, “Initial Characterization of Findings,” and 0609 Appendix A, “The Significance Determination Process (SDP) for Findings at-Power.” The inspectors concluded the finding was of very low safety-significance (Green) because the finding did not result in the complete loss of a safety function due to an external event. The inspectors determined this finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee failed to have a low threshold for entering issues into the corrective action program [P.1(a)].
Inspection Report# : 2012004 *(pdf)*

Significance: G Sep 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Operability Determination for ARD Relay Failures
The inspectors identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the failure of operations and engineering personnel to follow station procedures to provide an adequate technical justification for continued operation of a degraded structure, system, or component. After a ventilation damper failed to close during a functional stroke test, plant personnel did not consider previous operability determinations and failed to provide supporting analysis to confirm there was no reduction in reliability of ARD relays. This issue is captured in the corrective action program as PVAR 4255816. The licensee has successfully cycled all ARD relays which could be performed during at-power operations, scheduled testing for remaining relays, and initiated a design change document that will determine a permanent substitute for the ARD660UR DC relays.

The failure of the operations and engineering personnel to follow Procedure 40DP-9OP26 to evaluate the operability of a structure, system, or component was a performance deficiency. The inspectors concluded the performance deficiency was more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, “Initial Characterization of Findings,” and 0609 Appendix A, “The Significance Determination Process (SDP) for Findings at-Power.” Inspectors concluded that the finding was of very low safety-significance (Green) because the finding is not a design or qualification issue, did not represent an actual loss of safety function of the system or train, did not result in the loss of one or more trains of non-technical specification equipment, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The
inspectors determined that the finding has a cross-cutting aspect in the area of human performance associated with decision making. Specifically, the licensee did not communicate the results of the apparent cause evaluation for the first three ARD relay failures to the appropriate operations personnel [H.1(c)].
Inspection Report# : 2012004 *(pdf)*

Significance: G Jun 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Comply with Technical Specifications
The inspectors identified a Green non-cited violation of Technical Specification Limiting Condition for Operation (LCO) 3.0.3 for the failure of plant personnel to place Unit 2 in Mode 3 within 7 hours after discovering a condition not permitted by Technical Specifications. Specifically, following the failure of essential ventilation dampers during a surveillance test that rendered the train B DC equipment, inverters, and ESF switchgear inoperable, operators exceeded the Technical Specification time requirements before restoring operability of the equipment. The licensee initiated corrective actions to evaluate equipment operability following essential ventilation system failures, revise procedural guidance and implement compensatory measures to ensure the supported equipment remains capable of

performing its required safety functions in the event of essential ventilation system failures. The licensee entered the issue into the corrective action program as Palo Verde Action Request 4033786.

The failure of the licensee to comply with Technical Specifications is a performance deficiency. The resident inspectors performed the initial significance determination for the essential ventilation damper failures using NRC Inspection Manual Chapter 0609, Attachment 0609.04, “Initial Characterization of Findings,” and 0609 Appendix A, “The Significance Determination Process (SDP) for Findings at Power.” The finding screened to a detailed analysis because it involved an actual loss of safety function of a single train of equipment for greater than its technical specification allowed outage time. A Region IV senior reactor analyst performed a bounding Phase 3 significance determination and found the finding to be of very low safety significance (Green). The bounding change to the core damage frequency was 9E-8/year. The dominant core damage sequences included: loss of offsite power sequences; failure of remaining safety related train A ventilation; failure of operators to provide alternate room cooling; and the failure of the turbine driven auxiliary feedwater pump. The very short exposure period helped to minimize the significance. The inspectors did not assign a cross-cutting aspect to this finding because the inadequate procedural guidance for responding to essential ventilation system failures was made in 1991 and is not reflective of present performance.
Inspection Report# : 2012003 *(pdf)*

Significance: G Jun 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Post Maintenance Test of the Diesel Fuel Oil Transfer Pump
The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XI, “Test Control,” for the failure to assure that testing to demonstrate that the diesel fuel oil transfer pumps would perform satisfactory in service was performed in accordance with written test procedures. Specifically, on April 17, 2011, the licensee failed to conduct post maintenance testing of the Unit 2 diesel generator A fuel oil transfer pump in accordance with the licensee’s inservice test procedure. This issue is captured in the corrective action program as Palo Verde Action Request 4161870. Palo Verde subsequently performed successful inservice testing of the Unit 2 A diesel generator fuel oil transfer pump.

The inspector determined that the failure to perform testing of safety-related plant diesel fuel oil transfer pumps in accordance with written procedures following maintenance activities is a performance deficiency. The finding was more than minor because it is associated with the Mitigating Systems Cornerstone attribute of equipment performance and it adversely affect the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Inspection Manual Chapter 0609.04, the inspectors determined that the finding had very low safety significance (Green) because it did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined that the finding had a cross-cutting aspect in the area of human performance associated with work practices because the licensee did not communicate human error prevention techniques such as self and peer checking to ensure that the appropriate pump retest was specified in the post maintenance testing instructions [H.4(a)].
Inspection Report# : 2012003 *(pdf)*

Significance: ??? Jun 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Provide Complete and Accurate Information Regarding Safety Related Roof Drainage Capabilities
The inspectors identified a Severity Level IV violation of 10 CFR 50.9, “Completeness and Accuracy of Information,” for the failure of the licensee to provide complete and accurate information in all material respects in response to Generic Letter 88-20, Supplement 4. Specifically, the licensee asserted that roofs are equipped with roof drains and scuppers as backup. As a result, the licensee concluded roof ponding considerations were not applicable to the Palo Verde Nuclear Generating Station site. Inspectors determined that there are no roof drains installed. The licensee initiated corrective actions to provide an accurate depiction of the roof drainage capabilities to the NRC. This finding has been entered into the licensee’s corrective action program as Palo Verde Action Request 3952605.

The failure of the licensee to provide complete and accurate information for safety related building roof drainage was a performance deficiency. The Significance Determination Process is not suited to assess the significance of the performance deficiency because it affected the ability of the NRC to perform its regulatory oversight function and as such, it was assessed using traditional enforcement. This issue was determined to be a Severity Level IV violation in accordance with NRC Enforcement Policy examples provided in Section 6.9. No crosscutting aspect was assigned because the performance deficiency was assessed using traditional enforcement.

Inspection Report# : 2012003 *(pdf)*

Significance: G Mar 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Corrective Action Program Procedure
The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criteria V, "Instructions, Procedures, and Drawings," after Arizona Public Service failed to follow station procedures and enter issues into the corrective action program. Specifically, the inspectors identified that Palo Verde Action Requests had not been created, contrary to the requirements of procedure 01DP-0AP12, "Palo Verde Action Request Processing," when significant delays in completing maintenance on safety related components occurred. The licensee entered the issue into the corrective action program as Condition Report Disposition Request 4078014. The licensee initiated corrective actions to conduct training on the requirements to enter issues into the corrective action program and is evaluating further corrective actions.

The failure of plant personnel to enter issues into the corrective action program was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was evaluated under the Significance Determination Process, Inspection Manual Chapter 0609.04, "Phase I – Initial Screening and Characterization of Findings," to be of very low safety significance (Green) because the finding: (1) is not a design or qualification issue; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of non-technical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding has a cross-cutting aspect in the area of human performance associated with the work practices component because the licensee failed to define and effectively communicate expectations to maintenance department personnel regarding the prompt initiation of Palo Verde Action Requests into the corrective action program [H.4(b)].
Inspection Report# : 2012002 *(pdf)*

Significance: G Mar 31, 2012
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Promptly Identify and Correct a Condition Adverse to Quality Associated with Essential Chilled Water System Gas Accumulation
The inspectors reviewed a self-revealing non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to promptly identify and correct a condition adverse to quality associated with essential chilled water system gas accumulation in all three units. Specifically, more frequent biocide additions to the essential chilled water systems resulted in significant bacterial off gassing and voiding in the systems in all three units. The licensee entered the issue into the corrective action program as Condition Report Disposition Request 3850945, initiated corrective actions to vent the systems and monitor for gas accumulation, and is evaluating further corrective actions for the issue.

The inspectors determined the failure of the licensee to promptly identify and correct a condition adverse to quality associated with essential chilled water system gas accumulation in all three units was a performance deficiency. The inspectors concluded the performance deficiency is more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of

systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, “Phase I – Initial Screening and Characterization of Findings,” and concluded the finding was of very low safety significance (Green) because the finding: (1) is not a design or qualification issue; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of non-technical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined this finding has a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee failed to trend and assess information from the corrective action program and other assessments to identify this common cause problem [P.1(b)].
Inspection Report# : 2012002 *(pdf)*

Significance: G Mar 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform Functionality Assessment for Safety-Related Buildings
The inspectors identified a non-cited violation of 10 CFR Part 50 Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the failure of operations and engineering personnel to follow station procedures to provide a technical justification for continued operation of a degraded structure, system, or component. Specifically, after identifying a potential for insufficient drainage for safety related building roofs, plant personnel failed to perform a functional assessment and failed to assess the non-conforming condition to the current licensing basis. The licensee performed the functional assessment and later revised the assessment after the inspectors challenged assumptions used in the assessment. The licensee entered the issue into the corrective action program as Palo Verde Action Requests 3958463 and 3952605.

The failure of the operations and engineering personnel to evaluate the operability of a safety-related structure, system, or component was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, “Phase I – Initial Screening and Characterization of Findings,” and concluded the finding was of very low safety significance (Green) because the finding is a design or qualification issue confirmed not to result in the loss of operability or functionality. The inspectors determined this finding has a cross-cutting aspect in the area of human performance associated with the component of decision making because the licensee failed to use conservative assumptions in decision making and adopts a requirement to demonstrate that the proposed action is safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action [H.1(b)].
Inspection Report# : 2012002 *(pdf)*

Significance: G Mar 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Translate Design Basis Into Drawings and Calculations for Safety-related Roof Drainage Capability
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” for the failure of the licensee to translate the safety-related roof drainage capability design basis into drawings and calculations. Specifically, inspectors determined that there were no roof drains installed, although the plant was designed to have roof drains as the primary means for removing water from safety-related building roofs, and the licensee could not provide any design documentation to support adequacy of the roof drainage capacity without roof drains. The licensee performed an engineering evaluation to support the structural integrity of the safety-related buildings in the event of a design basis probable maximum precipitation event and is evaluating further corrective action. The licensee entered the issue into the corrective action program as PVARs 3958463 and 3952605.

The inspectors concluded that the failure of the licensee to translate design basis information into drawings for safety-related building roof drainage was a performance deficiency. The inspectors concluded the performance deficiency

was more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the performance deficiency under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Phase I – Initial Screening and Characterization of Findings," and concluded the finding was of very low safety significance (Green) because the finding is a design or qualification issue confirmed not to result in the loss of operability or functionality. No cross-cutting aspect was assigned because the performance deficiency was not indicative of current performance.
Inspection Report# : 2012002 *(pdf)*

Barrier Integrity

Significance: G Dec 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform Pressure Testing of the Reactor Vessel Flange Leak-Off Lines
Inspectors identified a non-cited violation of 10 CFR 50.55a(g)(4) involving the licensee's failure to perform a system pressure test of the reactor vessel flange leak off-line of Units 1, 2, and 3 in accordance with the applicable edition of Section XI of the ASME Code. Contrary to the above, prior to October 10, 2012, the licensee failed to perform the required pressure test of the reactor vessel flange seal leak-off line for all three units. Specifically, the licensee failed to implement the ASME Code, Section XI, Class 2 requirements for pressure retaining components as provided by Article IWC-5220, "System Leakage Test." The licensee entered the finding into their corrective action program as Palo Verde Action Request 4269674.
The inspectors determined that the licensee's failure to perform a pressure test of the reactor vessel flange leak-off line was a performance deficiency. The performance deficiency was more than minor because it is associated with the Barrier Integrity Cornerstone attribute of systems, structures and components and barrier performance, and adversely affects the cornerstone objective to provide a reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using Manual Chapter 0609, Attachment A, "The Significant Determination Process (SDP) for Findings At-Power," the finding was determined to be of very low safety significance (Green) because the finding did not result in exceeding the reactor coolant system leak rate for a small loss-of-coolant accident, and did not affect other systems used to mitigate a loss-of-coolant accident resulting in a total loss of their function. This issue did not have a cross-cutting aspect associated with it because it is not indicative of current performance
Inspection Report# : 2012005 *(pdf)*

Significance: G Dec 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Tracking of a Functional Assessment for Spent Fuel Pool Heat Load
The inspectors identified a non-cited violation of 10 CFR 55.49, "Integrity of Examinations and Tests," for the failure of the licensee to ensure the integrity of the licensed operator biennial written examinations. During the 2012 biennial written examination cycle, the exams were administered in a simulator environment that lacked positive controls to ensure that operators could not observe the reference material or examinations of other operators. Operators were allowed to review engineering schematics while standing at a table which allowed an angle to observe the computer screen and desk of another examinee approximately 5 feet away. Having the ability to view exam reference material being displayed on the computer screen during exam administration is considered an exam integrity compromise. However, an evaluation of the written exam results and interviews with the licensed operators signed in on an exam security agreement showed that the compromise did not have an actual effect on the equitable and consistent administration of the examination. The licensee entered the finding into the corrective action program as Action Request PVAR-4238204.
The failure of the licensee's training staff to maintain the integrity of examinations administered to licensed operations personnel was a performance deficiency. The performance deficiency was more than minor because it adversely affected the Human Performance attribute of the Mitigating Systems Cornerstone objective of ensuring the

availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, if left uncorrected, the performance deficiency could have become more significant in that allowing licensed operators to return to the control room without valid demonstration of appropriate knowledge on the biennial written examinations could be a precursor to a more significant event. Using NRC Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 4, Table 1 and 2 worksheets; and the corresponding Appendix I, "Licensed Operator Requalification Significance Determination Process," the finding was determined to have very low safety significance (Green). Although the 2012 finding resulted in a compromise of the integrity of biennial written examinations, compensatory actions were immediately taken, and the equitable and consistent administration of the biennial written examination was not actually affected by this compromise. This finding has a cross-cutting aspect in the area of human performance associated with the work control component because the licensee failed to adequately plan work activities that incorporated job site conditions, including environmental conditions [H.3(a)]
Inspection Report# : 2012005 *(pdf)*

Emergency Preparedness

Significance: G Dec 31, 2012
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Technical Support Center Diesel Generator Not Restored Following Maintenance
A self revealing Green non-cited violation of 10 CFR 50.47(b)(8) was identified for the failure to maintain adequate facilities to support emergency response. Specifically, the licensee found the technical support center battery disconnect switch had not been restored following maintenance activities. This configuration would have rendered the diesel generator unable to start automatically as designed in the event of a loss of off-site power. The licensee initiated immediate corrective actions to restore the technical support center diesel generator to a functional configuration and has begun implementation of a more formal process for component configuration verification of critical technical support center equipment. The licensee has entered this issue into their corrective action program as Palo Verde Action Request 4165625.
The failure to follow Procedure 40OP-9NG01 for performing a functional test of 480V switchgear following maintenance activities is a performance deficiency. This performance deficiency was more than minor because it is associated with the Emergency Preparedness Cornerstone attribute of facilities and equipment and it adversely affected the cornerstone objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and Manual Chapter 0609, Appendix B, "Emergency Preparedness Significance Determination Process." The finding was determined to be of very low safety significance (Green) because the degraded planning standard function did not result in the loss of technical support center functionality for longer than 7 days. The inspectors determined that the finding had a cross-cutting aspect in the area of human performance associated with resources. Specifically, the licensee's work control procedures did not include critical technical support center systems to ensure that technical support center configuration control was maintained commensurate with its significance [H.2(c)]
Inspection Report# : 2012005 *(pdf)*

Significance: G Sep 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform 50.54(q) Evaluation
Inspectors identified a Severity Level IV, non-cited violation of 10 CFR 50.54 (q), "Conditions of licenses," and an associated Green finding for the licensee's failure to perform an appropriate design scope change, which resulted in the reduction in effectiveness of the emergency plan. Specifically, on May 19, 2011, the licensee completed a modification to revise protective area lightning power sources and removed ground fault protections on a circuit breaker attached to the bus, which powers the technical support center. This change created a condition that would

remove power to the technical support center and prevent emergency plan required back up power from being able to power the bus. On August 10, 2012, a lighting fault caused a complete loss of power to the technical support center, demonstrating that this change decreased the effectiveness of the emergency plan. On September 26, 2012, the licensee reactivated the ground fault protection for the circuit breaker and established compensatory measures to restore power to ensure technical support center staffing will not be challenged. The licensee entered this into their corrective action program as condition report disposition request 4230209.

The failure to perform an appropriate design scope change was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it affected the facilities and equipment attribute of the Emergency Preparedness Cornerstone and its objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, “Initial Characterization of Findings,” and Manual Chapter 0609, Appendix B, “Emergency Preparedness Significance Determination Process.” The finding was determined to be of very low safety significance (Green). Additionally, the violation of 10 CFR 50.54 (q) impacted the ability of the NRC to perform its regulatory oversight function and was dispositioned using traditional enforcement. This violation was determined to be a Severity Level IV violation per Section 6.6 of the NRC Enforcement Policy because the violation was not associated with licensee’s ability to meet or implement any regulatory requirement related to assessment or notification. Although the regulatory requirement could be implemented during the response to an actual emergency, the implementation would be degraded. The inspectors determined this finding has a crosscutting aspect in the area of human performance associated with the work practices component because the licensee failed to ensure supervisory management and oversight of contractors such that nuclear safety is supported [H.4.(c)].
Inspection Report# : 2012004 *(pdf)*

Significance: G Sep 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Declare an Unusual Event
The inspectors identified a Green non-cited violation of 10 CFR 50.54(q) for the failure of operations personnel to adequately implement the emergency plan. Specifically, on August 26, 2012, auxiliary operators felt vibratory ground motion inside the protected area at 12:31pm and again at 1:58pm. The United States Geological Survey (USGS) confirmed that two earthquakes, of magnitude 5.3 and 5.5 respectively, occurred at those times in the area of the plant. Plant operators did not declare an Unusual Event in accordance with the emergency plan. The licensee entered the issue into the corrective action program as PVAR 4255819 and initiated an apparent cause evaluation to identify the cause and corrective actions.

The failure to implement the emergency plan and declare an Unusual Event was a performance deficiency. The performance deficiency was more than minor and therefore a finding, because it affected the Emergency Response Organization performance attribute of the Emergency Preparedness cornerstone and affected the cornerstone objective to ensure the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Using Manual Chapter 0609, Appendix B, "Emergency Preparedness Significance Determination Process," Attachment 1, the finding was determined to have very low safety - significance (Green) because the actual event implementation problem was associated with an Unusual Event. This finding has a crosscutting aspect in the area of human performance associated with the resources component because the licensee failed to ensure training of personnel was adequate to assure proper implementation of the emergency plan [H.2.(b)].
Inspection Report# : 2012004 *(pdf)*

Significance: G Mar 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure in the Choice of Protective Actions Consistent with Federal Guidance
The inspectors identified a non-cited violation of 10 CFR 50.47(b)(10) for the licensee’s failure to develop and have in-place guidelines for the choice of protective actions during an emergency that were consistent with federal guidance. Specifically, the licensee’s procedure EP-0905, “Protective Actions,” Revision 2, did not implement the

guidance of EPA-400-R-92-001, “Manual of Protective Action Guides and Protective Actions for Nuclear Incidents,” which states, in part, that evacuation is rarely justified when the projected dose does not exceed 1 rem (Total Effective Dose Equivalent). This issue is documented in the licensee’s corrective action program as Condition Report Disposition Request-3403829.

The licensee’s automatic process that extended protective action during plant conditions and changes in wind direction without considering radiation dose was identified as a performance deficiency. This performance deficiency is more than minor, and therefore a finding, because it adversely affects the Emergency Preparedness Cornerstone objective of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency, and is associated with the cornerstone attributes of emergency response organization performance and procedure quality. This finding was determined to be of very low safety significance because it was a failure to comply with NRC requirements, was associated with risk significant planning standard 10 CFR 50.47(b)(10), and was not a risk significant planning standard functional failure or a planning standard degraded function. The finding was not a functional failure or degraded planning standard function because appropriate protective action recommendations for the public would have been made for all areas where protective action guides were exceeded. The finding is related to the corrective action program component of the problem identification and resolution cross-cutting area because the licensee failed take appropriate corrective actions to address the safety issue in a timely manner [P1.d].

Inspection Report# : 2012002 *(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Significance: G Jun 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Verify a Transferee was Licensed to Receive Byproduct Material
The inspector identified a non-cited violation of 10 CFR 30.41 because the licensee failed to verify a transferee was authorized to receive byproduct material before transferring it. This finding was entered in the licensee’s corrective action program as CRDR 4136342.

The failure to verify a transferee is licensed to receive the type, form, and quantity of byproduct being transferred is a performance deficiency. The significance was more than minor because radioactive material was actually transferred to an entity which was not licensed to receive the material. Thus, the performance deficiency was associated with the cornerstone attribute of Program & Process and adversely affected the associated cornerstone objective because the release of radioactive material to unlicensed entities could cause unplanned radiation dose or environmental contamination. Using Inspection Manual Chapter 0609, Appendix D, “Public Radiation Safety Significance Determination Process, “ December 12, 2008, page D 13, the inspectors determined the violation had very low safety significance because the violation involved a radioactive material control issue, was not a transportation issue, and did not result in a dose to public of greater than 0.005 rem. This finding had a crosscutting aspect in the human performance area, work practices component, because personnel did not follow procedures [H.4(b)].

Inspection Report# : 2012003 *(pdf)*

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Significance: N/A May 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Request an Experience Waiver for a Reactor Operator License Applicant
An NRC-identified non-cited violation of 10 CFR 50.9, "Completeness and Accuracy of Information," was identified for failure to request an experience waiver on NRC Form 398 for a Reactor Operator license applicant who did not have three years of responsible nuclear power plant experience as required by NUREG 1021, Revision 9, Supplement 1, ES-202.D.1.a.(1). Upon discovery, the facility licensee submitted a revised NRC Form 398, which included the waiver request, and entered this issue into their corrective action program as Condition Report 4080143.

The examiners evaluated this issue using the traditional enforcement process because the performance deficiency had the potential for impacting the NRC's ability to perform its regulatory function. This performance deficiency was determined to be Severity Level IV because it fits the SL-IV example of Enforcement Policy Section 6.4.d, "Violation Examples: Licensed Reactor Operators." This section states, "Severity Level IV violations involve, for example … cases of inaccurate or incomplete information inadvertently provided to the NRC that does [sic] not contribute to the NRC making an incorrect regulatory decision as a result of the originally submitted information or an unqualified individual performing the functions of an operator or senior operator… ." Because the performance deficiency was corrected before the issuance of a license and an experience waiver was ultimately granted, it did not cause the NRC to make an incorrect regulatory decision. There is no Cross-Cutting Aspect associated with this violation because it was processed using Traditional Enforcement.
Inspection Report# : 2012301 *(pdf)*

Significance: N/A May 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Inaccurate Identification of an Open-Reference Initial Licensing Exam Question as Closed-Reference
An NRC-identified non-cited violation of 10 CFR 50.9, "Completeness and Accuracy of Information," was identified for submitting a final written exam question to the NRC which was identified and approved as "Closed Reference," but administered by the licensee as "Open Reference" by supplying the applicants with an unapproved Technical Specification. On evaluation, the NRC determined that it would not have approved the question had it been properly identified as open-reference on submittal, because the reference made the question a direct lookup and the information in the reference was of a nature that licensed operators are expected to have memorized. No licensing decisions were affected and the facility licensee entered this issue into their corrective action program as Condition Report 4144197.

The examiners evaluated this issue using the traditional enforcement process because the performance deficiency impacted the NRC's ability to perform its regulatory function. This performance deficiency was determined to be Severity Level IV because it fits the SL-IV example of Enforcement Policy Section 6.4.d, "Violation Examples: Licensed Reactor Operators." This section states, "Severity Level IV violations involve, for example … cases of inaccurate or incomplete information inadvertently provided to the NRC that does [sic] not contribute to the NRC making an incorrect regulatory decision as a result of the originally submitted information or an unqualified individual performing the functions of an operator or senior operator… ." The performance deficiency did not cause the NRC to make an incorrect regulatory decision because it did not affect the number of applicants who passed. There is no Cross-Cutting Aspect associated with this violation because it was processed using Traditional Enforcement.
Inspection Report# : 2012301 *(pdf)*

Palo Verde 2
1Q/2013 Plant Inspection Findings

Initiating Events

Significance: G Sep 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Untimely Corrective Action for Condition Adverse to Fire Protection
The inspectors identified a Green non-cited violation of License Conditions 2.C.7, 2.C.6, and 2.F for Palo Verde Units 1, 2, and 3 for the licensee's failure to take timely corrective actions for a condition adverse to fire protection. Specifically, in 2004, the licensee identified that line thermal detection for 13.8 Kilo Volt cabling in three fire areas were not in conformance with vendor technical documents. Since then, corrective actions for the condition failed to be implemented as scheduled. After several spurious actuations of the fire protection system, the licensee installed the appropriately rated wire in Unit 1 and will install the appropriate detection in Units 2 and 3, respectively, at the next available outage. The licensee entered this issue into the licensee's corrective action program as Palo Verde Action Request (PVAR) 4201472.

The failure to take timely corrective actions for a condition adverse to fire protection was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it affected the protection against external factors of the Initiating Events Cornerstone and its objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process." The finding was determined to be a low degradation of the fixed fire protection system and screens to green using step 1.3.1. The inspectors determined this finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee failed to prioritize corrective actions for conditions adverse to fire protection [P.1(c)].
Inspection Report# : 2012004 *(pdf)*

Mitigating Systems

Significance: G Mar 31, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Multiple Failures to Identify Conditions Adverse to Quality
The inspectors identified two examples of a Green NCV of 10 CFR Part 50, Appendix B, Criterion XVI "Corrective Action," for the failure of the licensee to promptly identify and correct conditions adverse to quality. Specifically, on July 19, 2012, personnel failed to follow Procedure 01DP-0AP12, "Palo Verde Action Request Processing," and enter into the corrective action process a failure to comply with technical specifications to enter limiting condition for operation 3.0.3 when maintenance activities rendered safety related inverters inoperable. In addition, on May 2, 2011, the licensee also failed to enter an unanalyzed diversion of emergency core cooling system flow into the corrective action process, despite procedural guidance to the contrary. The licensee entered the issues into the corrective action

program as Palo Verde Action Request (PVAR) 4347283 and PVAR 4389514 and is assessing corrective actions.

The inspectors concluded that the failure to promptly identify and correct conditions adverse to quality was a performance deficiency. The inspectors determined the performance deficiency is more than minor, and therefore a finding, because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone and its objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined the two issues had similar causal factors and should be documented as one NCV in accordance with NRC enforcement guidance. The inspectors evaluated the significance of each issue under the SDP, as defined in Inspection Manual Chapter 0609.04, “Initial Characterization of Findings,” and IMC 0609, Appendix A, “Significance Determination of Reactor Inspection Findings for At-Power Situations.” For the issue associated with inoperable safety related inverters, the inspectors determined the finding to be of very low safety significance (Green) because all questions in Exhibit 2.A could be answered no. For the issue associated with an unanalyzed condition of the high pressure safety injection system, the inspectors determined that the finding represented a loss of system function and needed a detailed evaluation. The inspectors used the Palo Verde Standardized Plant Analysis Risk model, Revision 8.20, with a truncation limit of E-11 and performed a bounding significance determination and found the finding to be of very low safety significance (Green). The bounding change to the core damage frequency was 2.4E-9/year. The dominant core damage sequences included: medium break loss of coolant accident, system transient, and steam generator tube rupture. The very short exposure period minimized the significance. A Region IV senior reactor analyst reviewed the results and agreed with the conclustions. This finding has a cross-cutting aspect in the area of human performance associated with the decision making component because the licensee failed to use a systematic process for dealing uncertain conditions adverse to quality [H.1(a)].

Inspection Report# : 2013002 *(pdf)*

Significance: G Mar 31, 2013
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Comply with Technical Specifications
A self-revealing, Green NCV of Technical Specification (TS) Limiting Condition for Operation (LCO) 3.0.4 was identified after Unit 2 operators entered a mode with a limiting condition for operation not met. Specifically, following maintenance on auxiliary feedwater pump steam supply valve, SGA-UV-138, plant personnel did not ensure the requirements of TS 3.7.5, “Auxiliary Feedwater System,” were met prior to entering Mode 3. During subsequent testing, a bonnet steam leak was discovered on the valve, resulting in the valve being declared inoperable and the plant returned to Mode 5 for repairs. The licensee restored the valve to operable status before re-entering Mode 3. The licensee entered the issue into the corrective action program (CAP) as CRDR 4284491 and is evaluating further corrective actions.

The inspectors concluded that the failure of plant personnel to comply with technical specifications was a performance deficiency. The inspectors concluded the performance deficiency is more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the SDP, as defined in Inspection Manual Chapter 0609.04, “Initial Characterization of Findings,” and 0609 Appendix A, “The SDP for Findings at-Power.” Inspectors concluded that the finding was of very low safety significance (Green) because the finding is not a design or qualification issue, did not represent an actual loss of safety function of the system or train, did not result in the loss of one or more trains of non-technical specification equipment, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined this finding has a cross-cutting aspect in the area of human performance associated with the component of resources because the licensee failed to provide an adequate work package to ensure the valve was operable prior to entering Mode 3 [H.2(c)].
Inspection Report# : 2013002 *(pdf)*

Significance: G Mar 31, 2013
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Shutdown Cooling Piping Failure
A self-revealing, Green NCV of 10 CFR Part 50, Appendix B, Criterion III "Design Control," was identified for the failure of the licensee to assure that applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures, and instructions. Specifically, operations personnel altered the piping configuration with an added fitting to a low pressure safety injection drain line. As a result the pipe failed during shutdown cooling operations, rendering that train inoperable. The licensee repaired the weld in accordance with ASME Code, entered the issue into the licensee's CAP as CRDR 4263357, and revised procedural guidance to return components to their design configuration.

The inspectors concluded that the failure of the licensee to correctly translate the design basis into specifications, drawings, procedures and instructions was a performance deficiency. The performance deficiency was more than minor, therefore a finding, because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone and its objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the SDP, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix G, "Shut Down Operations Significance Determination Process." The inspectors determined that because there was an injection path available, the leak could be isolated prior to depletion of the reactor water tank, and the steam generators were available for heat removal. As a result, the issue was found to be of very low safety significance (Green). The inspectors determined the finding had no cross-cutting issues because it is not indicative of current performance.
Inspection Report# : 2013002 *(pdf)*

Significance: G Dec 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify and Correct a Condition Adverse to Fire Protection
The inspectors identified a Green non-cited violation of License Conditions 2.C.7, 2.C.6, and 2.F for Palo Verde Units 1, 2, and 3 for the licensee's failure to identify and correct a condition adverse to fire protection. Specifically, on November 19, 2012, inspectors questioned operations personnel and identified that operators did not know the locations of sound powered telephone equipment, were unfamiliar with their use, and unfamiliar with procedural guidance for their use. This is a communications device used for post-fire safe shutdown credited in the fire protection program and emergency plan. The lack of familiarity with location and use of these communication devices would have adversely affected operations personnel response to an emergency. The licensee completed a self-assessment of emergency preparedness communication on October 31, 2012, and did not identify these weaknesses. The licensee immediately issued a night order and informed operations personnel of the location of the sound powered phones and procedural guidance. The licensee entered this issue into the licensee's corrective action program as Palo Verde Action Request 4294407.
The failure to identify and correct a condition adverse to fire protection was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it adversely affected the human performance attribute of the Mitigating Systems Cornerstone and its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process." The finding was determined to be a low degradation of the post-fire safe shutdown program element and screens to Green using Step 1.3.1. The inspectors determined this finding has a crosscutting aspect in the area of problem identification and resolution associated with the self and independent

assessments component because the licensee failed to conduct a self-assessment of sufficient depth, that was comprehensive and self-critical, which failed to recognize that operator knowledge was lacking for the use of some communication device [P.3(a)].
Inspection Report# : 2012005 *(pdf)*

Significance: G Dec 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain Licensed Operator Examination Integrity
The inspectors identified a non-cited violation of 10 CFR 55.49, "Integrity of Examinations and Tests," for the failure of the licensee to ensure the integrity of the licensed operator biennial written examinations. During the 2012 biennial written examination cycle, the exams were administered in a simulator environment that lacked positive controls to ensure that operators could not observe the reference material or examinations of other operators. Operators were allowed to review engineering schematics while standing at a table which allowed an angle to observe the computer screen and desk of another examinee approximately 5 feet away. Having the ability to view exam reference material being displayed on the computer screen during exam administration is considered an exam integrity compromise. However, an evaluation of the written exam results and interviews with the licensed operators signed in on an exam security agreement showed that the compromise did not have an actual effect on the equitable and consistent administration of the examination. The licensee entered the finding into the corrective action program as Action Request PVAR-4238204.
The failure of the licensee's training staff to maintain the integrity of examinations administered to licensed operations personnel was a performance deficiency. The performance deficiency was more than minor because it adversely affected the Human Performance attribute of the Mitigating Systems Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, if left uncorrected, the performance deficiency could have become more significant in that allowing licensed operators to return to the control room without valid demonstration of appropriate knowledge on the biennial written examinations could be a precursor to a more significant event. Using NRC Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 4, Table 1 and 2 worksheets; and the corresponding Appendix I, "Licensed Operator Requalification Significance Determination Process," the finding was determined to have very low safety significance (Green). Although the 2012 finding resulted in a compromise of the integrity of biennial written examinations, compensatory actions were immediately taken, and the equitable and consistent administration of the biennial written examination was not actually affected by this compromise. This finding has a cross-cutting aspect in the area of human performance associated with the work control component because the licensee failed to adequately plan work activities that incorporated job site conditions, including environmental conditions [H.3(a)]
Inspection Report# : 2012005 *(pdf)*

Significance: G Sep 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Correct Scupper Obstruction
The inspectors identified a Green non-cited violation of 10 CFR Part 50 Appendix B, Criterion XVI, "Corrective Action," for the failure of the licensee to correct a condition adverse to quality. Specifically, on November 7, 2011, after the inspectors notified the licensee about scupper obstruction on safety related building roofs, the licensee failed to enter this issue into the corrective action program and take appropriate corrective actions to remove the obstructions. The licensee rediscovered this condition during post Fukushima walkdowns in response to a Request for Information pursuant to 10 CRF 50.54(f), removed the obstructions and established walkdowns to ensure the scuppers remained unobstructed. The licensee has entered the issue into the corrective action program as PVAR 4255561.

The inspectors concluded that the failure of the licensee to correct a condition adverse to quality was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it affected the protection against external events of the Mitigating Systems Cornerstone and its objective to ensure the availability, reliability, and capability of systems that respond to initialing events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, “Initial Characterization of Findings,” and 0609 Appendix A, “The Significance Determination Process (SDP) for Findings at-Power.” The inspectors concluded the finding was of very low safety-significance (Green) because the finding did not result in the complete loss of a safety function due to an external event. The inspectors determined this finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee failed to have a low threshold for entering issues into the corrective action program [P.1(a)].
Inspection Report# : 2012004 *(pdf)*

Significance: G Sep 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Operability Determination for ARD Relay Failures
The inspectors identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the failure of operations and engineering personnel to follow station procedures to provide an adequate technical justification for continued operation of a degraded structure, system, or component. After a ventilation damper failed to close during a functional stroke test, plant personnel did not consider previous operability determinations and failed to provide supporting analysis to confirm there was no reduction in reliability of ARD relays. This issue is captured in the corrective action program as PVAR 4255816. The licensee has successfully cycled all ARD relays which could be performed during at-power operations, scheduled testing for remaining relays, and initiated a design change document that will determine a permanent substitute for the ARD660UR DC relays.

The failure of the operations and engineering personnel to follow Procedure 40DP-9OP26 to evaluate the operability of a structure, system, or component was a performance deficiency. The inspectors concluded the performance deficiency was more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, “Initial Characterization of Findings,” and 0609 Appendix A, “The Significance Determination Process (SDP) for Findings at-Power.” Inspectors concluded that the finding was of very low safety-significance (Green) because the finding is not a design or qualification issue, did not represent an actual loss of safety function of the system or train, did not result in the loss of one or more trains of non-technical specification equipment, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The
inspectors determined that the finding has a cross-cutting aspect in the area of human performance associated with decision making. Specifically, the licensee did not communicate the results of the apparent cause evaluation for the first three ARD relay failures to the appropriate operations personnel [H.1(c)].
Inspection Report# : 2012004 *(pdf)*

Significance: G Jun 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Comply with Technical Specifications
The inspectors identified a Green non-cited violation of Technical Specification Limiting Condition for Operation (LCO) 3.0.3 for the failure of plant personnel to place Unit 2 in Mode 3 within 7 hours after discovering a condition not permitted by Technical Specifications. Specifically, following the failure of essential ventilation dampers during a

surveillance test that rendered the train B DC equipment, inverters, and ESF switchgear inoperable, operators exceeded the Technical Specification time requirements before restoring operability of the equipment. The licensee initiated corrective actions to evaluate equipment operability following essential ventilation system failures, revise procedural guidance and implement compensatory measures to ensure the supported equipment remains capable of performing its required safety functions in the event of essential ventilation system failures. The licensee entered the issue into the corrective action program as Palo Verde Action Request 4033786.

The failure of the licensee to comply with Technical Specifications is a performance deficiency. The resident inspectors performed the initial significance determination for the essential ventilation damper failures using NRC Inspection Manual Chapter 0609, Attachment 0609.04, "Initial Characterization of Findings," and 0609 Appendix A, "The Significance Determination Process (SDP) for Findings at Power." The finding screened to a detailed analysis because it involved an actual loss of safety function of a single train of equipment for greater than its technical specification allowed outage time. A Region IV senior reactor analyst performed a bounding Phase 3 significance determination and found the finding to be of very low safety significance (Green). The bounding change to the core damage frequency was 9E-8/year. The dominant core damage sequences included: loss of offsite power sequences; failure of remaining safety related train A ventilation; failure of operators to provide alternate room cooling; and the failure of the turbine driven auxiliary feedwater pump. The very short exposure period helped to minimize the significance. The inspectors did not assign a cross-cutting aspect to this finding because the inadequate procedural guidance for responding to essential ventilation system failures was made in 1991 and is not reflective of present performance.
Inspection Report# : 2012003 *(pdf)*

Significance: G Jun 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Post Maintenance Test of the Diesel Fuel Oil Transfer Pump
The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XI, "Test Control," for the failure to assure that testing to demonstrate that the diesel fuel oil transfer pumps would perform satisfactory in service was performed in accordance with written test procedures. Specifically, on April 17, 2011, the licensee failed to conduct post maintenance testing of the Unit 2 diesel generator A fuel oil transfer pump in accordance with the licensee's inservice test procedure. This issue is captured in the corrective action program as Palo Verde Action Request 4161870. Palo Verde subsequently performed successful inservice testing of the Unit 2 A diesel generator fuel oil transfer pump.

The inspector determined that the failure to perform testing of safety-related plant diesel fuel oil transfer pumps in accordance with written procedures following maintenance activities is a performance deficiency. The finding was more than minor because it is associated with the Mitigating Systems Cornerstone attribute of equipment performance and it adversely affect the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Inspection Manual Chapter 0609.04, the inspectors determined that the finding had very low safety significance (Green) because it did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its technical specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined that the finding had a cross-cutting aspect in the area of human performance associated with work practices because the licensee did not communicate human error prevention techniques such as self and peer checking to ensure that the appropriate pump retest was specified in the post maintenance testing instructions [H.4(a)].
Inspection Report# : 2012003 *(pdf)*

Significance: N/A Jun 30, 2012
Identified By: NRC

Item Type: NCV NonCited Violation
Failure to Provide Complete and Accurate Information Regarding Safety Related Roof Drainage Capabilities
The inspectors identified a Severity Level IV violation of 10 CFR 50.9, "Completeness and Accuracy of Information," for the failure of the licensee to provide complete and accurate information in all material respects in response to Generic Letter 88-20, Supplement 4. Specifically, the licensee asserted that roofs are equipped with roof drains and scuppers as backup. As a result, the licensee concluded roof ponding considerations were not applicable to the Palo Verde Nuclear Generating Station site. Inspectors determined that there are no roof drains installed. The licensee initiated corrective actions to provide an accurate depiction of the roof drainage capabilities to the NRC. This finding has been entered into the licensee's corrective action program as Palo Verde Action Request 3952605.

The failure of the licensee to provide complete and accurate information for safety related building roof drainage was a performance deficiency. The Significance Determination Process is not suited to assess the significance of the performance deficiency because it affected the ability of the NRC to perform its regulatory oversight function and as such, it was assessed using traditional enforcement. This issue was determined to be a Severity Level IV violation in accordance with NRC Enforcement Policy examples provided in Section 6.9. No crosscutting aspect was assigned because the performance deficiency was assessed using traditional enforcement.

Inspection Report# : 2012003 *(pdf)*

Barrier Integrity

Significance: G Dec 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform Pressure Testing of the Reactor Vessel Flange Leak-Off Lines
Inspectors identified a non-cited violation of 10 CFR 50.55a(g)(4) involving the licensee's failure to perform a system pressure test of the reactor vessel flange leak off-line of Units 1, 2, and 3 in accordance with the applicable edition of Section XI of the ASME Code. Contrary to the above, prior to October 10, 2012, the licensee failed to perform the required pressure test of the reactor vessel flange seal leak-off line for all three units. Specifically, the licensee failed to implement the ASME Code, Section XI, Class 2 requirements for pressure retaining components as provided by Article IWC-5220, "System Leakage Test." The licensee entered the finding into their corrective action program as Palo Verde Action Request 4269674.
The inspectors determined that the licensee's failure to perform a pressure test of the reactor vessel flange leak-off line was a performance deficiency. The performance deficiency was more than minor because it is associated with the Barrier Integrity Cornerstone attribute of systems, structures and components and barrier performance, and adversely affects the cornerstone objective to provide a reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using Manual Chapter 0609, Attachment A, "The Significant Determination Process (SDP) for Findings At-Power," the finding was determined to be of very low safety significance (Green) because the finding did not result in exceeding the reactor coolant system leak rate for a small loss-of-coolant accident, and did not affect other systems used to mitigate a loss-of-coolant accident resulting in a total loss of their function. This issue did not have a cross-cutting aspect associated with it because it is not indicative of current performance
Inspection Report# : 2012005 *(pdf)*

Significance: G Dec 31, 2012
Identified By: NRC

Item Type: NCV NonCited Violation
Inadequate Tracking of a Functional Assessment for Spent Fuel Pool Heat Load
The inspectors identified a non-cited violation of 10 CFR 55.49, “Integrity of Examinations and Tests,” for the failure of the licensee to ensure the integrity of the licensed operator biennial written examinations. During the 2012 biennial written examination cycle, the exams were administered in a simulator environment that lacked positive controls to ensure that operators could not observe the reference material or examinations of other operators. Operators were allowed to review engineering schematics while standing at a table which allowed an angle to observe the computer screen and desk of another examinee approximately 5 feet away. Having the ability to view exam reference material being displayed on the computer screen during exam administration is considered an exam integrity compromise. However, an evaluation of the written exam results and interviews with the licensed operators signed in on an exam security agreement showed that the compromise did not have an actual effect on the equitable and consistent administration of the examination. The licensee entered the finding into the corrective action program as Action Request PVAR-4238204.
The failure of the licensee’s training staff to maintain the integrity of examinations administered to licensed operations personnel was a performance deficiency. The performance deficiency was more than minor because it adversely affected the Human Performance attribute of the Mitigating Systems Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, if left uncorrected, the performance deficiency could have become more significant in that allowing licensed operators to return to the control room without valid demonstration of appropriate knowledge on the biennial written examinations could be a precursor to a more significant event. Using NRC Inspection Manual Chapter 0609, “Significance Determination Process,” Attachment 4, Table 1 and 2 worksheets; and the corresponding Appendix I, “Licensed Operator Requalification Significance Determination Process,” the finding was determined to have very low safety significance (Green). Although the 2012 finding resulted in a compromise of the integrity of biennial written examinations, compensatory actions were immediately taken, and the equitable and consistent administration of the biennial written examination was not actually affected by this compromise. This finding has a cross-cutting aspect in the area of human performance associated with the work control component because the licensee failed to adequately plan work activities that incorporated job site conditions, including environmental conditions [H.3(a)]
Inspection Report# : 2012005 *(pdf)*

Emergency Preparedness

Significance: G Mar 31, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to identify weak preformance during an exercise
The inspectors identified a Green NCV of 10 CFR 50.47(b)(14) for the licensee’s failure to identify and correct a performance deficiency during an evaluated exercise. Specifically, the licensee failed to identify that the Emergency Director in the Simulator Control Room did not evaluate emergency action level RS-1 when information was available indicating a need to upgrade the emergency classification because of offsite radiation dose.
The failure to identify a deficiency occurring during a drill and ensure correction is a performance deficiency within the licensee’s control. The finding is more than minor because the failure to identify a deficiency and ensure correction impacts the Emergency Preparedness cornerstone objective associated with the emergency response organization performance cornerstone attribute. The finding is a non-cited violation of 10 CFR 50.47(b)(14). The finding was evaluated using the Emergency Preparedness SDP and identified as having very low safety significance because it was a failure to comply with NRC requirements and was not a loss of the planning standard function because the classification deficiency was associated with a successful performance indicator opportunity. The

Emergency Director declared the correct emergency classification within fifteen minutes of performing the dose assessment report using an emergency action level for which conditions currently existed, although this was not the first emergency action level that applied. This issue was entered into the CAP as PVAR 4365021. The finding was assigned a cross-cutting aspect of 'Low Threshold,' because the licensee failed to completely and accurately recognize a performance deficiency [P.1.a]
Inspection Report# : 2013002 *(pdf)*

Significance: G Dec 31, 2012
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Technical Support Center Diesel Generator Not Restored Following Maintenance
A self revealing Green non-cited violation of 10 CFR 50.47(b)(8) was identified for the failure to maintain adequate facilities to support emergency response. Specifically, the licensee found the technical support center battery disconnect switch had not been restored following maintenance activities. This configuration would have rendered the diesel generator unable to start automatically as designed in the event of a loss of off-site power. The licensee initiated immediate corrective actions to restore the technical support center diesel generator to a functional configuration and has begun implementation of a more formal process for component configuration verification of critical technical support center equipment. The licensee has entered this issue into their corrective action program as Palo Verde Action Request 4165625.
The failure to follow Procedure 40OP-9NG01 for performing a functional test of 480V switchgear following maintenance activities is a performance deficiency. This performance deficiency was more than minor because it is associated with the Emergency Preparedness Cornerstone attribute of facilities and equipment and it adversely affected the cornerstone objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and Manual Chapter 0609, Appendix B, "Emergency Preparedness Significance Determination Process." The finding was determined to be of very low safety significance (Green) because the degraded planning standard function did not result in the loss of technical support center functionality for longer than 7 days. The inspectors determined that the finding had a cross-cutting aspect in the area of human performance associated with resources. Specifically, the licensee's work control procedures did not include critical technical support center systems to ensure that technical support center configuration control was maintained commensurate with its significance [H.2(c)]
Inspection Report# : 2012005 *(pdf)*

Significance: G Sep 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform 50.54(q) Evaluation
Inspectors identified a Severity Level IV, non-cited violation of 10 CFR 50.54 (q), "Conditions of licenses," and an associated Green finding for the licensee's failure to perform an appropriate design scope change, which resulted in the reduction in effectiveness of the emergency plan. Specifically, on May 19, 2011, the licensee completed a modification to revise protective area lightning power sources and removed ground fault protections on a circuit breaker attached to the bus, which powers the technical support center. This change created a condition that would remove power to the technical support center and prevent emergency plan required back up power from being able to power the bus. On August 10, 2012, a lighting fault caused a complete loss of power to the technical support center, demonstrating that this change decreased the effectiveness of the emergency plan. On September 26, 2012, the licensee reactivated the ground fault protection for the circuit breaker and established compensatory measures to restore power to ensure technical support center staffing will not be challenged. The licensee entered this into their corrective action program as condition report disposition request 4230209.

The failure to perform an appropriate design scope change was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it affected the facilities and equipment attribute of the Emergency Preparedness Cornerstone and its objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, “Initial Characterization of Findings,” and Manual Chapter 0609, Appendix B, “Emergency Preparedness Significance Determination Process.” The finding was determined to be of very low safety significance (Green). Additionally, the violation of 10 CFR 50.54 (q) impacted the ability of the NRC to perform its regulatory oversight function and was dispositioned using traditional enforcement. This violation was determined to be a Severity Level IV violation per Section 6.6 of the NRC Enforcement Policy because the violation was not associated with licensee’s ability to meet or implement any regulatory requirement related to assessment or notification. Although the regulatory requirement could be implemented during the response to an actual emergency, the implementation would be degraded. The inspectors determined this finding has a crosscutting aspect in the area of human performance associated with the work practices component because the licensee failed to ensure supervisory management and oversight of contractors such that nuclear safety is supported [H.4.(c)].
Inspection Report# : 2012004 *(pdf)*

Significance: G Sep 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Declare an Unusual Event
The inspectors identified a Green non-cited violation of 10 CFR 50.54(q) for the failure of operations personnel to adequately implement the emergency plan. Specifically, on August 26, 2012, auxiliary operators felt vibratory ground motion inside the protected area at 12:31pm and again at 1:58pm. The United States Geological Survey (USGS) confirmed that two earthquakes, of magnitude 5.3 and 5.5 respectively, occurred at those times in the area of the plant. Plant operators did not declare an Unusual Event in accordance with the emergency plan. The licensee entered the issue into the corrective action program as PVAR 4255819 and initiated an apparent cause evaluation to identify the cause and corrective actions.

The failure to implement the emergency plan and declare an Unusual Event was a performance deficiency. The performance deficiency was more than minor and therefore a finding, because it affected the Emergency Response Organization performance attribute of the Emergency Preparedness cornerstone and affected the cornerstone objective to ensure the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Using Manual Chapter 0609, Appendix B, "Emergency Preparedness Significance Determination Process," Attachment 1, the finding was determined to have very low safety - significance (Green) because the actual event implementation problem was associated with an Unusual Event. This finding has a crosscutting aspect in the area of human performance associated with the resources component because the licensee failed to ensure training of personnel was adequate to assure proper implementation of the emergency plan [H.2.(b)].
Inspection Report# : 2012004 *(pdf)*

Occupational Radiation Safety

Significance: N/A Mar 31, 2013
Identified By: NRC
Item Type: VIO Violation
Failure to Maintain the Updated Final Safety Analysis Report for Radwaste Systems and Processes

The inspectors identified a Severity Level IV violation of 10 CFR 50.71(e), “Maintenance of Records, Making of Reports,” with two examples for the failure to restore compliance within a reasonable time after a previous Severity Level IV non-cited violation of 10 CFR 50.71(e) was identified. The violation was identified because the licensee failed to periodically update the Updated Final Safety Analysis Report (UFSAR) with all changes made in the facility or procedures. Specifically,
Example 1: From 1988 to 2013, the licensee did not update Chapter 11.2.2.3, “Liquid Radwaste System,” with a description of the temporary adsorption tanks and their use. The licensee has entered this violation into their corrective action program as PVAR 3075089.
Example 2: From December 2003 to January 2013, the licensee made changes to the facility and procedures as described in the UFSAR, and performed safety analyses and evaluations in support of these changes, but failed to update the UFSAR to include these changes. Specifically, the licensee built the old steam generator storage facility used for long-term storage of radioactive waste (six replaced steam generators and three reactor vessel heads) on the owner controlled site until decommissioning. The licensee has entered this violation into their corrective action program as Condition Report (CR) 3398042 and PVAR 4330483.
This violation is more than minor because the NRC relies on licensees to identify and report conditions or events meeting the criteria specified in the regulations in order to perform its regulatory function. Because this issue affected the NRC’s ability to perform its regulatory function, it was evaluated using the traditional enforcement process. The issue was characterized as a Severity Level IV violation in accordance with Section 6.1.d.3 of the NRC Enforcement Policy because the erroneous information in the UFSAR was not used to make an unacceptable change to the facility or procedures. A cross-cutting aspect was not assigned because the violation was handled through traditional enforcement.
Inspection Report# : 2013002 *(pdf)*

Public Radiation Safety

Significance: G Jun 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Verify a Transferee was Licensed to Receive Byproduct Material
The inspector identified a non-cited violation of 10 CFR 30.41 because the licensee failed to verify a transferee was authorized to receive byproduct material before transferring it. This finding was entered in the licensee’s corrective action program as CRDR 4136342.

The failure to verify a transferee is licensed to receive the type, form, and quantity of byproduct being transferred is a performance deficiency. The significance was more than minor because radioactive material was actually transferred to an entity which was not licensed to receive the material. Thus, the performance deficiency was associated with the cornerstone attribute of Program & Process and adversely affected the associated cornerstone objective because the release of radioactive material to unlicensed entities could cause unplanned radiation dose or environmental contamination. Using Inspection Manual Chapter 0609, Appendix D, “Public Radiation Safety Significance Determination Process, “ December 12, 2008, page D 13, the inspectors determined the violation had very low safety significance because the violation involved a radioactive material control issue, was not a transportation issue, and did not result in a dose to public of greater than 0.005 rem. This finding had a crosscutting aspect in the human performance area, work practices component, because personnel did not follow procedures [H.4(b)].

Inspection Report# : 2012003 *(pdf)*

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Significance: N/A May 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Request an Experience Waiver for a Reactor Operator License Applicant
An NRC-identified non-cited violation of 10 CFR 50.9, "Completeness and Accuracy of Information," was identified for failure to request an experience waiver on NRC Form 398 for a Reactor Operator license applicant who did not have three years of responsible nuclear power plant experience as required by NUREG 1021, Revision 9, Supplement 1, ES-202.D.1.a.(1). Upon discovery, the facility licensee submitted a revised NRC Form 398, which included the waiver request, and entered this issue into their corrective action program as Condition Report 4080143.

The examiners evaluated this issue using the traditional enforcement process because the performance deficiency had the potential for impacting the NRC's ability to perform its regulatory function. This performance deficiency was determined to be Severity Level IV because it fits the SL-IV example of Enforcement Policy Section 6.4.d, "Violation Examples: Licensed Reactor Operators." This section states, "Severity Level IV violations involve, for example … cases of inaccurate or incomplete information inadvertently provided to the NRC that does [sic] not contribute to the NRC making an incorrect regulatory decision as a result of the originally submitted information or an unqualified individual performing the functions of an operator or senior operator… ." Because the performance deficiency was corrected before the issuance of a license and an experience waiver was ultimately granted, it did not cause the NRC to make an incorrect regulatory decision. There is no Cross-Cutting Aspect associated with this violation because it was processed using Traditional Enforcement.
Inspection Report# : 2012301 *(pdf)*

Significance: N/A May 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Inaccurate Identification of an Open-Reference Initial Licensing Exam Question as Closed-Reference
An NRC-identified non-cited violation of 10 CFR 50.9, "Completeness and Accuracy of Information," was identified for submitting a final written exam question to the NRC which was identified and approved as "Closed Reference," but administered by the licensee as "Open Reference" by supplying the applicants with an unapproved Technical Specification. On evaluation, the NRC determined that it would not have approved the question had it been properly identified as open-reference on submittal, because the reference made the question a direct lookup and the information in the reference was of a nature that licensed operators are expected to have memorized. No licensing decisions were affected and the facility licensee entered this issue into their corrective action program as Condition Report 4144197.

The examiners evaluated this issue using the traditional enforcement process because the performance deficiency impacted the NRC's ability to perform its regulatory function. This performance deficiency was determined to be Severity Level IV because it fits the SL-IV example of Enforcement Policy Section 6.4.d, "Violation Examples:

Licensed Reactor Operators." This section states, "Severity Level IV violations involve, for example … cases of inaccurate or incomplete information inadvertently provided to the NRC that does [sic] not contribute to the NRC making an incorrect regulatory decision as a result of the originally submitted information or an unqualified individual performing the functions of an operator or senior operator… ." The performance deficiency did not cause the NRC to make an incorrect regulatory decision because it did not affect the number of applicants who passed. There is no Cross-Cutting Aspect associated with this violation because it was processed using Traditional Enforcement.
Inspection Report# : 2012301 *(pdf)*

Last modified : June 04, 2013

Palo Verde 2
2Q/2013 Plant Inspection Findings

Initiating Events

Significance: G Sep 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Untimely Corrective Action for Condition Adverse to Fire Protection
The inspectors identified a Green non-cited violation of License Conditions 2.C.7, 2.C.6, and 2.F for Palo Verde Units 1, 2, and 3 for the licensee's failure to take timely corrective actions for a condition adverse to fire protection. Specifically, in 2004, the licensee identified that line thermal detection for 13.8 Kilo Volt cabling in three fire areas were not in conformance with vendor technical documents. Since then, corrective actions for the condition failed to be implemented as scheduled. After several spurious actuations of the fire protection system, the licensee installed the appropriately rated wire in Unit 1 and will install the appropriate detection in Units 2 and 3, respectively, at the next available outage. The licensee entered this issue into the licensee's corrective action program as Palo Verde Action Request (PVAR) 4201472.

The failure to take timely corrective actions for a condition adverse to fire protection was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it affected the protection against external factors of the Initiating Events Cornerstone and its objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process." The finding was determined to be a low degradation of the fixed fire protection system and screens to green using step 1.3.1. The inspectors determined this finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee failed to prioritize corrective actions for conditions adverse to fire protection [P.1(c)].
Inspection Report# : 2012004 *(pdf)*

Mitigating Systems

Significance: G Jun 30, 2013
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Prevent Recurrence of a Significant Condition Adverse to Quality
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," occurred because the licensee failed to correct and prevent recurrence of a significant condition adverse to quality associated with the emergency diesel generator automatic voltage regulator circuitry. Specifically, from February 2011 to January 2013, the licensee failed to correct the cause of an induced voltage transient in the automatic voltage regulator circuitry, resulting in the Unit 2 train B diesel generator not reaching rated voltage during a surveillance test. The licensee entered the issue into their corrective action program as CRDR 4329997 and replaced and retested electrical components that could allow a voltage transient on the instantaneous pre-positioning circuit board.

The performance deficiency associated with this finding is the failure of the licensee to correct and prevent recurrence of a significant condition adverse to quality. The performance deficiency is more than minor, and therefore a finding, because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The senior resident inspector performed the initial significance determination for the train B emergency diesel generator (EDG) failure. The inspector evaluated the significance of the issue under the SDP, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings at-Power." The finding screened to a detailed risk evaluation because it involved a potential loss of one train of safety related equipment for longer than the technical specification allowed outage time. A Region IV senior reactor analyst performed the detailed risk evaluation. The exposure period was 43 days. The change to the CDF was 7.2E-7/year (Green). The finding was not significant to the large early release frequency. The dominant core damage sequences included loss of offsite power events that lead to station blackout conditions. The gas turbine generators, train A emergency diesel generator, and the DC battery life extension to six hours helped to limit the risk. The finding has a cross-cutting aspect in the area of Problem Identification and Resolution associated with the corrective action program component because the licensee failed to thoroughly evaluate problems such that the resolutions address causes and extent of condition, as necessary [P.1(c)].
Inspection Report# : 2013003 *(pdf)*

Significance: G Mar 31, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Multiple Failures to Identify Conditions Adverse to Quality
The inspectors identified two examples of a Green NCV of 10 CFR Part 50, Appendix B, Criterion XVI "Corrective Action," for the failure of the licensee to promptly identify and correct conditions adverse to quality. Specifically, on July 19, 2012, personnel failed to follow Procedure 01DP-0AP12, "Palo Verde Action Request Processing," and enter into the corrective action process a failure to comply with technical specifications to enter limiting condition for operation 3.0.3 when maintenance activities rendered safety related inverters inoperable. In addition, on May 2, 2011, the licensee also failed to enter an unanalyzed diversion of emergency core cooling system flow into the corrective action process, despite procedural guidance to the contrary. The licensee entered the issues into the corrective action program as Palo Verde Action Request (PVAR) 4347283 and PVAR 4389514 and is assessing corrective actions.

The inspectors concluded that the failure to promptly identify and correct conditions adverse to quality was a performance deficiency. The inspectors determined the performance deficiency is more than minor, and therefore a finding, because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone and its objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined the two issues had similar causal factors and should be documented as one NCV in accordance with NRC enforcement guidance. The inspectors evaluated the significance of each issue under the SDP, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." For the issue associated with inoperable safety related inverters, the inspectors determined the finding to be of very low safety significance (Green) because all questions in Exhibit 2.A could be answered no. For the issue associated with an unanalyzed condition of the high pressure safety injection system, the inspectors determined that the finding represented a loss of system function and needed a detailed evaluation. The inspectors used the Palo Verde Standardized Plant Analysis Risk model, Revision 8.20, with a truncation limit of E-11 and performed a bounding significance determination and found the finding to be of very low safety significance (Green). The bounding change to the core damage frequency was 2.4E-9/year. The dominant core damage sequences included: medium break loss of coolant accident, system transient, and steam generator tube rupture. The very short exposure period minimized the significance. A Region IV senior reactor analyst reviewed the results and agreed with the conclustions. This finding

has a cross-cutting aspect in the area of human performance associated with the decision making component because the licensee failed to use a systematic process for dealing uncertain conditions adverse to quality [H.1(a)].

Inspection Report# : 2013002 *(pdf)*

Significance: G Mar 31, 2013
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Comply with Technical Specifications
A self-revealing, Green NCV of Technical Specification (TS) Limiting Condition for Operation (LCO) 3.0.4 was identified after Unit 2 operators entered a mode with a limiting condition for operation not met. Specifically, following maintenance on auxiliary feedwater pump steam supply valve, SGA-UV-138, plant personnel did not ensure the requirements of TS 3.7.5, "Auxiliary Feedwater System," were met prior to entering Mode 3. During subsequent testing, a bonnet steam leak was discovered on the valve, resulting in the valve being declared inoperable and the plant returned to Mode 5 for repairs. The licensee restored the valve to operable status before re-entering Mode 3. The licensee entered the issue into the corrective action program (CAP) as CRDR 4284491 and is evaluating further corrective actions.

The inspectors concluded that the failure of plant personnel to comply with technical specifications was a performance deficiency. The inspectors concluded the performance deficiency is more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the SDP, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and 0609 Appendix A, "The SDP for Findings at-Power." Inspectors concluded that the finding was of very low safety significance (Green) because the finding is not a design or qualification issue, did not represent an actual loss of safety function of the system or train, did not result in the loss of one or more trains of non-technical specification equipment, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined this finding has a cross-cutting aspect in the area of human performance associated with the component of resources because the licensee failed to provide an adequate work package to ensure the valve was operable prior to entering Mode 3 [H.2(c)].
Inspection Report# : 2013002 *(pdf)*

Significance: G Mar 31, 2013
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Shutdown Cooling Piping Failure
A self-revealing, Green NCV of 10 CFR Part 50, Appendix B, Criterion III "Design Control," was identified for the failure of the licensee to assure that applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures, and instructions. Specifically, operations personnel altered the piping configuration with an added fitting to a low pressure safety injection drain line. As a result the pipe failed during shutdown cooling operations, rendering that train inoperable. The licensee repaired the weld in accordance with ASME Code, entered the issue into the licensee's CAP as CRDR 4263357, and revised procedural guidance to return components to their design configuration.

The inspectors concluded that the failure of the licensee to correctly translate the design basis into specifications, drawings, procedures and instructions was a performance deficiency. The performance deficiency was more than minor, therefore a finding, because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone and its objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the

SDP, as defined in Inspection Manual Chapter 0609.04, “Initial Characterization of Findings,” and IMC 0609, Appendix G, “Shut Down Operations Significance Determination Process.” The inspectors determined that because there was an injection path available, the leak could be isolated prior to depletion of the reactor water tank, and the steam generators were available for heat removal. As a result, the issue was found to be of very low safety significance (Green). The inspectors determined the finding had no cross-cutting issues because it is not indicative of current performance.
Inspection Report# : 2013002 *(pdf)*

Significance: G Dec 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify and Correct a Condition Adverse to Fire Protection
The inspectors identified a Green non-cited violation of License Conditions 2.C.7, 2.C.6, and 2.F for Palo Verde Units 1, 2, and 3 for the licensee’s failure to identify and correct a condition adverse to fire protection. Specifically, on November 19, 2012, inspectors questioned operations personnel and identified that operators did not know the locations of sound powered telephone equipment, were unfamiliar with their use, and unfamiliar with procedural guidance for their use. This is a communications device used for post-fire safe shutdown credited in the fire protection program and emergency plan. The lack of familiarity with location and use of these communication devices would have adversely affected operations personnel response to an emergency. The licensee completed a self-assessment of emergency preparedness communication on October 31, 2012, and did not identify these weaknesses. The licensee immediately issued a night order and informed operations personnel of the location of the sound powered phones and procedural guidance. The licensee entered this issue into the licensee’s corrective action program as Palo Verde Action Request 4294407.

The failure to identify and correct a condition adverse to fire protection was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it adversely affected the human performance attribute of the Mitigating Systems Cornerstone and its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, “Initial Characterization of Findings,” and Inspection Manual Chapter 0609, Appendix F, “Fire Protection Significance Determination Process.” The finding was determined to be a low degradation of the post-fire safe shutdown program element and screens to Green using Step 1.3.1. The inspectors determined this finding has a crosscutting aspect in the area of problem identification and resolution associated with the self and independent assessments component because the licensee failed to conduct a self-assessment of sufficient depth, that was comprehensive and self-critical, which failed to recognize that operator knowledge was lacking for the use of some communication device [P.3(a)].
Inspection Report# : 2012005 *(pdf)*

Significance: G Dec 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain Licensed Operator Examination Integrity
The inspectors identified a non-cited violation of 10 CFR 55.49, “Integrity of Examinations and Tests,” for the failure of the licensee to ensure the integrity of the licensed operator biennial written examinations. During the 2012 biennial written examination cycle, the exams were administered in a simulator environment that lacked positive controls to ensure that operators could not observe the reference material or examinations of other operators. Operators were allowed to review engineering schematics while standing at a table which allowed an angle to observe the computer screen and desk of another examinee approximately 5 feet away. Having the ability to view exam reference material being displayed on the computer screen during exam administration is considered an exam integrity compromise.

However, an evaluation of the written exam results and interviews with the licensed operators signed in on an exam security agreement showed that the compromise did not have an actual effect on the equitable and consistent administration of the examination. The licensee entered the finding into the corrective action program as Action Request PVAR-4238204.

The failure of the licensee's training staff to maintain the integrity of examinations administered to licensed operations personnel was a performance deficiency. The performance deficiency was more than minor because it adversely affected the Human Performance attribute of the Mitigating Systems Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, if left uncorrected, the performance deficiency could have become more significant in that allowing licensed operators to return to the control room without valid demonstration of appropriate knowledge on the biennial written examinations could be a precursor to a more significant event. Using NRC Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 4, Table 1 and 2 worksheets; and the corresponding Appendix I, "Licensed Operator Requalification Significance Determination Process," the finding was determined to have very low safety significance (Green). Although the 2012 finding resulted in a compromise of the integrity of biennial written examinations, compensatory actions were immediately taken, and the equitable and consistent administration of the biennial written examination was not actually affected by this compromise. This finding has a cross-cutting aspect in the area of human performance associated with the work control component because the licensee failed to adequately plan work activities that incorporated job site conditions, including environmental conditions [H.3(a)].
Inspection Report# : 2012005 *(pdf)*

Significance: G Sep 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Correct Scupper Obstruction
The inspectors identified a Green non-cited violation of 10 CFR Part 50 Appendix B, Criterion XVI, "Corrective Action," for the failure of the licensee to correct a condition adverse to quality. Specifically, on November 7, 2011, after the inspectors notified the licensee about scupper obstruction on safety related building roofs, the licensee failed to enter this issue into the corrective action program and take appropriate corrective actions to remove the obstructions. The licensee rediscovered this condition during post Fukushima walkdowns in response to a Request for Information pursuant to 10 CRF 50.54(f), removed the obstructions and established walkdowns to ensure the scuppers remained unobstructed. The licensee has entered the issue into the corrective action program as PVAR 4255561.

The inspectors concluded that the failure of the licensee to correct a condition adverse to quality was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it affected the protection against external events of the Mitigating Systems Cornerstone and its objective to ensure the availability, reliability, and capability of systems that respond to initialing events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and 0609 Appendix A, "The Significance Determination Process (SDP) for Findings at-Power." The inspectors concluded the finding was of very low safety-significance (Green) because the finding did not result in the complete loss of a safety function due to an external event. The inspectors determined this finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee failed to have a low threshold for entering issues into the corrective action program [P.1(a)].
Inspection Report# : 2012004 *(pdf)*

Significance: G Sep 30, 2012
Identified By: NRC

Item Type: NCV NonCited Violation
Inadequate Operability Determination for ARD Relay Failures
The inspectors identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the failure of operations and engineering personnel to follow station procedures to provide an adequate technical justification for continued operation of a degraded structure, system, or component. After a ventilation damper failed to close during a functional stroke test, plant personnel did not consider previous operability determinations and failed to provide supporting analysis to confirm there was no reduction in reliability of ARD relays. This issue is captured in the corrective action program as PVAR 4255816. The licensee has successfully cycled all ARD relays which could be performed during at-power operations, scheduled testing for remaining relays, and initiated a design change document that will determine a permanent substitute for the ARD660UR DC relays.

The failure of the operations and engineering personnel to follow Procedure 40DP-9OP26 to evaluate the operability of a structure, system, or component was a performance deficiency. The inspectors concluded the performance deficiency was more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, “Initial Characterization of Findings,” and 0609 Appendix A, “The Significance Determination Process (SDP) for Findings at-Power.” Inspectors concluded that the finding was of very low safety-significance (Green) because the finding is not a design or qualification issue, did not represent an actual loss of safety function of the system or train, did not result in the loss of one or more trains of non-technical specification equipment, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The
inspectors determined that the finding has a cross-cutting aspect in the area of human performance associated with decision making. Specifically, the licensee did not communicate the results of the apparent cause evaluation for the first three ARD relay failures to the appropriate operations personnel [H.1(c)].
Inspection Report# : 2012004 *(pdf)*

Barrier Integrity

Significance: G Jun 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Operability Determination Procedure for Maintaining Administrative Limits
The inspectors identified a Green noncited violation of 10 CFR Part 50 Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the failure of operations and engineering personnel to follow station procedures to perform operability determinations and functional assessments. Specifically, plant personnel did not maintain appropriate controls to ensure that the temperature limit established in the operability determination for the spent fuel pool criticality analysis was maintained. The licensee entered the issue into their corrective action program as PVAR 4380424, began taking more frequent readings of spent fuel pool temperature indicators, and lowered the spent fuel pool temperature alarm setpoint.

The failure to follow Procedure 40DP-9OP26 for performing operability determinations is a performance deficiency. This performance deficiency is more than minor, and therefore a finding, because it is associated with the Barrier Integrity Cornerstone attribute of procedure quality and it adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accident or events. The inspectors evaluated the significance of the finding using Inspection Manual Chapter 0609.04, “Initial Characterization of Findings,” and IMC 0609, Appendix A, “The Significance Determination Process (SDP) for

Findings At-Power." The inspectors reviewed all Barrier Integrity screening questions in IMC 0609, Appendix A, Exhibit 3 Section D, and all questions were answered "No." Therefore, the finding was determined to be of very low safety significance. The inspectors determined that the finding has a cross-cutting aspect in the area of human performance associated with decision making. Specifically, the licensee did not communicate the administrative limits established in the spent fuel pool criticality operability determination to appropriate operations personnel [H.1(c)].
Inspection Report# : 2013003 *(pdf)*

Significance: G Dec 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform Pressure Testing of the Reactor Vessel Flange Leak-Off Lines
Inspectors identified a non-cited violation of 10 CFR 50.55a(g)(4) involving the licensee's failure to perform a system pressure test of the reactor vessel flange leak off-line of Units 1, 2, and 3 in accordance with the applicable edition of Section XI of the ASME Code. Contrary to the above, prior to October 10, 2012, the licensee failed to perform the required pressure test of the reactor vessel flange seal leak-off line for all three units. Specifically, the licensee failed to implement the ASME Code, Section XI, Class 2 requirements for pressure retaining components as provided by Article IWC-5220, "System Leakage Test." The licensee entered the finding into their corrective action program as Palo Verde Action Request 4269674.

The inspectors determined that the licensee's failure to perform a pressure test of the reactor vessel flange leak-off line was a performance deficiency. The performance deficiency was more than minor because it is associated with the Barrier Integrity Cornerstone attribute of systems, structures and components and barrier performance, and adversely affects the cornerstone objective to provide a reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using Manual Chapter 0609, Attachment A, "The Significant Determination Process (SDP) for Findings At-Power," the finding was determined to be of very low safety significance (Green) because the finding did not result in exceeding the reactor coolant system leak rate for a small loss-of-coolant accident, and did not affect other systems used to mitigate a loss-of-coolant accident resulting in a total loss of their function. This issue did not have a cross-cutting aspect associated with it because it is not indicative of current performance.
Inspection Report# : 2012005 *(pdf)*

Significance: G Dec 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Tracking of a Functional Assessment for Spent Fuel Pool Heat Load
The inspectors identified a Green non-cited violation of 10 CFR Part 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations and engineering personnel to follow station procedures to perform operability determinations and functional assessments. Specifically, plant personnel did not maintain appropriate controls to ensure that the heat load and temperature limits established in the functional assessment for the spent fuel pools were monitored. This issue is captured in Palo Verde Action Request 4251108. To restore compliance, the licensee issued a technical specification component condition record to prohibit entry into Mode 4 following a refueling outage, until decay heat load in the spent fuel pool is verified to be less than the more restrictive limit established in the functional assessment.

The failure to follow Procedure 40DP-9OP26 for performing functional assessments is a performance deficiency. This performance deficiency was more than minor because it is associated with the Barrier Integrity Cornerstone attribute of design control and it adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accident or events. Using Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and Manual Chapter 0609 Appendix A, "The Significance

Determination Process (SDP) for Findings At-Power," the inspectors determined that the finding had very low safety significance (Green) because the finding was confirmed not to adversely affect decay heat removal capabilities from the spent fuel pool causing the pool temperature to exceed the maximum analyzed temperature limit specified in the site-specific licensing basis. The inspectors determined that the finding had a cross-cutting aspect in the area of human performance associated with decision making. Specifically, Palo Verde did not communicate the procedural limits established in the spent fuel pool functional assessment to appropriate operations personnel [H.1(c)].
Inspection Report# : 2012005 *(pdf)*

Emergency Preparedness

Significance: G Mar 31, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to identify weak preformance during an exercise
The inspectors identified a Green NCV of 10 CFR 50.47(b)(14) for the licensee's failure to identify and correct a performance deficiency during an evaluated exercise. Specifically, the licensee failed to identify that the Emergency Director in the Simulator Control Room did not evaluate emergency action level RS-1 when information was available indicating a need to upgrade the emergency classification because of offsite radiation dose.
The failure to identify a deficiency occurring during a drill and ensure correction is a performance deficiency within the licensee's control. The finding is more than minor because the failure to identify a deficiency and ensure correction impacts the Emergency Preparedness cornerstone objective associated with the emergency response organization performance cornerstone attribute. The finding is a non-cited violation of 10 CFR 50.47(b)(14). The finding was evaluated using the Emergency Preparedness SDP and identified as having very low safety significance because it was a failure to comply with NRC requirements and was not a loss of the planning standard function because the classification deficiency was associated with a successful performance indicator opportunity. The Emergency Director declared the correct emergency classification within fifteen minutes of performing the dose assessment report using an emergency action level for which conditions currently existed, although this was not the first emergency action level that applied. This issue was entered into the CAP as PVAR 4365021. The finding was assigned a cross-cutting aspect of 'Low Threshold,' because the licensee failed to completely and accurately recognize a performance deficiency [P.1.a]
Inspection Report# : 2013002 *(pdf)*

Significance: G Dec 31, 2012
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Technical Support Center Diesel Generator Not Restored Following Maintenance
A self revealing Green non-cited violation of 10 CFR 50.47(b)(8) was identified for the failure to maintain adequate facilities to support emergency response. Specifically, the licensee found the technical support center battery disconnect switch had not been restored following maintenance activities. This configuration would have rendered the diesel generator unable to start automatically as designed in the event of a loss of off-site power. The licensee initiated immediate corrective actions to restore the technical support center diesel generator to a functional configuration and has begun implementation of a more formal process for component configuration verification of critical technical support center equipment. The licensee has entered this issue into their corrective action program as Palo Verde Action Request 4165625.

The failure to follow Procedure 40OP-9NG01 for performing a functional test of 480V switchgear following

maintenance activities is a performance deficiency. This performance deficiency was more than minor because it is associated with the Emergency Preparedness Cornerstone attribute of facilities and equipment and it adversely affected the cornerstone objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and Manual Chapter 0609, Appendix B, "Emergency Preparedness Significance Determination Process." The finding was determined to be of very low safety significance (Green) because the degraded planning standard function did not result in the loss of technical support center functionality for longer than 7 days. The inspectors determined that the finding had a cross-cutting aspect in the area of human performance associated with resources. Specifically, the licensee's work control procedures did not include critical technical support center systems to ensure that technical support center configuration control was maintained commensurate with its significance [H.2(c)].
Inspection Report# : 2012005 *(pdf)*

Significance: G Sep 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform 50.54(q) Evaluation
Inspectors identified a Severity Level IV, non-cited violation of 10 CFR 50.54 (q), "Conditions of licenses," and an associated Green finding for the licensee's failure to perform an appropriate design scope change, which resulted in the reduction in effectiveness of the emergency plan. Specifically, on May 19, 2011, the licensee completed a modification to revise protective area lightning power sources and removed ground fault protections on a circuit breaker attached to the bus, which powers the technical support center. This change created a condition that would remove power to the technical support center and prevent emergency plan required back up power from being able to power the bus. On August 10, 2012, a lighting fault caused a complete loss of power to the technical support center, demonstrating that this change decreased the effectiveness of the emergency plan. On September 26, 2012, the licensee reactivated the ground fault protection for the circuit breaker and established compensatory measures to restore power to ensure technical support center staffing will not be challenged. The licensee entered this into their corrective action program as condition report disposition request 4230209.

The failure to perform an appropriate design scope change was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it affected the facilities and equipment attribute of the Emergency Preparedness Cornerstone and its objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and Manual Chapter 0609, Appendix B, "Emergency Preparedness Significance Determination Process." The finding was determined to be of very low safety significance (Green). Additionally, the violation of 10 CFR 50.54 (q) impacted the ability of the NRC to perform its regulatory oversight function and was dispositioned using traditional enforcement. This violation was determined to be a Severity Level IV violation per Section 6.6 of the NRC Enforcement Policy because the violation was not associated with licensee's ability to meet or implement any regulatory requirement related to assessment or notification. Although the regulatory requirement could be implemented during the response to an actual emergency, the implementation would be degraded. The inspectors determined this finding has a crosscutting aspect in the area of human performance associated with the work practices component because the licensee failed to ensure supervisory management and oversight of contractors such that nuclear safety is supported [H.4.(c)].
Inspection Report# : 2012004 *(pdf)*

Significance: G Sep 30, 2012
Identified By: NRC

Item Type: NCV NonCited Violation
Failure to Declare an Unusual Event
The inspectors identified a Green non-cited violation of 10 CFR 50.54(q) for the failure of operations personnel to adequately implement the emergency plan. Specifically, on August 26, 2012, auxiliary operators felt vibratory ground motion inside the protected area at 12:31pm and again at 1:58pm. The United States Geological Survey (USGS) confirmed that two earthquakes, of magnitude 5.3 and 5.5 respectively, occurred at those times in the area of the plant. Plant operators did not declare an Unusual Event in accordance with the emergency plan. The licensee entered the issue into the corrective action program as PVAR 4255819 and initiated an apparent cause evaluation to identify the cause and corrective actions.

The failure to implement the emergency plan and declare an Unusual Event was a performance deficiency. The performance deficiency was more than minor and therefore a finding, because it affected the Emergency Response Organization performance attribute of the Emergency Preparedness cornerstone and affected the cornerstone objective to ensure the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Using Manual Chapter 0609, Appendix B, "Emergency Preparedness Significance Determination Process," Attachment 1, the finding was determined to have very low safety - significance (Green) because the actual event implementation problem was associated with an Unusual Event. This finding has a crosscutting aspect in the area of human performance associated with the resources component because the licensee failed to ensure training of personnel was adequate to assure proper implementation of the emergency plan [H.2.(b)].
Inspection Report# : 2012004 *(pdf)*

Occupational Radiation Safety

Significance: N/A Mar 31, 2013
Identified By: NRC
Item Type: VIO Violation
Failure to Maintain the Updated Final Safety Analysis Report for Radwaste Systems and Processes
The inspectors identified a Severity Level IV violation of 10 CFR 50.71(e), “Maintenance of Records, Making of Reports,” with two examples for the failure to restore compliance within a reasonable time after a previous Severity Level IV non-cited violation of 10 CFR 50.71(e) was identified. The violation was identified because the licensee failed to periodically update the Updated Final Safety Analysis Report (UFSAR) with all changes made in the facility or procedures. Specifically,
Example 1: From 1988 to 2013, the licensee did not update Chapter 11.2.2.3, “Liquid Radwaste System,” with a description of the temporary adsorption tanks and their use. The licensee has entered this violation into their corrective action program as PVAR 3075089.
Example 2: From December 2003 to January 2013, the licensee made changes to the facility and procedures as described in the UFSAR, and performed safety analyses and evaluations in support of these changes, but failed to update the UFSAR to include these changes. Specifically, the licensee built the old steam generator storage facility used for long-term storage of radioactive waste (six replaced steam generators and three reactor vessel heads) on the owner controlled site until decommissioning. The licensee has entered this violation into their corrective action program as Condition Report (CR) 3398042 and PVAR 4330483.

This violation is more than minor because the NRC relies on licensees to identify and report conditions or events meeting the criteria specified in the regulations in order to perform its regulatory function. Because this issue affected the NRC’s ability to perform its regulatory function, it was evaluated using the traditional enforcement process. The issue was characterized as a Severity Level IV violation in accordance with Section 6.1.d.3 of the NRC Enforcement Policy because the erroneous information in the UFSAR was not used to make an unacceptable change to the facility or procedures. A cross-cutting aspect was not assigned because the violation was handled through traditional

enforcement.
Inspection Report# : 2013002 *(pdf)*

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : September 03, 2013

Palo Verde 2
3Q/2013 Plant Inspection Findings

Initiating Events

Significance: G Sep 30, 2013
Identified By: NRC
Item Type: FIN Finding
Failure to Include Requirements in Preventative Maintenance Basis
The inspectors identified a Green finding for the failure of licensee personnel to follow Procedure 30DP-9MP08, "Preventive Maintenance Program." Specifically, plant personnel did not ensure that requirements for performing inspection and replacement of degraded tie-wraps in electrical cubicles were contained in preventative maintenance basis documents. Consequently, degraded cable tie-wraps in Unit 1 load center L02 were not inspected prior to a catastrophic electrical fault on July 2, 2013. The licensee rebuilt the load center cubicle and has entered this issue into their corrective action program as PVAR 4454845.
The failure to follow established procedures for updating preventive maintenance basis documents with requirements and recommendations from previous component failures was a performance deficiency. This performance deficiency is more than minor because it was associated with the procedure quality attribute of the Initiating Events Cornerstone and adversely affects the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, by not including the requirements and recommendations from the history of previous failures in the preventive maintenance basis, pertinent operating experience was not considered when evaluating changes to the preventive maintenance program. Consequently, degraded cable tie-wraps in Unit 1 load center L02 were not inspected prior to experiencing a catastrophic electrical fault on July 2, 2013 that upset plant stability. The inspectors used the NRC Inspection Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," to determine the significance. The inspectors determined that the finding was of very low safety significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The inspectors also determined the issue had a cross-cutting aspect in the area problem identification and resolution associated with the operating experience component because the licensee did not implement and institutionalize operating experience through changes to the station's preventive maintenance program [P.2(b)].

Inspection Report# : 2013004 *(pdf)*

Mitigating Systems

Significance: G Jun 30, 2013
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Prevent Recurrence of a Significant Condition Adverse to Quality
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," occurred because the licensee failed to correct and prevent recurrence of a significant condition adverse to quality associated with the emergency diesel generator automatic voltage regulator circuitry. Specifically, from February 2011 to January 2013, the licensee failed to correct the cause of an induced voltage transient in the automatic voltage regulator

circuitry, resulting in the Unit 2 train B diesel generator not reaching rated voltage during a surveillance test. The licensee entered the issue into their corrective action program as CRDR 4329997 and replaced and retested electrical components that could allow a voltage transient on the instantaneous pre-positioning circuit board.

The performance deficiency associated with this finding is the failure of the licensee to correct and prevent recurrence of a significant condition adverse to quality. The performance deficiency is more than minor, and therefore a finding, because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The senior resident inspector performed the initial significance determination for the train B emergency diesel generator (EDG) failure. The inspector evaluated the significance of the issue under the SDP, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings at-Power." The finding screened to a detailed risk evaluation because it involved a potential loss of one train of safety related equipment for longer than the technical specification allowed outage time. A Region IV senior reactor analyst performed the detailed risk evaluation. The exposure period was 43 days. The change to the CDF was 7.2E-7/year (Green). The finding was not significant to the large early release frequency. The dominant core damage sequences included loss of offsite power events that lead to station blackout conditions. The gas turbine generators, train A emergency diesel generator, and the DC battery life extension to six hours helped to limit the risk. The finding has a cross-cutting aspect in the area of Problem Identification and Resolution associated with the corrective action program component because the licensee failed to thoroughly evaluate problems such that the resolutions address causes and extent of condition, as necessary [P.1(c)].
Inspection Report# : 2013003 *(pdf)*

Significance: G Mar 31, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Multiple Failures to Identify Conditions Adverse to Quality
The inspectors identified two examples of a Green NCV of 10 CFR Part 50, Appendix B, Criterion XVI "Corrective Action," for the failure of the licensee to promptly identify and correct conditions adverse to quality. Specifically, on July 19, 2012, personnel failed to follow Procedure 01DP-0AP12, "Palo Verde Action Request Processing," and enter into the corrective action process a failure to comply with technical specifications to enter limiting condition for operation 3.0.3 when maintenance activities rendered safety related inverters inoperable. In addition, on May 2, 2011, the licensee also failed to enter an unanalyzed diversion of emergency core cooling system flow into the corrective action process, despite procedural guidance to the contrary. The licensee entered the issues into the corrective action program as Palo Verde Action Request (PVAR) 4347283 and PVAR 4389514 and is assessing corrective actions.

The inspectors concluded that the failure to promptly identify and correct conditions adverse to quality was a performance deficiency. The inspectors determined the performance deficiency is more than minor, and therefore a finding, because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone and its objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined the two issues had similar causal factors and should be documented as one NCV in accordance with NRC enforcement guidance. The inspectors evaluated the significance of each issue under the SDP, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." For the issue associated with inoperable safety related inverters, the inspectors determined the finding to be of very low safety significance (Green) because all questions in Exhibit 2.A could be answered no. For the issue associated with an unanalyzed condition of the high pressure safety injection system, the inspectors determined that the finding represented a loss of system function and needed a detailed evaluation. The inspectors used the Palo Verde Standardized Plant Analysis Risk model, Revision 8.20, with a truncation limit of E-11 and performed a bounding significance determination and found the finding to be of very low safety significance (Green). The bounding change

to the core damage frequency was 2.4E-9/year. The dominant core damage sequences included: medium break loss of coolant accident, system transient, and steam generator tube rupture. The very short exposure period minimized the significance. A Region IV senior reactor analyst reviewed the results and agreed with the conclustions. This finding has a cross-cutting aspect in the area of human performance associated with the decision making component because the licensee failed to use a systematic process for dealing uncertain conditions adverse to quality [H.1(a)].

Inspection Report# : 2013002 *(pdf)*

Significance: G Mar 31, 2013
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Comply with Technical Specifications
A self-revealing, Green NCV of Technical Specification (TS) Limiting Condition for Operation (LCO) 3.0.4 was identified after Unit 2 operators entered a mode with a limiting condition for operation not met. Specifically, following maintenance on auxiliary feedwater pump steam supply valve, SGA-UV-138, plant personnel did not ensure the requirements of TS 3.7.5, "Auxiliary Feedwater System," were met prior to entering Mode 3. During subsequent testing, a bonnet steam leak was discovered on the valve, resulting in the valve being declared inoperable and the plant returned to Mode 5 for repairs. The licensee restored the valve to operable status before re-entering Mode 3. The licensee entered the issue into the corrective action program (CAP) as CRDR 4284491 and is evaluating further corrective actions.

The inspectors concluded that the failure of plant personnel to comply with technical specifications was a performance deficiency. The inspectors concluded the performance deficiency is more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the SDP, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and 0609 Appendix A, "The SDP for Findings at-Power." Inspectors concluded that the finding was of very low safety significance (Green) because the finding is not a design or qualification issue, did not represent an actual loss of safety function of the system or train, did not result in the loss of one or more trains of non-technical specification equipment, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined this finding has a cross-cutting aspect in the area of human performance associated with the component of resources because the licensee failed to provide an adequate work package to ensure the valve was operable prior to entering Mode 3 [H.2(c)].
Inspection Report# : 2013002 *(pdf)*

Significance: G Mar 31, 2013
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Shutdown Cooling Piping Failure
A self-revealing, Green NCV of 10 CFR Part 50, Appendix B, Criterion III "Design Control," was identified for the failure of the licensee to assure that applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures, and instructions. Specifically, operations personnel altered the piping configuration with an added fitting to a low pressure safety injection drain line. As a result the pipe failed during shutdown cooling operations, rendering that train inoperable. The licensee repaired the weld in accordance with ASME Code, entered the issue into the licensee's CAP as CRDR 4263357, and revised procedural guidance to return components to their design configuration.

The inspectors concluded that the failure of the licensee to correctly translate the design basis into specifications, drawings, procedures and instructions was a performance deficiency. The performance deficiency was more than

minor, therefore a finding, because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone and its objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the SDP, as defined in Inspection Manual Chapter 0609.04, “Initial Characterization of Findings,” and IMC 0609, Appendix G, “Shut Down Operations Significance Determination Process.” The inspectors determined that because there was an injection path available, the leak could be isolated prior to depletion of the reactor water tank, and the steam generators were available for heat removal. As a result, the issue was found to be of very low safety significance (Green). The inspectors determined the finding had no cross-cutting issues because it is not indicative of current performance.
Inspection Report# : 2013002 *(pdf)*

Significance: G Dec 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify and Correct a Condition Adverse to Fire Protection
The inspectors identified a Green non-cited violation of License Conditions 2.C.7, 2.C.6, and 2.F for Palo Verde Units 1, 2, and 3 for the licensee’s failure to identify and correct a condition adverse to fire protection. Specifically, on November 19, 2012, inspectors questioned operations personnel and identified that operators did not know the locations of sound powered telephone equipment, were unfamiliar with their use, and unfamiliar with procedural guidance for their use. This is a communications device used for post-fire safe shutdown credited in the fire protection program and emergency plan. The lack of familiarity with location and use of these communication devices would have adversely affected operations personnel response to an emergency. The licensee completed a self-assessment of emergency preparedness communication on October 31, 2012, and did not identify these weaknesses. The licensee immediately issued a night order and informed operations personnel of the location of the sound powered phones and procedural guidance. The licensee entered this issue into the licensee’s corrective action program as Palo Verde Action Request 4294407.

The failure to identify and correct a condition adverse to fire protection was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it adversely affected the human performance attribute of the Mitigating Systems Cornerstone and its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, “Initial Characterization of Findings,” and Inspection Manual Chapter 0609, Appendix F, “Fire Protection Significance Determination Process.” The finding was determined to be a low degradation of the post-fire safe shutdown program element and screens to Green using Step 1.3.1. The inspectors determined this finding has a crosscutting aspect in the area of problem identification and resolution associated with the self and independent assessments component because the licensee failed to conduct a self-assessment of sufficient depth, that was comprehensive and self-critical, which failed to recognize that operator knowledge was lacking for the use of some communication device [P.3(a)].
Inspection Report# : 2012005 *(pdf)*

Significance: G Dec 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain Licensed Operator Examination Integrity
The inspectors identified a non-cited violation of 10 CFR 55.49, “Integrity of Examinations and Tests,” for the failure of the licensee to ensure the integrity of the licensed operator biennial written examinations. During the 2012 biennial written examination cycle, the exams were administered in a simulator environment that lacked positive controls to ensure that operators could not observe the reference material or examinations of other operators. Operators were

allowed to review engineering schematics while standing at a table which allowed an angle to observe the computer screen and desk of another examinee approximately 5 feet away. Having the ability to view exam reference material being displayed on the computer screen during exam administration is considered an exam integrity compromise. However, an evaluation of the written exam results and interviews with the licensed operators signed in on an exam security agreement showed that the compromise did not have an actual effect on the equitable and consistent administration of the examination. The licensee entered the finding into the corrective action program as Action Request PVAR-4238204.

The failure of the licensee's training staff to maintain the integrity of examinations administered to licensed operations personnel was a performance deficiency. The performance deficiency was more than minor because it adversely affected the Human Performance attribute of the Mitigating Systems Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, if left uncorrected, the performance deficiency could have become more significant in that allowing licensed operators to return to the control room without valid demonstration of appropriate knowledge on the biennial written examinations could be a precursor to a more significant event. Using NRC Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 4, Table 1 and 2 worksheets; and the corresponding Appendix I, "Licensed Operator Requalification Significance Determination Process," the finding was determined to have very low safety significance (Green). Although the 2012 finding resulted in a compromise of the integrity of biennial written examinations, compensatory actions were immediately taken, and the equitable and consistent administration of the biennial written examination was not actually affected by this compromise. This finding has a cross-cutting aspect in the area of human performance associated with the work control component because the licensee failed to adequately plan work activities that incorporated job site conditions, including environmental conditions [H.3(a)].
Inspection Report# : 2012005 *(pdf)*

Barrier Integrity

Significance: G Jun 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Operability Determination Procedure for Maintaining Administrative Limits
The inspectors identified a Green noncited violation of 10 CFR Part 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations and engineering personnel to follow station procedures to perform operability determinations and functional assessments. Specifically, plant personnel did not maintain appropriate controls to ensure that the temperature limit established in the operability determination for the spent fuel pool criticality analysis was maintained. The licensee entered the issue into their corrective action program as PVAR 4380424, began taking more frequent readings of spent fuel pool temperature indicators, and lowered the spent fuel pool temperature alarm setpoint.

The failure to follow Procedure 40DP-9OP26 for performing operability determinations is a performance deficiency. This performance deficiency is more than minor, and therefore a finding, because it is associated with the Barrier Integrity Cornerstone attribute of procedure quality and it adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accident or events. The inspectors evaluated the significance of the finding using Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The inspectors reviewed all Barrier Integrity screening questions in IMC 0609, Appendix A, Exhibit 3 Section D, and all questions were answered "No." Therefore, the finding was determined to be of very low

safety significance. The inspectors determined that the finding has a cross-cutting aspect in the area of human performance associated with decision making. Specifically, the licensee did not communicate the administrative limits established in the spent fuel pool criticality operability determination to appropriate operations personnel [H.1(c)].
Inspection Report# : 2013003 *(pdf)*

Significance: G Dec 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform Pressure Testing of the Reactor Vessel Flange Leak-Off Lines
Inspectors identified a non-cited violation of 10 CFR 50.55a(g)(4) involving the licensee's failure to perform a system pressure test of the reactor vessel flange leak off-line of Units 1, 2, and 3 in accordance with the applicable edition of Section XI of the ASME Code. Contrary to the above, prior to October 10, 2012, the licensee failed to perform the required pressure test of the reactor vessel flange seal leak-off line for all three units. Specifically, the licensee failed to implement the ASME Code, Section XI, Class 2 requirements for pressure retaining components as provided by Article IWC-5220, "System Leakage Test." The licensee entered the finding into their corrective action program as Palo Verde Action Request 4269674.

The inspectors determined that the licensee's failure to perform a pressure test of the reactor vessel flange leak-off line was a performance deficiency. The performance deficiency was more than minor because it is associated with the Barrier Integrity Cornerstone attribute of systems, structures and components and barrier performance, and adversely affects the cornerstone objective to provide a reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using Manual Chapter 0609, Attachment A, "The Significant Determination Process (SDP) for Findings At-Power," the finding was determined to be of very low safety significance (Green) because the finding did not result in exceeding the reactor coolant system leak rate for a small loss-of-coolant accident, and did not affect other systems used to mitigate a loss-of-coolant accident resulting in a total loss of their function. This issue did not have a cross-cutting aspect associated with it because it is not indicative of current performance.
Inspection Report# : 2012005 *(pdf)*

Significance: G Dec 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Tracking of a Functional Assessment for Spent Fuel Pool Heat Load
The inspectors identified a Green non-cited violation of 10 CFR Part 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations and engineering personnel to follow station procedures to perform operability determinations and functional assessments. Specifically, plant personnel did not maintain appropriate controls to ensure that the heat load and temperature limits established in the functional assessment for the spent fuel pools were monitored. This issue is captured in Palo Verde Action Request 4251108. To restore compliance, the licensee issued a technical specification component condition record to prohibit entry into Mode 4 following a refueling outage, until decay heat load in the spent fuel pool is verified to be less than the more restrictive limit established in the functional assessment.

The failure to follow Procedure 40DP-9OP26 for performing functional assessments is a performance deficiency. This performance deficiency was more than minor because it is associated with the Barrier Integrity Cornerstone attribute of design control and it adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accident or events. Using Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and Manual Chapter 0609 Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," the inspectors determined that the finding had very low safety significance (Green) because the finding was confirmed not to adversely affect decay heat removal capabilities from

the spent fuel pool causing the pool temperature to exceed the maximum analyzed temperature limit specified in the site-specific licensing basis. The inspectors determined that the finding had a cross-cutting aspect in the area of human performance associated with decision making. Specifically, Palo Verde did not communicate the procedural limits established in the spent fuel pool functional assessment to appropriate operations personnel [H.1(c)].
Inspection Report# : 2012005 *(pdf)*

Emergency Preparedness

Significance: G Sep 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain an effective Emergency Plan for a Seismic Event
The inspectors identified a non-cited violation of 10 CFR 50.54 (q)(2) for the failure to maintain an effective emergency plan action level scheme in accordance with 50.47(b)(4). Specifically, the Alert threshold for HA1.1, "Natural or Destructive Phenomena Affecting VITAL AREAS," requires a declaration of an Alert for a seismic event greater than operating basis earthquake as indicated by any force balance accelerometer reading greater than 0.10g. Operators rely on alarms to verify the acceleration beyond the operating basis earthquake and the inspectors determined the seismic monitor alarm set point was 0.13g. This could result with the inability of operations personnel to classify an event at the Alert level. A design change modified the seismic monitoring set point to 0.1g and restored compliance. The licensee entered the issue into their corrective action program as Palo Verde Action Request 3624077.
The inspectors determined that the failure to maintain an effective emergency action level scheme was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it adversely affected the Emergency Response Organization Performance attribute of the Emergency Preparedness Cornerstone and its objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, the licensee's ability to declare an Alert based on Natural Phenomenon at the correct threshold was degraded. The inspectors assessed the significance of the finding in accordance with NRC Inspection Manual Chapter (IMC) 0609, Appendix B, "Emergency Preparedness Significance Determination Process," Figure 5.4-1, and determined the finding to be of very low safety significance because compensatory measures were available for emergency response organization personnel to perform the classification duties. The inspectors determined this finding is not indicative of current performance and therefore no cross-cutting aspect is assigned.

Inspection Report# : 2013004 *(pdf)*

Significance: G Mar 31, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to identify weak preformance during an exercise
The inspectors identified a Green NCV of 10 CFR 50.47(b)(14) for the licensee's failure to identify and correct a performance deficiency during an evaluated exercise. Specifically, the licensee failed to identify that the Emergency Director in the Simulator Control Room did not evaluate emergency action level RS-1 when information was available indicating a need to upgrade the emergency classification because of offsite radiation dose.
The failure to identify a deficiency occurring during a drill and ensure correction is a performance deficiency within the licensee's control. The finding is more than minor because the failure to identify a deficiency and ensure correction impacts the Emergency Preparedness cornerstone objective associated with the emergency response

organization performance cornerstone attribute. The finding is a non-cited violation of 10 CFR 50.47(b)(14). The finding was evaluated using the Emergency Preparedness SDP and identified as having very low safety significance because it was a failure to comply with NRC requirements and was not a loss of the planning standard function because the classification deficiency was associated with a successful performance indicator opportunity. The Emergency Director declared the correct emergency classification within fifteen minutes of performing the dose assessment report using an emergency action level for which conditions currently existed, although this was not the first emergency action level that applied. This issue was entered into the CAP as PVAR 4365021. The finding was assigned a cross-cutting aspect of 'Low Threshold,' because the licensee failed to completely and accurately recognize a performance deficiency [P.1.a]
Inspection Report# : 2013002 *(pdf)*

Significance: G Dec 31, 2012
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Technical Support Center Diesel Generator Not Restored Following Maintenance
A self revealing Green non-cited violation of 10 CFR 50.47(b)(8) was identified for the failure to maintain adequate facilities to support emergency response. Specifically, the licensee found the technical support center battery disconnect switch had not been restored following maintenance activities. This configuration would have rendered the diesel generator unable to start automatically as designed in the event of a loss of off-site power. The licensee initiated immediate corrective actions to restore the technical support center diesel generator to a functional configuration and has begun implementation of a more formal process for component configuration verification of critical technical support center equipment. The licensee has entered this issue into their corrective action program as Palo Verde Action Request 4165625.

The failure to follow Procedure 40OP-9NG01 for performing a functional test of 480V switchgear following maintenance activities is a performance deficiency. This performance deficiency was more than minor because it is associated with the Emergency Preparedness Cornerstone attribute of facilities and equipment and it adversely affected the cornerstone objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and Manual Chapter 0609, Appendix B, "Emergency Preparedness Significance Determination Process." The finding was determined to be of very low safety significance (Green) because the degraded planning standard function did not result in the loss of technical support center functionality for longer than 7 days. The inspectors determined that the finding had a cross-cutting aspect in the area of human performance associated with resources. Specifically, the licensee's work control procedures did not include critical technical support center systems to ensure that technical support center configuration control was maintained commensurate with its significance [H.2(c)].
Inspection Report# : 2012005 *(pdf)*

Occupational Radiation Safety

Significance: N/A Mar 31, 2013
Identified By: NRC
Item Type: VIO Violation
Failure to Maintain the Updated Final Safety Analysis Report for Radwaste Systems and Processes
The inspectors identified a Severity Level IV violation of 10 CFR 50.71(e), "Maintenance of Records, Making of Reports," with two examples for the failure to restore compliance within a reasonable time after a previous Severity

Level IV non-cited violation of 10 CFR 50.71(e) was identified. The violation was identified because the licensee failed to periodically update the Updated Final Safety Analysis Report (UFSAR) with all changes made in the facility or procedures. Specifically,
Example 1: From 1988 to 2013, the licensee did not update Chapter 11.2.2.3, “Liquid Radwaste System,” with a description of the temporary adsorption tanks and their use. The licensee has entered this violation into their corrective action program as PVAR 3075089.
Example 2: From December 2003 to January 2013, the licensee made changes to the facility and procedures as described in the UFSAR, and performed safety analyses and evaluations in support of these changes, but failed to update the UFSAR to include these changes. Specifically, the licensee built the old steam generator storage facility used for long-term storage of radioactive waste (six replaced steam generators and three reactor vessel heads) on the owner controlled site until decommissioning. The licensee has entered this violation into their corrective action program as Condition Report (CR) 3398042 and PVAR 4330483.

This violation is more than minor because the NRC relies on licensees to identify and report conditions or events meeting the criteria specified in the regulations in order to perform its regulatory function. Because this issue affected the NRC’s ability to perform its regulatory function, it was evaluated using the traditional enforcement process. The issue was characterized as a Severity Level IV violation in accordance with Section 6.1.d.3 of the NRC Enforcement Policy because the erroneous information in the UFSAR was not used to make an unacceptable change to the facility or procedures. A cross-cutting aspect was not assigned because the violation was handled through traditional enforcement.
Inspection Report# : 2013002 *(pdf)*

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : December 03, 2013

Palo Verde 2
4Q/2013 Plant Inspection Findings

Initiating Events

Significance: G Dec 31, 2013
Identified By: NRC
Item Type: FIN Finding
Failure to Identify and Correct Adverse Conditions
DRAFT A Green self-revealing finding was identified for the licensee's failure to promptly identify and correct an adverse condition. Specifically, the licensee failed to identify that operating limits for main feedwater pump (MFP) vapor extractors did not prevent lube oil leakage, and insulation surrounding the Unit 2 train A MFP became soaked with oil. As a result, the oil soaked insulation, exposed to hot surface temperatures over time, became degraded and initiated a fire in the turbine building, resulting in declaration of an unusual event. No violation of regulatory requirements occurred because the finding occurred on non-safety secondary plant equipment. The licensee entered the finding into the licensee's corrective action program as Condition Report Disposition Request 4458504 and 4452395.

The failure to promptly identify and correct an adverse condition was a performance deficiency. The performance deficiency is more than minor because it was a precursor to a more significant event which resulted in a fire and an emergency declaration of an Unusual Event. The finding was associated with the Initiating Events Cornerstone. The inspectors assessed the significance of the finding in accordance with NRC Inspection Manual Chapter (IMC) 0609, appendix A, "Significance Determination Process for Findings At-Power," using Exhibit 1, "Initiating Events Screening Questions." The finding required a detailed risk evaluation because it resulted in increasing the fire frequency. A Region IV senior reactor analyst performed the detailed risk evaluation. The bounding change to the core damage frequency was 1.0E-7/year (Green). The most prominent core damage sequences included a transient coupled with various failures of the auxiliary feedwater and main feedwater pumps. The automatic runback function of the feedwater control system helped to minimize the change to the core damage frequency. The inspectors determined the finding has a cross-cutting aspect in the area of problem identification and resolution associated with the operating experience (OE) component because the licensee failed to implement and institutionalize OE through changes to station processes, procedures, equipment, and training programs to ensure MFP turbine vapor extractors are operated appropriately and that fire hazards associated with oil soaked insulation are promptly identified and corrected.

Inspection Report# : 2013005 *(pdf)*

Significance: G Sep 30, 2013
Identified By: NRC
Item Type: FIN Finding
Failure to Include Requirements in Preventative Maintenance Basis
The inspectors identified a Green finding for the failure of licensee personnel to follow Procedure 30DP-9MP08, "Preventive Maintenance Program." Specifically, plant personnel did not ensure that requirements for performing inspection and replacement of degraded tie-wraps in electrical cubicles were contained in preventative maintenance basis documents. Consequently, degraded cable tie-wraps in Unit 1 load center L02 were not inspected prior to a catastrophic electrical fault on July 2, 2013. The licensee rebuilt the load center cubicle and has entered this issue into

their corrective action program as PVAR 4454845.
The failure to follow established procedures for updating preventive maintenance basis documents with requirements and recommendations from previous component failures was a performance deficiency. This performance deficiency is more than minor because it was associated with the procedure quality attribute of the Initiating Events Cornerstone and adversely affects the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, by not including the requirements and recommendations from the history of previous failures in the preventive maintenance basis, pertinent operating experience was not considered when evaluating changes to the preventive maintenance program. Consequently, degraded cable tie-wraps in Unit 1 load center L02 were not inspected prior to experiencing a catastrophic electrical fault on July 2, 2013 that upset plant stability. The inspectors used the NRC Inspection Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," to determine the significance. The inspectors determined that the finding was of very low safety significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The inspectors also determined the issue had a cross-cutting aspect in the area problem identification and resolution associated with the operating experience component because the licensee did not implement and institutionalize operating experience through changes to the station's preventive maintenance program [P.2(b)].

Inspection Report# : 2013004 *(pdf)*

Mitigating Systems

Significance: G Dec 31, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Modification of Safety Related Accumulators
DRAFT The inspectors identified a green non-cited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," for the failure to assure that a modification to the main steam and main feedwater isolation valve accumulators was suitable for the reliable operation of these components. Specifically, on September 4, 2009, the licensee failed to assess the suitability of a small dead band for a thermal relief valve in the accumulator valve manifold assembly and the impact to reliable operation of the associated valves. The licensee entered this issue into the corrective action program as Palo Verde Action Request 4429273. The licensee isolated the thermal relief valve from the actuators.

The failure to assure that the modification of the main steam and main feedwater isolation valve accumulators was suitable for the reliable operation of these components was a performance deficiency. The performance deficiency is more than minor because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance and it adversely affect the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and 0609 Appendix A, "The Significance Determination Process (SDP) for Findings at-Power." Inspectors concluded the finding was of very low safety significance (Green) because all questions in Exhibit 2 could be answered no. The finding had a cross-cutting aspect in the area of human performance associated with resources component because the licensee did not maintain design margins by minimizing long standing equipment issues.
Inspection Report# : 2013005 *(pdf)*

Significance: G Jun 30, 2013
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Prevent Recurrence of a Significant Condition Adverse to Quality
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," occurred because the licensee failed to correct and prevent recurrence of a significant condition adverse to quality associated with the emergency diesel generator automatic voltage regulator circuitry. Specifically, from February 2011 to January 2013, the licensee failed to correct the cause of an induced voltage transient in the automatic voltage regulator circuitry, resulting in the Unit 2 train B diesel generator not reaching rated voltage during a surveillance test. The licensee entered the issue into their corrective action program as CRDR 4329997 and replaced and retested electrical components that could allow a voltage transient on the instantaneous pre-positioning circuit board.

The performance deficiency associated with this finding is the failure of the
licensee to correct and prevent recurrence of a significant condition adverse to quality. The performance deficiency is more than minor, and therefore a finding, because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The senior resident inspector performed the initial significance determination for the train B emergency diesel generator (EDG) failure. The inspector evaluated the significance of the issue under the SDP, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings at-Power." The finding screened to a detailed risk evaluation because it involved a potential loss of one train of safety related equipment for longer than the technical specification allowed outage time. A Region IV senior reactor analyst performed the detailed risk evaluation. The exposure period was 43 days. The change to the CDF was 7.2E-7/year (Green). The finding was not significant to the large early release frequency. The dominant core damage sequences included loss of offsite power events that lead to station blackout conditions. The gas turbine generators, train A emergency diesel generator, and the DC battery life extension to six hours helped to limit the risk. The finding has a cross-cutting aspect in the area of Problem Identification and Resolution associated with the corrective action program component because the licensee failed to thoroughly evaluate problems such that the resolutions address causes and extent of condition, as necessary [P.1(c)].
Inspection Report# : 2013003 *(pdf)*

Significance: G Mar 31, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Multiple Failures to Identify Conditions Adverse to Quality
The inspectors identified two examples of a Green NCV of 10 CFR Part 50, Appendix B, Criterion XVI "Corrective Action," for the failure of the licensee to promptly identify and correct conditions adverse to quality. Specifically, on July 19, 2012, personnel failed to follow Procedure 01DP-0AP12, "Palo Verde Action Request Processing," and enter into the corrective action process a failure to comply with technical specifications to enter limiting condition for operation 3.0.3 when maintenance activities rendered safety related inverters inoperable. In addition, on May 2, 2011, the licensee also failed to enter an unanalyzed diversion of emergency core cooling system flow into the corrective action process, despite procedural guidance to the contrary. The licensee entered the issues into the corrective action program as Palo Verde Action Request (PVAR) 4347283 and PVAR 4389514 and is assessing corrective actions.

The inspectors concluded that the failure to promptly identify and correct conditions adverse to quality was a performance deficiency. The inspectors determined the performance deficiency is more than minor, and therefore a finding, because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone and its objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined the two issues had similar causal factors and should be

documented as one NCV in accordance with NRC enforcement guidance. The inspectors evaluated the significance of each issue under the SDP, as defined in Inspection Manual Chapter 0609.04, “Initial Characterization of Findings,” and IMC 0609, Appendix A, “Significance Determination of Reactor Inspection Findings for At-Power Situations.” For the issue associated with inoperable safety related inverters, the inspectors determined the finding to be of very low safety significance (Green) because all questions in Exhibit 2.A could be answered no. For the issue associated with an unanalyzed condition of the high pressure safety injection system, the inspectors determined that the finding represented a loss of system function and needed a detailed evaluation. The inspectors used the Palo Verde Standardized Plant Analysis Risk model, Revision 8.20, with a truncation limit of E-11 and performed a bounding significance determination and found the finding to be of very low safety significance (Green). The bounding change to the core damage frequency was 2.4E-9/year. The dominant core damage sequences included: medium break loss of coolant accident, system transient, and steam generator tube rupture. The very short exposure period minimized the significance. A Region IV senior reactor analyst reviewed the results and agreed with the conclustions. This finding has a cross-cutting aspect in the area of human performance associated with the decision making component because the licensee failed to use a systematic process for dealing uncertain conditions adverse to quality [H.1(a)].

Inspection Report# : 2013002 *(pdf)*

Significance: G Mar 31, 2013
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Comply with Technical Specifications
A self-revealing, Green NCV of Technical Specification (TS) Limiting Condition for Operation (LCO) 3.0.4 was identified after Unit 2 operators entered a mode with a limiting condition for operation not met. Specifically, following maintenance on auxiliary feedwater pump steam supply valve, SGA-UV-138, plant personnel did not ensure the requirements of TS 3.7.5, “Auxiliary Feedwater System,” were met prior to entering Mode 3. During subsequent testing, a bonnet steam leak was discovered on the valve, resulting in the valve being declared inoperable and the plant returned to Mode 5 for repairs. The licensee restored the valve to operable status before re-entering Mode 3. The licensee entered the issue into the corrective action program (CAP) as CRDR 4284491 and is evaluating further corrective actions.

The inspectors concluded that the failure of plant personnel to comply with technical specifications was a performance deficiency. The inspectors concluded the performance deficiency is more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the SDP, as defined in Inspection Manual Chapter 0609.04, “Initial Characterization of Findings,” and 0609 Appendix A, “The SDP for Findings at-Power.” Inspectors concluded that the finding was of very low safety significance (Green) because the finding is not a design or qualification issue, did not represent an actual loss of safety function of the system or train, did not result in the loss of one or more trains of non-technical specification equipment, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined this finding has a cross-cutting aspect in the area of human performance associated with the component of resources because the licensee failed to provide an adequate work package to ensure the valve was operable prior to entering Mode 3 [H.2(c)].
Inspection Report# : 2013002 *(pdf)*

Significance: G Mar 31, 2013
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Shutdown Cooling Piping Failure
A self-revealing, Green NCV of 10 CFR Part 50, Appendix B, Criterion III “Design Control,” was identified for the

failure of the licensee to assure that applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures, and instructions. Specifically, operations personnel altered the piping configuration with an added fitting to a low pressure safety injection drain line. As a result the pipe failed during shutdown cooling operations, rendering that train inoperable. The licensee repaired the weld in accordance with ASME Code, entered the issue into the licensee's CAP as CRDR 4263357, and revised procedural guidance to return components to their design configuration.

The inspectors concluded that the failure of the licensee to correctly translate the design basis into specifications, drawings, procedures and instructions was a performance deficiency. The performance deficiency was more than minor, therefore a finding, because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone and its objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the SDP, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix G, "Shut Down Operations Significance Determination Process." The inspectors determined that because there was an injection path available, the leak could be isolated prior to depletion of the reactor water tank, and the steam generators were available for heat removal. As a result, the issue was found to be of very low safety significance (Green). The inspectors determined the finding had no cross-cutting issues because it is not indicative of current performance.
Inspection Report# : 2013002 *(pdf)*

Barrier Integrity

Significance: G Jun 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Operability Determination Procedure for Maintaining Administrative Limits
The inspectors identified a Green noncited violation of 10 CFR Part 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations and engineering personnel to follow station procedures to perform operability determinations and functional assessments. Specifically, plant personnel did not maintain appropriate controls to ensure that the temperature limit established in the operability determination for the spent fuel pool criticality analysis was maintained. The licensee entered the issue into their corrective action program as PVAR 4380424, began taking more frequent readings of spent fuel pool temperature indicators, and lowered the spent fuel pool temperature alarm setpoint.

The failure to follow Procedure 40DP-9OP26 for performing operability determinations is a performance deficiency. This performance deficiency is more than minor, and therefore a finding, because it is associated with the Barrier Integrity Cornerstone attribute of procedure quality and it adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accident or events. The inspectors evaluated the significance of the finding using Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The inspectors reviewed all Barrier Integrity screening questions in IMC 0609, Appendix A, Exhibit 3 Section D, and all questions were answered "No." Therefore, the finding was determined to be of very low safety significance. The inspectors determined that the finding has a cross-cutting aspect in the area of human performance associated with decision making. Specifically, the licensee did not communicate the administrative limits established in the spent fuel pool criticality operability determination to appropriate operations personnel [H.1(c)].
Inspection Report# : 2013003 *(pdf)*

Emergency Preparedness

Significance: G Sep 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain an effective Emergency Plan for a Seismic Event
The inspectors identified a non-cited violation of 10 CFR 50.54 (q)(2) for the failure to maintain an effective emergency plan action level scheme in accordance with 50.47(b)(4). Specifically, the Alert threshold for HA1.1, "Natural or Destructive Phenomena Affecting VITAL AREAS," requires a declaration of an Alert for a seismic event greater than operating basis earthquake as indicated by any force balance accelerometer reading greater than 0.10g. Operators rely on alarms to verify the acceleration beyond the operating basis earthquake and the inspectors determined the seismic monitor alarm set point was 0.13g. This could result with the inability of operations personnel to classify an event at the Alert level. A design change modified the seismic monitoring set point to 0.1g and restored compliance. The licensee entered the issue into their corrective action program as Palo Verde Action Request 3624077.
The inspectors determined that the failure to maintain an effective emergency action level scheme was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it adversely affected the Emergency Response Organization Performance attribute of the Emergency Preparedness Cornerstone and its objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, the licensee's ability to declare an Alert based on Natural Phenomenon at the correct threshold was degraded. The inspectors assessed the significance of the finding in accordance with NRC Inspection Manual Chapter (IMC) 0609, Appendix B, "Emergency Preparedness Significance Determination Process," Figure 5.4-1, and determined the finding to be of very low safety significance because compensatory measures were available for emergency response organization personnel to perform the classification duties. The inspectors determined this finding is not indicative of current performance and therefore no cross-cutting aspect is assigned.

Inspection Report# : 2013004 *(pdf)*

Significance: G Mar 31, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to identify weak preformance during an exercise
The inspectors identified a Green NCV of 10 CFR 50.47(b)(14) for the licensee's failure to identify and correct a performance deficiency during an evaluated exercise. Specifically, the licensee failed to identify that the Emergency Director in the Simulator Control Room did not evaluate emergency action level RS-1 when information was available indicating a need to upgrade the emergency classification because of offsite radiation dose.
The failure to identify a deficiency occurring during a drill and ensure correction is a performance deficiency within the licensee's control. The finding is more than minor because the failure to identify a deficiency and ensure correction impacts the Emergency Preparedness cornerstone objective associated with the emergency response organization performance cornerstone attribute. The finding is a non-cited violation of 10 CFR 50.47(b)(14). The finding was evaluated using the Emergency Preparedness SDP and identified as having very low safety significance because it was a failure to comply with NRC requirements and was not a loss of the planning standard function because the classification deficiency was associated with a successful performance indicator opportunity. The Emergency Director declared the correct emergency classification within fifteen minutes of performing the dose assessment report using an emergency action level for which conditions currently existed, although this was not the first emergency action level that applied. This issue was entered into the CAP as PVAR 4365021. The finding was assigned a cross-cutting aspect of 'Low Threshold,' because the licensee failed to completely and accurately recognize

a performance deficiency [P.1.a]
Inspection Report# : 2013002 *(pdf)*

Occupational Radiation Safety

Significance: N/A Mar 31, 2013
Identified By: NRC
Item Type: VIO Violation
Failure to Maintain the Updated Final Safety Analysis Report for Radwaste Systems and Processes
The inspectors identified a Severity Level IV violation of 10 CFR 50.71(e), "Maintenance of Records, Making of Reports," with two examples for the failure to restore compliance within a reasonable time after a previous Severity Level IV non-cited violation of 10 CFR 50.71(e) was identified. The violation was identified because the licensee failed to periodically update the Updated Final Safety Analysis Report (UFSAR) with all changes made in the facility or procedures. Specifically,
Example 1: From 1988 to 2013, the licensee did not update Chapter 11.2.2.3, "Liquid Radwaste System," with a description of the temporary adsorption tanks and their use. The licensee has entered this violation into their corrective action program as PVAR 3075089.
Example 2: From December 2003 to January 2013, the licensee made changes to the facility and procedures as described in the UFSAR, and performed safety analyses and evaluations in support of these changes, but failed to update the UFSAR to include these changes. Specifically, the licensee built the old steam generator storage facility used for long-term storage of radioactive waste (six replaced steam generators and three reactor vessel heads) on the owner controlled site until decommissioning. The licensee has entered this violation into their corrective action program as Condition Report (CR) 3398042 and PVAR 4330483.

This violation is more than minor because the NRC relies on licensees to identify and report conditions or events meeting the criteria specified in the regulations in order to perform its regulatory function. Because this issue affected the NRC's ability to perform its regulatory function, it was evaluated using the traditional enforcement process. The issue was characterized as a Severity Level IV violation in accordance with Section 6.1.d.3 of the NRC Enforcement Policy because the erroneous information in the UFSAR was not used to make an unacceptable change to the facility or procedures. A cross-cutting aspect was not assigned because the violation was handled through traditional enforcement.
Inspection Report# : 2013002 *(pdf)*

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : February 24, 2014

Palo Verde 2
1Q/2014 Plant Inspection Findings

Initiating Events

Significance: G Dec 31, 2013
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to Replace Oil Soaked Insulation Results in a Fire
The inspectors reviewed a Green self-revealing finding for the licensee's failure to promptly identify and correct an adverse condition. Specifically, the licensee failed to identify that operating limits for main feedwater pump (MFP) vapor extractors did not prevent lube oil leakage, and insulation surrounding the Unit 2 train A MFP became soaked with oil. As a result, the oil soaked insulation, exposed to hot surface temperatures over time, became degraded and initiated a fire in the turbine building, resulting in declaration of an unusual event. No violation of regulatory requirements occurred because the finding occurred on non-safety secondary plant equipment. The licensee entered the finding into the licensee's corrective action program as Condition Report Disposition Request 4458504 and 4452395.

The failure to promptly identify and correct an adverse condition was a performance deficiency. The performance deficiency is more than minor, and therefore is a finding, because it was associated with the Initiating Events Cornerstone and was a precursor to a more significant event which resulted in a fire and an emergency declaration. The inspectors assessed the significance of the finding in accordance with NRC Inspection Manual Chapter (IMC) 0609, appendix A, "Significance Determination Process for Findings At-Power," using Exhibit 1, "Initiating Events Screening Questions." The finding required a detailed risk evaluation because it resulted in increasing the fire frequency. A Region IV senior reactor analyst performed the detailed risk evaluation. The bounding change to the core damage frequency was 1.0E-7/year (Green). The most prominent core damage sequences included a transient coupled with various failures of the auxiliary feedwater and main feedwater pumps. The automatic runback function of the feedwater control system helped to minimize the change to the core damage frequency. The inspectors determined the finding has a cross-cutting aspect in the area of problem identification and resolution associated with the operating experience (OE) component because the licensee failed to implement and institutionalize OE through changes to station processes, procedures, equipment, and training programs to ensure MFP turbine vapor extractors are operated appropriately and that fire hazards associated with oil soaked insulation are promptly identified and corrected.
Inspection Report# : 2013005 *(pdf)*

Significance: G Sep 30, 2013
Identified By: NRC
Item Type: FIN Finding
Failure to Include Requirements in Preventative Maintenance Basis

The inspectors identified a Green finding for the failure of licensee personnel to follow Procedure 30DP-9MP08, “Preventive Maintenance Program.” Specifically, plant personnel did not ensure that requirements for performing inspection and replacement of degraded tie-wraps in electrical cubicles were contained in preventative maintenance basis documents. Consequently, degraded cable tie-wraps in Unit 1 load center L02 were not inspected prior to a catastrophic electrical fault on July 2, 2013. The licensee rebuilt the load center cubicle and has entered this issue into their corrective action program as PVAR 4454845.
The failure to follow established procedures for updating preventive maintenance basis documents with requirements and recommendations from previous component failures was a performance deficiency. This performance deficiency is more than minor because it was associated with the procedure quality attribute of the Initiating Events Cornerstone and adversely affects the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, by not including the requirements and recommendations from the history of previous failures in the preventive maintenance basis, pertinent operating experience was not considered when evaluating changes to the preventive maintenance program. Consequently, degraded cable tie-wraps in Unit 1 load center L02 were not inspected prior to experiencing a catastrophic electrical fault on July 2, 2013 that upset plant stability. The inspectors used the NRC Inspection Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings,” to determine the significance. The inspectors determined that the finding was of very low safety significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The inspectors also determined the issue had a cross-cutting aspect in the area problem identification and resolution associated with the operating experience component because the licensee did not implement and institutionalize operating experience through changes to the station’s preventive maintenance program [P.2(b)].

Inspection Report# : 2013004 *(pdf)*

Mitigating Systems

Significance: G Mar 28, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure To Provide Adequate Technical Justification For Operability of Containment Spray and Diesel Fuel Oil Systems
The inspectors identified multiple examples of a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the failure of operations personnel to follow station procedures used to perform operability determinations. Specifically, operations personnel failed to provide sufficient technical justification for the reasonable assurance of operability of a degraded condition involving one train of containment spray system and nonconforming conditions associated with diesel fuel oil piping.

The inspectors concluded the failure of operations personnel to follow station procedures to perform operability determinations was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, “Initial Characterization of Findings,” and 0609, Appendix A, “The Significance Determination Process (SDP) for Findings at-Power.” The inspectors concluded the finding was of very low safety significance (Green) because all questions in Exhibit 2 could be answered in the negative. The inspectors determined that the finding had a consistent process cross-cutting aspect in the area of human performance because the licensee did not use a consistent and systematic process to make

decisions (H.13).

Inspection Report# : 2014007 *(pdf)*

Significance: G Mar 28, 2014
Identified By: NRC
Item Type: FIN Finding
Failure to Follow Station Process for Root Cause Evaluation
The inspectors identified a Green finding for the failure of station personnel to follow procedures to implement root cause evaluations. Specifically, approximately one third of the root cause evaluations reviewed by inspectors resulted in a probable cause with further information needed to validate the cause. Of this subset, eighty percent of the evaluations did not adhere to station processes.

The failure of station personnel to follow station procedures to implement root cause evaluations was a performance deficiency. The performance deficiency was more than minor, therefore a finding, because if left uncorrected the performance deficiency could become a more significant safety concern in that significant conditions adverse to quality could reoccur prior to the implementation of appropriate corrective action. The finding is associated with multiple cornerstones, though it is most closely associated with the Mitigating Systems Cornerstone and the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, “Initial Characterization of Findings,” and 0609, Appendix A, “The Significance Determination Process (SDP) for Findings at-Power.” The inspectors concluded the finding was of very low safety significance (Green) because all questions in Exhibit 2 could be answered in the negative. The inspectors determined that the finding had a consistent process cross-cutting aspect in the area of human performance because the licensee did not use a consistent and systematic approach when making decisions (H.13).

Inspection Report# : 2014007 *(pdf)*

Significance: G Dec 31, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Modification of Safety Related Accumulators
The inspectors identified a Green non-cited violation of 10 CFR 50, Appendix B, Criterion III, “Design Control,” for the failure to assure that a modification to the main steam and main feedwater isolation valve accumulators was suitable for the reliable operation of these components. Specifically, on September 4, 2009, the licensee failed to assess the suitability of a small dead band for a thermal relief valve in the accumulator valve manifold assembly and the impact on reliable operation of the associated valves. The licensee entered this issue into the corrective action program as Palo Verde Action Request 4429273. The licensee isolated the thermal relief valve from the actuators.

The failure to assure that the modification of the main steam and main feedwater isolation valve accumulators was suitable for the reliable operation of these components was a performance deficiency. The performance deficiency is more than minor, and therefore is a finding, because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04,

"Initial Characterization of Findings," and 0609 Appendix A, "The Significance Determination Process (SDP) for Findings at-Power." The inspectors concluded the finding was of very low safety significance (Green) because all questions in Exhibit 2 could be answered in the negative. The inspectors determined that the finding had a cross-cutting aspect in the area of human performance associated with resources component because the licensee did not maintain design margins by minimizing long standing equipment issues.
Inspection Report# : 2013005 *(pdf)*

Significance: G Jun 30, 2013
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Prevent Recurrence of a Significant Condition Adverse to Quality
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," occurred because the licensee failed to correct and prevent recurrence of a significant condition adverse to quality associated with the emergency diesel generator automatic voltage regulator circuitry. Specifically, from February 2011 to January 2013, the licensee failed to correct the cause of an induced voltage transient in the automatic voltage regulator circuitry, resulting in the Unit 2 train B diesel generator not reaching rated voltage during a surveillance test. The licensee entered the issue into their corrective action program as CRDR 4329997 and replaced and retested electrical components that could allow a voltage transient on the instantaneous pre-positioning circuit board.

The performance deficiency associated with this finding is the failure of the licensee to correct and prevent recurrence of a significant condition adverse to quality. The performance deficiency is more than minor, and therefore a finding, because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The senior resident inspector performed the initial significance determination for the train B emergency diesel generator (EDG) failure. The inspector evaluated the significance of the issue under the SDP, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings at-Power." The finding screened to a detailed risk evaluation because it involved a potential loss of one train of safety related equipment for longer than the technical specification allowed outage time. A Region IV senior reactor analyst performed the detailed risk evaluation. The exposure period was 43 days. The change to the CDF was 7.2E-7/year (Green). The finding was not significant to the large early release frequency. The dominant core damage sequences included loss of offsite power events that lead to station blackout conditions. The gas turbine generators, train A emergency diesel generator, and the DC battery life extension to six hours helped to limit the risk. The finding has a cross-cutting aspect in the area of Problem Identification and Resolution associated with the corrective action program component because the licensee failed to thoroughly evaluate problems such that the resolutions address causes and extent of condition, as necessary [P.1(c)].
Inspection Report# : 2013003 *(pdf)*

Barrier Integrity

Significance: G Jun 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Operability Determination Procedure for Maintaining Administrative Limits
The inspectors identified a Green noncited violation of 10 CFR Part 50 Appendix B, Criterion V, "Instructions,

Procedures, and Drawings," for the failure of operations and engineering personnel to follow station procedures to perform operability determinations and functional assessments. Specifically, plant personnel did not maintain appropriate controls to ensure that the temperature limit established in the operability determination for the spent fuel pool criticality analysis was maintained. The licensee entered the issue into their corrective action program as PVAR 4380424, began taking more frequent readings of spent fuel pool temperature indicators, and lowered the spent fuel pool temperature alarm setpoint.

The failure to follow Procedure 40DP-9OP26 for performing operability determinations is a performance deficiency. This performance deficiency is more than minor, and therefore a finding, because it is associated with the Barrier Integrity Cornerstone attribute of procedure quality and it adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accident or events. The inspectors evaluated the significance of the finding using Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The inspectors reviewed all Barrier Integrity screening questions in IMC 0609, Appendix A, Exhibit 3 Section D, and all questions were answered "No." Therefore, the finding was determined to be of very low safety significance. The inspectors determined that the finding has a cross-cutting aspect in the area of human performance associated with decision making. Specifically, the licensee did not communicate the administrative limits established in the spent fuel pool criticality operability determination to appropriate operations personnel [H.1(c)].
Inspection Report# : 2013003 *(pdf)*

Emergency Preparedness

Significance: G Sep 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain an effective Emergency Plan for a Seismic Event
The inspectors identified a non-cited violation of 10 CFR 50.54 (q)(2) for the failure to maintain an effective emergency plan action level scheme in accordance with 50.47(b)(4). Specifically, the Alert threshold for HA1.1, "Natural or Destructive Phenomena Affecting VITAL AREAS," requires a declaration of an Alert for a seismic event greater than operating basis earthquake as indicated by any force balance accelerometer reading greater than 0.10g. Operators rely on alarms to verify the acceleration beyond the operating basis earthquake and the inspectors determined the seismic monitor alarm set point was 0.13g. This could result with the inability of operations personnel to classify an event at the Alert level. A design change modified the seismic monitoring set point to 0.1g and restored compliance. The licensee entered the issue into their corrective action program as Palo Verde Action Request 3624077.
The inspectors determined that the failure to maintain an effective emergency action level scheme was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it adversely affected the Emergency Response Organization Performance attribute of the Emergency Preparedness Cornerstone and its objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, the licensee's ability to declare an Alert based on Natural Phenomenon at the correct threshold was degraded. The inspectors assessed the significance of the finding in accordance with NRC Inspection Manual Chapter (IMC) 0609, Appendix B, "Emergency Preparedness Significance Determination Process," Figure 5.4-1, and determined the finding to be of very low safety significance because compensatory measures were available for emergency response organization personnel to perform the classification duties. The inspectors determined this finding is not indicative of current performance and therefore no cross-cutting aspect is assigned.

Inspection Report# : 2013004 *(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : May 30, 2014

Palo Verde 2
2Q/2014 Plant Inspection Findings

Initiating Events

Significance: G Dec 31, 2013
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to Replace Oil Soaked Insulation Results in a Fire
The inspectors reviewed a Green self-revealing finding for the licensee's failure to promptly identify and correct an adverse condition. Specifically, the licensee failed to identify that operating limits for main feedwater pump (MFP) vapor extractors did not prevent lube oil leakage, and insulation surrounding the Unit 2 train A MFP became soaked with oil. As a result, the oil soaked insulation, exposed to hot surface temperatures over time, became degraded and initiated a fire in the turbine building, resulting in declaration of an unusual event. No violation of regulatory requirements occurred because the finding occurred on non-safety secondary plant equipment. The licensee entered the finding into the licensee's corrective action program as Condition Report Disposition Request 4458504 and 4452395.

The failure to promptly identify and correct an adverse condition was a performance deficiency. The performance deficiency is more than minor, and therefore is a finding, because it was associated with the Initiating Events Cornerstone and was a precursor to a more significant event which resulted in a fire and an emergency declaration. The inspectors assessed the significance of the finding in accordance with NRC Inspection Manual Chapter (IMC) 0609, appendix A, "Significance Determination Process for Findings At-Power," using Exhibit 1, "Initiating Events Screening Questions." The finding required a detailed risk evaluation because it resulted in increasing the fire frequency. A Region IV senior reactor analyst performed the detailed risk evaluation. The bounding change to the core damage frequency was 1.0E-7/year (Green). The most prominent core damage sequences included a transient coupled with various failures of the auxiliary feedwater and main feedwater pumps. The automatic runback function of the feedwater control system helped to minimize the change to the core damage frequency. The inspectors determined the finding has a cross-cutting aspect in the area of problem identification and resolution associated with the operating experience (OE) component because the licensee failed to implement and institutionalize OE through changes to station processes, procedures, equipment, and training programs to ensure MFP turbine vapor extractors are operated appropriately and that fire hazards associated with oil soaked insulation are promptly identified and corrected.
Inspection Report# : 2013005 *(pdf)*

Significance: G Sep 30, 2013
Identified By: NRC
Item Type: FIN Finding
Failure to Include Requirements in Preventative Maintenance Basis

The inspectors identified a Green finding for the failure of licensee personnel to follow Procedure 30DP-9MP08, “Preventive Maintenance Program.” Specifically, plant personnel did not ensure that requirements for performing inspection and replacement of degraded tie-wraps in electrical cubicles were contained in preventative maintenance basis documents. Consequently, degraded cable tie-wraps in Unit 1 load center L02 were not inspected prior to a catastrophic electrical fault on July 2, 2013. The licensee rebuilt the load center cubicle and has entered this issue into their corrective action program as PVAR 4454845.
The failure to follow established procedures for updating preventive maintenance basis documents with requirements and recommendations from previous component failures was a performance deficiency. This performance deficiency is more than minor because it was associated with the procedure quality attribute of the Initiating Events Cornerstone and adversely affects the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, by not including the requirements and recommendations from the history of previous failures in the preventive maintenance basis, pertinent operating experience was not considered when evaluating changes to the preventive maintenance program. Consequently, degraded cable tie-wraps in Unit 1 load center L02 were not inspected prior to experiencing a catastrophic electrical fault on July 2, 2013 that upset plant stability. The inspectors used the NRC Inspection Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings,” to determine the significance. The inspectors determined that the finding was of very low safety significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The inspectors also determined the issue had a cross-cutting aspect in the area problem identification and resolution associated with the operating experience component because the licensee did not implement and institutionalize operating experience through changes to the station’s preventive maintenance program [P.2(b)].

Inspection Report# : 2013004 *(pdf)*

Mitigating Systems

Significance: G Apr 02, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Translate Design Basis Requirements for Establishing Operability of the Spray Pond System
The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” which states, in part, “Measures shall be established to assure that applicable regulatory requirements and the design basis, are correctly translated into specifications, drawings, procedures, and instructions. These measures shall include provisions to assure that appropriate quality standards are specified and included in design documents and that deviations from such standards are controlled.” Specifically, prior to February 7, 2014, the licensee used Engineering Calculation 13-NS-C088, “Mission Times for EW, SP, SI, AF, and DG systems,” for establishing a 26-day mission time of the spray pond system instead of a 30-day availability time as required by Regulatory Guide 1.27, “Ultimate Heat Sink For Nuclear Power Plants,” and approved in their safety evaluation report. Consequently, spray pond system operability determinations performed per Procedure 40DP-9OP26, “Operations PVAR Processing and Operability Determination/ Functional Assessment,” used the incorrect mission time. In response to this issue, the licensee performed a review of the operability determinations in question using 30 days for the mission time and confirmed that the spray pond system remained operable and maintained an adequate safety margin. This finding was entered into the licensee’s corrective action program as Palo Verde Action Request (PVAR) 4500910.

The team determined that the failure to ensure that design basis information associated with the mission time of the spray pond system was correctly translated into a procedure used to determine operability was a performance deficiency. This performance deficiency was more than minor because it adversely affected the Mitigating Systems

Cornerstone attribute of Equipment Performance and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to use the correct mission time when determining operability was a significant deficiency of design control in that operability determination evaluations could establish nonconservative results that could lead to the spray pond system not being able to meet its design safety function. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding had a cross-cutting aspect in the area of human performance because the licensee implemented an engineering study with inaccurate information establishing the incorrect mission time used in operability determinations for the spray pond system.
Inspection Report# : 2013009 *(pdf)*

Significance: G Apr 02, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Deficiencies in Emergency Diesel Generator Engine Room and Control Room Ventilation Air Flow Testing and Evaluation
The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," which states, in part, "A test program shall be established to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents." Specifically, in June, 2013, the licensee failed to evaluate performance test results when high air flow measurements from the emergency diesel generator engine room and control room ventilation air flow performance tests contained values that were beyond the capability of the equipment. Consequently, the condition of the higher measured airflow had not been evaluated to determine if the test results were valid. In response to this issue, the licensee confirmed that the equipment had remained operable, based on the review of more accurate testing performed in 2006. This finding was entered into the licensee's corrective action program as Palo Verde Action Request (PVAR) 4500070.

The team determined that the failure to establish and incorporate adequate air flow acceptance criteria into the emergency diesel generator control room supply fan and engine room exhaust fan performance tests was a performance deficiency. This performance deficiency was more than minor because it adversely affected the Mitigating Systems Cornerstone attribute of Equipment Performance and affected the cornerstone objective to ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to incorporate adequate acceptance criteria into the safety-related equipment performance tests was a significant deficiency of test control which could cause unacceptable fan performance conditions to go undetected. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding had a cross-cutting aspect in the area of human performance because the licensee failed to use decision-making practices that emphasize prudent choices over those that are simply allowable.

Inspection Report# : 2013009 *(pdf)*

Significance: G Apr 02, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Establish Adequate Procedures for an Alternate Source of Spray Pond Inventory
The team identified a Green, non-cited violation of Technical Specification 5.4.1, which states, in part, "Written procedures shall be established, implemented, and maintained covering the following activities: Part a. The applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978." Section 6 of Regulatory Guide 1.33, Appendix A, requires procedures for combating emergencies and other significant events. Specifically, prior to January 24, 2014, emergency procedures to provide make-up water to the essential spray pond beyond its 26 day water inventory did not provide sufficient details and contained inaccuracies for supplying the essential spray ponds with water from the regional aquifer via a well. In response to this issue, the licensee confirmed that there had never been an event at the site for which the procedure would have been utilized. This finding was entered into the licensee's corrective action program as Palo Verde Action Requests (PVARs) 4496901, 4497291, 4498167, and 4499085.

The team determined that the failure to establish adequate procedures for an alternate source of spray pond inventory was a performance deficiency. This performance deficiency was more than minor because it adversely affected the Mitigating Systems Cornerstone attribute of Procedure Quality and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the continuous capability of the ultimate heat sink to perform its safety function beyond the 26-day inventory of the essential spray ponds was not ensured. In accordance with Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. The team determined that this finding did not have a cross-cutting aspect because the most significant contributor did not reflect current licensee performance.

Inspection Report# : 2013009 *(pdf)*

Significance: G Apr 02, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Improper Extension of Surveillance Interval for Surveillance Requirements Associated with the Engineered Safety Features Actuation Signal (ESFAS) Sequencer and Relays
The team identified a Green, non-cited violation of Technical Specification 5.5.18, "Surveillance Frequency Control Program" which states, in part, "This program provides controls for Surveillance Frequencies. The program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met." Part (b) states, "Changes of the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, 'Risk-Informed Method for Control of Surveillance Frequencies,' Revision 1." Specifically, prior to February 3, 2014, previous regulatory commitments for the engineered safety features actuation signal system surveillance test frequencies were not properly addressed as required by Technical Specification 5.5.18.b and NEI 04-10. The licensee did not follow the guidance of NEI 04-10 when they revised the Surveillance Frequency Control Program to test each train of the engineered safety features actuation signal system from every 18 months to every 36 months. In response to this issue, the licensee confirmed that the engineered safety features actuation signal system remained operable because the system had been tested satisfactory and none of the technical specification surveillances were overdue. This finding was entered into the licensee's corrective action program as Palo Verde Action Requests (PVARs) 4500910 and

4500874.

The team determined that the failure to adequately address a regulatory commitment when extending the surveillance testing frequency associated with the engineered safety features actuation signal system was a performance deficiency. This performance deficiency was more than minor because it was associated with the Mitigating Systems Cornerstone attribute of Equipment Performance, and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of the engineered safety features actuation signal system to respond to initiating events to prevent undesirable consequences. Specifically, the NRC commitment identified in document RCTSAI 7673 committed the licensee to: "the BOP ESFAS system will be fully tested at least every 18 months at the time of refueling." When making a change to the Surveillance Frequency Control Program associated with the surveillance test frequency of the engineered safety features actuation signal system, the licensee failed to collect and review all commitments made to the NRC as required by NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1, and failed to follow the requirements of NEI 99-04, "Guidelines for Managing NRC Commitment Changes," Revision 0. In accordance with NRC Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings
At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding had a cross-cutting aspect in the area of human performance because the licensee leaders did not use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority.

Inspection Report# : 2013009 *(pdf)*

Significance:  Mar 28, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure To Provide Adequate Technical Justification For Operability of Containment Spray and Diesel Fuel Oil Systems
The inspectors identified multiple examples of a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations personnel to follow station procedures used to perform operability determinations. Specifically, operations personnel failed to provide sufficient technical justification for the reasonable assurance of operability of a degraded condition involving one train of containment spray system and nonconforming conditions associated with diesel fuel oil piping.

The inspectors concluded the failure of operations personnel to follow station procedures to perform operability determinations was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and 0609, Appendix A, "The Significance Determination Process (SDP) for Findings at-Power." The inspectors concluded the finding was of very low safety significance (Green) because all questions in Exhibit 2 could be answered in the negative. The inspectors determined that the finding had a consistent process cross-cutting aspect in the area of human performance because the licensee did not use a consistent and systematic process to make decisions (H.13).

Inspection Report# : 2014007 *(pdf)*

Significance: G Mar 28, 2014
Identified By: NRC
Item Type: FIN Finding
Failure to Follow Station Process for Root Cause Evaluation
The inspectors identified a Green finding for the failure of station personnel to follow procedures to implement root cause evaluations. Specifically, approximately one third of the root cause evaluations reviewed by inspectors resulted in a probable cause with further information needed to validate the cause. Of this subset, eighty percent of the evaluations did not adhere to station processes.

The failure of station personnel to follow station procedures to implement root cause evaluations was a performance deficiency. The performance deficiency was more than minor, therefore a finding, because if left uncorrected the performance deficiency could become a more significant safety concern in that significant conditions adverse to quality could reoccur prior to the implementation of appropriate corrective action. The finding is associated with multiple cornerstones, though it is most closely associated with the Mitigating Systems Cornerstone and the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, “Initial Characterization of Findings,” and 0609, Appendix A, “The Significance Determination Process (SDP) for Findings at-Power.” The inspectors concluded the finding was of very low safety significance (Green) because all questions in Exhibit 2 could be answered in the negative. The inspectors determined that the finding had a consistent process cross-cutting aspect in the area of human performance because the licensee did not use a consistent and systematic approach when making decisions (H.13).

Inspection Report# : 2014007 *(pdf)*

Significance: G Dec 31, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Modification of Safety Related Accumulators
The inspectors identified a Green non-cited violation of 10 CFR 50, Appendix B, Criterion III, “Design Control,” for the failure to assure that a modification to the main steam and main feedwater isolation valve accumulators was suitable for the reliable operation of these components. Specifically, on September 4, 2009, the licensee failed to assess the suitability of a small dead band for a thermal relief valve in the accumulator valve manifold assembly and the impact on reliable operation of the associated valves. The licensee entered this issue into the corrective action program as Palo Verde Action Request 4429273. The licensee isolated the thermal relief valve from the actuators.

The failure to assure that the modification of the main steam and main feedwater isolation valve accumulators was suitable for the reliable operation of these components was a performance deficiency. The performance deficiency is more than minor, and therefore is a finding, because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance and adversely affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, “Initial Characterization of Findings,” and 0609 Appendix A, “The Significance Determination Process (SDP) for Findings at-Power.” The inspectors concluded the finding was of very low safety significance (Green) because all questions in Exhibit 2 could be answered in the negative. The inspectors determined that the finding had a cross-cutting aspect in the area

of human performance associated with resources component because the licensee did not maintain design margins by minimizing long standing equipment issues.
Inspection Report# : 2013005 *(pdf)*

Barrier Integrity

Significance: G Apr 02, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Surveillance Testing Procedure
The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," which states, in part, "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings." Specifically, between November 5, 2010 and September 17, 2012, the licensee failed to follow Procedure 73DP-9ZZ14, "Surveillance Testing," Step 3.6.1, "Failed Step or Out of Tolerance Data," which requires personnel to write a Palo Verde Action Request (PVAR) when a failed surveillance test is encountered. On three separate occasions, the licensee failed to initiate a Palo Verde action request when the containment air lock door seal surveillance test failed. In response to this issue, the licensee confirmed that minor maintenance had been performed on the containment air lock door seals immediately following the failure of the surveillances and the surveillances then met the procedure requirements. This finding was entered into the licensee's corrective action program as Palo Verde Action Requests (PVARs) 4499119 and 4499123.

The team determined that the failure to follow Procedure 73DP-9ZZ14, "Surveillance Testing," which required maintenance personnel to write a Palo Verde action request upon the failure of a surveillance test, was a performance deficiency. This performance deficiency was more than minor because if left uncorrected, it would lead to a more significant safety concern. Specifically, by not initiating Palo Verde action requests for failed surveillances, the licensee missed the opportunity to enter the failures into their corrective action program, perform formal operability determinations, consider the conditions for identification of maintenance rule functional failures, identify performance trends, and ultimately, correct the adverse condition in a timely manner. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 3, "Barrier Integrity Screening Questions," the issue screened as having very low safety significance (Green) because it did not represent an actual open pathway in the physical integrity of reactor containment and did not involve an actual reduction in function of hydrogen igniters in the reactor containment. This finding had a cross-cutting aspect in the area of human performance because licensee leaders failed to ensure that personnel, equipment, procedures, and other resources are available and adequate to support nuclear safety.

Inspection Report# : 2013009 *(pdf)*

Emergency Preparedness

Significance: G Sep 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain an effective Emergency Plan for a Seismic Event

The inspectors identified a non-cited violation of 10 CFR 50.54 (q)(2) for the failure to maintain an effective emergency plan action level scheme in accordance with 50.47(b)(4). Specifically, the Alert threshold for HA1.1, "Natural or Destructive Phenomena Affecting VITAL AREAS," requires a declaration of an Alert for a seismic event greater than operating basis earthquake as indicated by any force balance accelerometer reading greater than 0.10g. Operators rely on alarms to verify the acceleration beyond the operating basis earthquake and the inspectors determined the seismic monitor alarm set point was 0.13g. This could result with the inability of operations personnel to classify an event at the Alert level. A design change modified the seismic monitoring set point to 0.1g and restored compliance. The licensee entered the issue into their corrective action program as Palo Verde Action Request 3624077.
The inspectors determined that the failure to maintain an effective emergency action level scheme was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it adversely affected the Emergency Response Organization Performance attribute of the Emergency Preparedness Cornerstone and its objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, the licensee's ability to declare an Alert based on Natural Phenomenon at the correct threshold was degraded. The inspectors assessed the significance of the finding in accordance with NRC Inspection Manual Chapter (IMC) 0609, Appendix B, "Emergency Preparedness Significance Determination Process," Figure 5.4-1, and determined the finding to be of very low safety significance because compensatory measures were available for emergency response organization personnel to perform the classification duties. The inspectors determined this finding is not indicative of current performance and therefore no cross-cutting aspect is assigned.

Inspection Report# : 2013004 *(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : August 29, 2014

Palo Verde 2
3Q/2014 Plant Inspection Findings

Initiating Events

Significance: G Dec 31, 2013
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to Replace Oil Soaked Insulation Results in a Fire
The inspectors reviewed a Green self-revealing finding for the licensee's failure to promptly identify and correct an adverse condition. Specifically, the licensee failed to identify that operating limits for main feedwater pump (MFP) vapor extractors did not prevent lube oil leakage, and insulation surrounding the Unit 2 train A MFP became soaked with oil. As a result, the oil soaked insulation, exposed to hot surface temperatures over time, became degraded and initiated a fire in the turbine building, resulting in declaration of an unusual event. No violation of regulatory requirements occurred because the finding occurred on non-safety secondary plant equipment. The licensee entered the finding into the licensee's corrective action program as Condition Report Disposition Request 4458504 and 4452395.

The failure to promptly identify and correct an adverse condition was a performance deficiency. The performance deficiency is more than minor, and therefore is a finding, because it was associated with the Initiating Events Cornerstone and was a precursor to a more significant event which resulted in a fire and an emergency declaration. The inspectors assessed the significance of the finding in accordance with NRC Inspection Manual Chapter (IMC) 0609, appendix A, "Significance Determination Process for Findings At-Power," using Exhibit 1, "Initiating Events Screening Questions." The finding required a detailed risk evaluation because it resulted in increasing the fire frequency. A Region IV senior reactor analyst performed the detailed risk evaluation. The bounding change to the core damage frequency was 1.0E-7/year (Green). The most prominent core damage sequences included a transient coupled with various failures of the auxiliary feedwater and main feedwater pumps. The automatic runback function of the feedwater control system helped to minimize the change to the core damage frequency. The inspectors determined the finding has a cross-cutting aspect in the area of problem identification and resolution associated with the operating experience (OE) component because the licensee failed to implement and institutionalize OE through changes to station processes, procedures, equipment, and training programs to ensure MFP turbine vapor extractors are operated appropriately and that fire hazards associated with oil soaked insulation are promptly identified and corrected.
Inspection Report# : 2013005 *(pdf)*

Mitigating Systems

Significance: G Sep 30, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Provide Adequate Technical Justification for Operability
Green. The inspectors identified a Green non-cited violation of 10 CFR Part 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations and engineering personnel to follow station procedures to provide an adequate technical justification for continued operation of a degraded structure, system, or component. Specifically, after discovering that the turbine driven auxiliary feedwater pump exhaust line did not have any tornado missile protection, operators performed an immediate operability determination and declared the system operable. The inspectors challenged this evaluation and determined the licensee did not provide adequate technical justification for continued operation with this condition because: (1) the evaluation relied on a probabilistic risk assessment that assumed the turbine driven auxiliary feedwater pump fails due to impact from a tornado-born missile, and (2) the evaluation assumed that the results of a future analysis would provide satisfactory results. In response to the inspector's operability concerns, plant personnel subsequently completed an analysis that provided a reasonable expectation that the turbine driven auxiliary feedwater pump would be able to perform its safety function if impacted by a tornado-born missile. The licensee entered this issue into the corrective action program as Palo Verde Action Request 4255816.

The inspectors concluded that the failure of plant personnel to adequately evaluate the operability of a safety-related structure, system, or component was a performance deficiency. The inspectors concluded the performance deficiency is more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors performed the initial significance determination for the performance deficiency using NRC Inspection Manual 0609, Appendix A, Exhibit 4, "External Events Screening Questions," dated July 1, 2012. The finding required a detailed risk evaluation because the turbine driven auxiliary feedwater pump is one train of a system that supports a risk significant function. Therefore, a Region IV senior reactor analyst performed a bounding detailed risk evaluation. The change to the core damage frequency was 7E-10/year (Green). The dominant core damage sequences included a tornado induced loss of offsite power initiating event, failure of the turbine driven auxiliary feedwater pump, and random failures of the motor driven auxiliary feedwater pumps. The low frequency for the tornado induced loss of offsite power initiating event helped to minimize the risk significance. The inspectors determined this finding has a cross-cutting aspect in the area of human because the licensee failed to utilize a conservative bias in its evaluation of the missing tornado missile protection, considering the risk significance of the turbine driven auxiliary feedwater pump and lack of any technical evaluation [H.14] (Section 1R15).
Inspection Report# : 2014004 *(pdf)*

Significance: G Sep 30, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Translate Design Basis Requirements for Establishing Operability of Spray Pond System
Green. The inspectors identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to correctly translate the mission time of the essential spray pond system into a procedure used to determine operability. In response to the inspectors' concerns, the licensee re-evaluated essential spray pond operability determinations that had used the erroneous 26-day mission time and concluded that acceptable margin was available to ensure the system would remain operable for the 30-day mission time. The licensee entered this issue into the corrective action program as Palo Verde Action Request 4550539.

The failure to ensure that design basis information associated with the mission time of the essential spray pond system was correctly translated into a procedure used to determine operability was a performance deficiency. This performance deficiency was more than minor because if left uncorrected, it had the potential to lead to a more

significant safety concern. Specifically, the failure to use the correct mission time when determining operability could establish nonconservative results that could lead to the essential spray pond system not being able to meet its design safety function. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding has a cross-cutting aspect in the area of human performance because the licensee failed to create and maintain complete, accurate, and up-to-date documentation. Specifically, after initially recognizing the adverse condition, the licensee did not document a standing order or temporary procedure change to prevent operability evaluations from using the incorrect essential spray pond mission time [H.7]. (Section 1R15).
Inspection Report# : 2014004 *(pdf)*

Significance: G Sep 30, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Component Design Basis Inspection
Green. The team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to assure the adequacy of degraded voltage relay setpoints. Specifically, the team identified that the licensee failed to perform calculations to demonstrate the voltage setpoints for the installed degraded voltage relays would afford adequate voltage to safety-related loads during worst case accident loading.

The failure to assure the adequacy of degraded voltage relay setpoints for voltage and the time delay by performing adequate voltage drop calculations was a performance deficiency. This finding is more than minor because it was associated with the design control attribute of the Mitigating Systems cornerstone and it adversely impacted to the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events. Specifically, the failure to properly ensure that safety-related electrical devices had adequate voltage could impact their safety function. The basis for this conclusion was that despite the non-conservative voltage inputs to voltage calculations and, therefore, loss of design margin for available voltage, there was still adequate voltage for the circuits to perform their safety function based on worst case voltage as demonstrated in the updated calculations. The licensee developed design basis calculations for its DVR voltage setpoints and committed to addressing the technical basis and interim actions in a commitment letter for their corrective actions. There is no cross-cutting aspect associated with this finding because it is a historical condition and not indicative of current performance. (Section 1R21)
Inspection Report# : 2014004 *(pdf)*

Significance: G Apr 02, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Translate Design Basis Requirements for Establishing Operability of the Spray Pond System
The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," which states, in part, "Measures shall be established to assure that applicable regulatory requirements and the design basis, are correctly translated into specifications, drawings, procedures, and instructions. These measures shall include provisions to assure that appropriate quality standards are specified and included in design documents and that deviations from such standards are controlled." Specifically, prior to February 7, 2014, the licensee used Engineering Calculation 13-NS-C088, "Mission Times for EW, SP, SI, AF, and DG systems," for establishing a 26-day mission time of the spray pond system instead of a 30-day availability time as required by Regulatory Guide 1.27, "Ultimate Heat Sink For Nuclear Power Plants," and approved in their safety evaluation report. Consequently, spray pond system operability determinations performed per Procedure 40DP-9OP26, "Operations PVAR Processing and

Operability Determination/ Functional Assessment," used the incorrect mission time. In response to this issue, the licensee performed a review of the operability determinations in question using 30 days for the mission time and confirmed that the spray pond system remained operable and maintained an adequate safety margin. This finding was entered into the licensee's corrective action program as Palo Verde Action Request (PVAR) 4500910.

The team determined that the failure to ensure that design basis information associated with the mission time of the spray pond system was correctly translated into a procedure used to determine operability was a performance deficiency. This performance deficiency was more than minor because it adversely affected the Mitigating Systems Cornerstone attribute of Equipment Performance and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to use the correct mission time when determining operability was a significant deficiency of design control in that operability determination evaluations could establish nonconservative results that could lead to the spray pond system not being able to meet its design safety function. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding had a cross-cutting aspect in the area of human performance because the licensee implemented an engineering study with inaccurate information establishing the incorrect mission time used in operability determinations for the spray pond system.
Inspection Report# : 2013009 *(pdf)*

Significance: G Apr 02, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Deficiencies in Emergency Diesel Generator Engine Room and Control Room Ventilation Air Flow Testing and Evaluation
The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," which states, in part, "A test program shall be established to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents." Specifically, in June, 2013, the licensee failed to evaluate performance test results when high air flow measurements from the emergency diesel generator engine room and control room ventilation air flow performance tests contained values that were beyond the capability of the equipment. Consequently, the condition of the higher measured airflow had not been evaluated to determine if the test results were valid. In response to this issue, the licensee confirmed that the equipment had remained operable, based on the review of more accurate testing performed in 2006. This finding was entered into the licensee's corrective action program as Palo Verde Action Request (PVAR) 4500070.

The team determined that the failure to establish and incorporate adequate air flow acceptance criteria into the emergency diesel generator control room supply fan and engine room exhaust fan performance tests was a performance deficiency. This performance deficiency was more than minor because it adversely affected the Mitigating Systems Cornerstone attribute of Equipment Performance and affected the cornerstone objective to ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to incorporate adequate acceptance criteria into the safety-related equipment performance tests was a significant deficiency of test control which could cause unacceptable fan performance conditions to go undetected. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety

function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding had a cross-cutting aspect in the area of human performance because the licensee failed to use decision-making practices that emphasize prudent choices over those that are simply allowable.

Inspection Report# : 2013009 *(pdf)*

Significance: G Apr 02, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Establish Adequate Procedures for an Alternate Source of Spray Pond Inventory
The team identified a Green, non-cited violation of Technical Specification 5.4.1, which states, in part, "Written procedures shall be established, implemented, and maintained covering the following activities: Part a. The applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978." Section 6 of Regulatory Guide 1.33, Appendix A, requires procedures for combating emergencies and other significant events. Specifically, prior to January 24, 2014, emergency procedures to provide make-up water to the essential spray pond beyond its 26 day water inventory did not provide sufficient details and contained inaccuracies for supplying the essential spray ponds with water from the regional aquifer via a well. In response to this issue, the licensee confirmed that there had never been an event at the site for which the procedure would have been utilized. This finding was entered into the licensee's corrective action program as Palo Verde Action Requests (PVARs) 4496901, 4497291, 4498167, and 4499085.

The team determined that the failure to establish adequate procedures for an alternate source of spray pond inventory was a performance deficiency. This performance deficiency was more than minor because it adversely affected the Mitigating Systems Cornerstone attribute of Procedure Quality and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the continuous capability of the ultimate heat sink to perform its safety function beyond the 26-day inventory of the essential spray ponds was not ensured. In accordance with Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. The team determined that this finding did not have a cross-cutting aspect because the most significant contributor did not reflect current licensee performance.

Inspection Report# : 2013009 *(pdf)*

Significance: G Apr 02, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Improper Extension of Surveillance Interval for Surveillance Requirements Associated with the Engineered Safety Features Actuation Signal (ESFAS) Sequencer and Relays
The team identified a Green, non-cited violation of Technical Specification 5.5.18, "Surveillance Frequency Control Program" which states, in part, "This program provides controls for Surveillance Frequencies. The program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met." Part (b) states, "Changes of the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, 'Risk-Informed Method for Control of Surveillance Frequencies,' Revision 1." Specifically, prior to February 3, 2014, previous regulatory

commitments for the engineered safety features actuation signal system surveillance test frequencies were not properly addressed as required by Technical Specification 5.5.18.b and NEI 04-10. The licensee did not follow the guidance of NEI 04-10 when they revised the Surveillance Frequency Control Program to test each train of the engineered safety features actuation signal system from every 18 months to every 36 months. In response to this issue, the licensee confirmed that the engineered safety features actuation signal system remained operable because the system had been tested satisfactory and none of the technical specification surveillances were overdue. This finding was entered into the licensee's corrective action program as Palo Verde Action Requests (PVARs) 4500910 and 4500874.

The team determined that the failure to adequately address a regulatory commitment when extending the surveillance testing frequency associated with the engineered safety features actuation signal system was a performance deficiency. This performance deficiency was more than minor because it was associated with the Mitigating Systems Cornerstone attribute of Equipment Performance, and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of the engineered safety features actuation signal system to respond to initiating events to prevent undesirable consequences. Specifically, the NRC commitment identified in document RCTSAI 7673 committed the licensee to: "the BOP ESFAS system will be fully tested at least every 18 months at the time of refueling." When making a change to the Surveillance Frequency Control Program associated with the surveillance test frequency of the engineered safety features actuation signal system, the licensee failed to collect and review all commitments made to the NRC as required by NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1, and failed to follow the requirements of NEI 99-04, "Guidelines for Managing NRC Commitment Changes," Revision 0. In accordance with NRC Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings
At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding had a cross-cutting aspect in the area of human performance because the licensee leaders did not use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority.

Inspection Report# : 2013009 *(pdf)*

Significance: G Mar 28, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure To Provide Adequate Technical Justification For Operability of Containment Spray and Diesel Fuel Oil Systems
The inspectors identified multiple examples of a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations personnel to follow station procedures used to perform operability determinations. Specifically, operations personnel failed to provide sufficient technical justification for the reasonable assurance of operability of a degraded condition involving one train of containment spray system and nonconforming conditions associated with diesel fuel oil piping.

The inspectors concluded the failure of operations personnel to follow station procedures to perform operability determinations was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and 0609, Appendix A, "The Significance Determination Process (SDP) for Findings at-Power." The

inspectors concluded the finding was of very low safety significance (Green) because all questions in Exhibit 2 could be answered in the negative. The inspectors determined that the finding had a consistent process cross-cutting aspect in the area of human performance because the licensee did not use a consistent and systematic process to make decisions (H.13).

Inspection Report# : 2014007 *(pdf)*

Significance: G Mar 28, 2014
Identified By: NRC
Item Type: FIN Finding
Failure to Follow Station Process for Root Cause Evaluation
The inspectors identified a Green finding for the failure of station personnel to follow procedures to implement root cause evaluations. Specifically, approximately one third of the root cause evaluations reviewed by inspectors resulted in a probable cause with further information needed to validate the cause. Of this subset, eighty percent of the evaluations did not adhere to station processes.

The failure of station personnel to follow station procedures to implement root cause evaluations was a performance deficiency. The performance deficiency was more than minor, therefore a finding, because if left uncorrected the performance deficiency could become a more significant safety concern in that significant conditions adverse to quality could reoccur prior to the implementation of appropriate corrective action. The finding is associated with multiple cornerstones, though it is most closely associated with the Mitigating Systems Cornerstone and the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, “Initial Characterization of Findings,” and 0609, Appendix A, “The Significance Determination Process (SDP) for Findings at-Power.” The inspectors concluded the finding was of very low safety significance (Green) because all questions in Exhibit 2 could be answered in the negative. The inspectors determined that the finding had a consistent process cross-cutting aspect in the area of human performance because the licensee did not use a consistent and systematic approach when making decisions (H.13).

Inspection Report# : 2014007 *(pdf)*

Significance: G Dec 31, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Modification of Safety Related Accumulators
The inspectors identified a Green non-cited violation of 10 CFR 50, Appendix B, Criterion III, “Design Control,” for the failure to assure that a modification to the main steam and main feedwater isolation valve accumulators was suitable for the reliable operation of these components. Specifically, on September 4, 2009, the licensee failed to assess the suitability of a small dead band for a thermal relief valve in the accumulator valve manifold assembly and the impact on reliable operation of the associated valves. The licensee entered this issue into the corrective action program as Palo Verde Action Request 4429273. The licensee isolated the thermal relief valve from the actuators.

The failure to assure that the modification of the main steam and main feedwater isolation valve accumulators was suitable for the reliable operation of these components was a performance deficiency. The performance deficiency is more than minor, and therefore is a finding, because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance and adversely affects the cornerstone objective of ensuring the

availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and 0609 Appendix A, "The Significance Determination Process (SDP) for Findings at-Power." The inspectors concluded the finding was of very low safety significance (Green) because all questions in Exhibit 2 could be answered in the negative. The inspectors determined that the finding had a cross-cutting aspect in the area of human performance associated with resources component because the licensee did not maintain design margins by minimizing long standing equipment issues.
Inspection Report# : 2013005 *(pdf)*

Barrier Integrity

Significance: G Apr 02, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Surveillance Testing Procedure
The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," which states, in part, "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings." Specifically, between November 5, 2010 and September 17, 2012, the licensee failed to follow Procedure 73DP-9ZZ14, "Surveillance Testing," Step 3.6.1, "Failed Step or Out of Tolerance Data," which requires personnel to write a Palo Verde Action Request (PVAR) when a failed surveillance test is encountered. On three separate occasions, the licensee failed to initiate a Palo Verde action request when the containment air lock door seal surveillance test failed. In response to this issue, the licensee confirmed that minor maintenance had been performed on the containment air lock door seals immediately following the failure of the surveillances and the surveillances then met the procedure requirements. This finding was entered into the licensee's corrective action program as Palo Verde Action Requests (PVARs) 4499119 and 4499123.

The team determined that the failure to follow Procedure 73DP-9ZZ14, "Surveillance Testing," which required maintenance personnel to write a Palo Verde action request upon the failure of a surveillance test, was a performance deficiency. This performance deficiency was more than minor because if left uncorrected, it would lead to a more significant safety concern. Specifically, by not initiating Palo Verde action requests for failed surveillances, the licensee missed the opportunity to enter the failures into their corrective action program, perform formal operability determinations, consider the conditions for identification of maintenance rule functional failures, identify performance trends, and ultimately, correct the adverse condition in a timely manner. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 3, "Barrier Integrity Screening Questions," the issue screened as having very low safety significance (Green) because it did not represent an actual open pathway in the physical integrity of reactor containment and did not involve an actual reduction in function of hydrogen igniters in the reactor containment. This finding had a cross-cutting aspect in the area of human performance because licensee leaders failed to ensure that personnel, equipment, procedures, and other resources are available and adequate to support nuclear safety.

Inspection Report# : 2013009 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : November 26, 2014

Palo Verde 2
4Q/2014 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Dec 31, 2014
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Verify the Adequacy of the Design of the Diesel Fuel Oil Cooler
Green. The inspectors reviewed a self-revealing Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control" for the station's failure to adequately review the suitability of materials of the diesel fuel oil cooler. Specifically, the Unit 2 "A" diesel generator fuel oil cooler design allowed for the interface of two dissimilar metals which promoted galvanic corrosion. This corrosion ultimately affected the structural integrity of the cooler which rendered the "A" essential spray pond inoperable. In response to this, the licensee has replaced all six of the fuel oil cooler covers and initiated a design change to remove the fuel oil cooler from service. The licensee has entered the issue into the corrective action program as Condition Report Disposition Request 4543394.

The failure to verify the adequacy of the design of the diesel fuel oil cooler was a performance deficiency. The performance deficiency is more than minor because it affected the equipment performance attribute of the Mitigating Systems cornerstone to ensure the availability, reliability, capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the Unit 2 "A" diesel fuel oil cooler design allowed for the interface of two dissimilar metals which promoted galvanic corrosion. The corrosion ultimately affected the structural integrity of the cooler which rendered the Unit 2 "A" spray pond inoperable. In accordance with NRC Inspection Manual 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions." The finding screened to a detailed risk evaluation because it involved a potential loss of one train of safety related equipment for longer than the technical specification allowed outage time. A Region IV senior reactor analyst performed the detailed risk evaluation. The change to the core damage frequency was 1.5E-7/year (Green). The dominant core damage sequences included loss of offsite power events that lead to station blackout conditions. The gas turbine generators and the auxiliary feedwater system helped to minimize the risk. The inspectors determined this finding has no cross-cutting aspect because it is not indicative of current performance.
Inspection Report# : 2014005 *(pdf)*

Significance: G Sep 30, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Provide Adequate Technical Justification for Operability
Green. The inspectors identified a Green non-cited violation of 10 CFR Part 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations and engineering personnel to follow station procedures to provide an adequate technical justification for continued operation of a degraded structure, system, or component. Specifically, after discovering that the turbine driven auxiliary feedwater pump exhaust line did not have any tornado missile protection, operators performed an immediate operability determination and declared the system

operable. The inspectors challenged this evaluation and determined the licensee did not provide adequate technical justification for continued operation with this condition because: (1) the evaluation relied on a probabilistic risk assessment that assumed the turbine driven auxiliary feedwater pump fails due to impact from a tornado-born missile, and (2) the evaluation assumed that the results of a future analysis would provide satisfactory results. In response to the inspector's operability concerns, plant personnel subsequently completed an analysis that provided a reasonable expectation that the turbine driven auxiliary feedwater pump would be able to perform its safety function if impacted by a tornado-born missile. The licensee entered this issue into the corrective action program as Palo Verde Action Request 4255816.

The inspectors concluded that the failure of plant personnel to adequately evaluate the operability of a safety-related structure, system, or component was a performance deficiency. The inspectors concluded the performance deficiency is more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors performed the initial significance determination for the performance deficiency using NRC Inspection Manual 0609, Appendix A, Exhibit 4, "External Events Screening Questions," dated July 1, 2012. The finding required a detailed risk evaluation because the turbine driven auxiliary feedwater pump is one train of a system that supports a risk significant function. Therefore, a Region IV senior reactor analyst performed a bounding detailed risk evaluation. The change to the core damage frequency was 7E-10/year (Green). The dominant core damage sequences included a tornado induced loss of offsite power initiating event, failure of the turbine driven auxiliary feedwater pump, and random failures of the motor driven auxiliary feedwater pumps. The low frequency for the tornado induced loss of offsite power initiating event helped to minimize the risk significance. The inspectors determined this finding has a cross-cutting aspect in the area of human because the licensee failed to utilize a conservative bias in its evaluation of the missing tornado missile protection, considering the risk significance of the turbine driven auxiliary feedwater pump and lack of any technical evaluation [H.14] (Section 1R15).

Inspection Report# : 2014004 *(pdf)*

Significance: G Sep 30, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Translate Design Basis Requirements for Establishing Operability of Spray Pond System
Green. The inspectors identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to correctly translate the mission time of the essential spray pond system into a procedure used to determine operability. In response to the inspectors' concerns, the licensee re-evaluated essential spray pond operability determinations that had used the erroneous 26-day mission time and concluded that acceptable margin was available to ensure the system would remain operable for the 30-day mission time. The licensee entered this issue into the corrective action program as Palo Verde Action Request 4550539.

The failure to ensure that design basis information associated with the mission time of the essential spray pond system was correctly translated into a procedure used to determine operability was a performance deficiency. This performance deficiency was more than minor because if left uncorrected, it had the potential to lead to a more significant safety concern. Specifically, the failure to use the correct mission time when determining operability could establish nonconservative results that could lead to the essential spray pond system not being able to meet its design safety function. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding has a cross-cutting aspect in the area of human performance because the licensee failed to create and maintain complete, accurate, and

up-to-date documentation. Specifically, after initially recognizing the adverse condition, the licensee did not document a standing order or temporary procedure change to prevent operability evaluations from using the incorrect essential spray pond mission time [H.7]. (Section 1R15).

Inspection Report# : 2014004 *(pdf)*

Significance: G Sep 30, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Component Design Basis Inspection
Green. The team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to assure the adequacy of degraded voltage relay setpoints. Specifically, the team identified that the licensee failed to perform calculations to demonstrate the voltage setpoints for the installed degraded voltage relays would afford adequate voltage to safety-related loads during worst case accident loading.

The failure to assure the adequacy of degraded voltage relay setpoints for voltage and the time delay by performing adequate voltage drop calculations was a performance deficiency. This finding is more than minor because it was associated with the design control attribute of the Mitigating Systems cornerstone and it adversely impacted to the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events. Specifically, the failure to properly ensure that safety-related electrical devices had adequate voltage could impact their safety function. The basis for this conclusion was that despite the non-conservative voltage inputs to voltage calculations and, therefore, loss of design margin for available voltage, there was still adequate voltage for the circuits to perform their safety function based on worst case voltage as demonstrated in the updated calculations. The licensee developed design basis calculations for its DVR voltage setpoints and committed to addressing the technical basis and interim actions in a commitment letter for their corrective actions. There is no cross-cutting aspect associated with this finding because it is a historical condition and not indicative of current performance. (Section 1R21)
Inspection Report# : 2014004 *(pdf)*

Significance: G Apr 02, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Translate Design Basis Requirements for Establishing Operability of the Spray Pond System
The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," which states, in part, "Measures shall be established to assure that applicable regulatory requirements and the design basis, are correctly translated into specifications, drawings, procedures, and instructions. These measures shall include provisions to assure that appropriate quality standards are specified and included in design documents and that deviations from such standards are controlled." Specifically, prior to February 7, 2014, the licensee used Engineering Calculation 13-NS-C088, "Mission Times for EW, SP, SI, AF, and DG systems," for establishing a 26-day mission time of the spray pond system instead of a 30-day availability time as required by Regulatory Guide 1.27, "Ultimate Heat Sink For Nuclear Power Plants," and approved in their safety evaluation report. Consequently, spray pond system operability determinations performed per Procedure 40DP-9OP26, "Operations PVAR Processing and Operability Determination/ Functional Assessment," used the incorrect mission time. In response to this issue, the licensee performed a review of the operability determinations in question using 30 days for the mission time and confirmed that the spray pond system remained operable and maintained an adequate safety margin. This finding was entered into the licensee's corrective action program as Palo Verde Action Request (PVAR) 4500910.

The team determined that the failure to ensure that design basis information associated with the mission time of the spray pond system was correctly translated into a procedure used to determine operability was a performance deficiency. This performance deficiency was more than minor because it adversely affected the Mitigating Systems

Cornerstone attribute of Equipment Performance and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to use the correct mission time when determining operability was a significant deficiency of design control in that operability determination evaluations could establish nonconservative results that could lead to the spray pond system not being able to meet its design safety function. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding had a cross-cutting aspect in the area of human performance because the licensee implemented an engineering study with inaccurate information establishing the incorrect mission time used in operability determinations for the spray pond system.
Inspection Report# : 2013009 *(pdf)*

Significance: G Apr 02, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Deficiencies in Emergency Diesel Generator Engine Room and Control Room Ventilation Air Flow Testing and Evaluation
The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," which states, in part, "A test program shall be established to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents." Specifically, in June, 2013, the licensee failed to evaluate performance test results when high air flow measurements from the emergency diesel generator engine room and control room ventilation air flow performance tests contained values that were beyond the capability of the equipment. Consequently, the condition of the higher measured airflow had not been evaluated to determine if the test results were valid. In response to this issue, the licensee confirmed that the equipment had remained operable, based on the review of more accurate testing performed in 2006. This finding was entered into the licensee's corrective action program as Palo Verde Action Request (PVAR) 4500070.

The team determined that the failure to establish and incorporate adequate air flow acceptance criteria into the emergency diesel generator control room supply fan and engine room exhaust fan performance tests was a performance deficiency. This performance deficiency was more than minor because it adversely affected the Mitigating Systems Cornerstone attribute of Equipment Performance and affected the cornerstone objective to ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to incorporate adequate acceptance criteria into the safety-related equipment performance tests was a significant deficiency of test control which could cause unacceptable fan performance conditions to go undetected. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding had a cross-cutting aspect in the area of human performance because the licensee failed to use decision-making practices that emphasize prudent choices over those that are simply allowable.

Inspection Report# : 2013009 *(pdf)*

Significance: G Apr 02, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Establish Adequate Procedures for an Alternate Source of Spray Pond Inventory
The team identified a Green, non-cited violation of Technical Specification 5.4.1, which states, in part, "Written procedures shall be established, implemented, and maintained covering the following activities: Part a. The applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978." Section 6 of Regulatory Guide 1.33, Appendix A, requires procedures for combating emergencies and other significant events. Specifically, prior to January 24, 2014, emergency procedures to provide make-up water to the essential spray pond beyond its 26 day water inventory did not provide sufficient details and contained inaccuracies for supplying the essential spray ponds with water from the regional aquifer via a well. In response to this issue, the licensee confirmed that there had never been an event at the site for which the procedure would have been utilized. This finding was entered into the licensee's corrective action program as Palo Verde Action Requests (PVARs) 4496901, 4497291, 4498167, and 4499085.

The team determined that the failure to establish adequate procedures for an alternate source of spray pond inventory was a performance deficiency. This performance deficiency was more than minor because it adversely affected the Mitigating Systems Cornerstone attribute of Procedure Quality and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the continuous capability of the ultimate heat sink to perform its safety function beyond the 26-day inventory of the essential spray ponds was not ensured. In accordance with Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. The team determined that this finding did not have a cross-cutting aspect because the most significant contributor did not reflect current licensee performance.

Inspection Report# : 2013009 *(pdf)*

Significance: G Apr 02, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Improper Extension of Surveillance Interval for Surveillance Requirements Associated with the Engineered Safety Features Actuation Signal (ESFAS) Sequencer and Relays
The team identified a Green, non-cited violation of Technical Specification 5.5.18, "Surveillance Frequency Control Program" which states, in part, "This program provides controls for Surveillance Frequencies. The program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met." Part (b) states, "Changes of the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, 'Risk-Informed Method for Control of Surveillance Frequencies,' Revision 1." Specifically, prior to February 3, 2014, previous regulatory commitments for the engineered safety features actuation signal system surveillance test frequencies were not properly addressed as required by Technical Specification 5.5.18.b and NEI 04-10. The licensee did not follow the guidance of NEI 04-10 when they revised the Surveillance Frequency Control Program to test each train of the engineered safety features actuation signal system from every 18 months to every 36 months. In response to this issue, the licensee confirmed that the engineered safety features actuation signal system remained operable because the system had been tested satisfactory and none of the technical specification surveillances were overdue. This finding was entered into the licensee's corrective action program as Palo Verde Action Requests (PVARs) 4500910 and

4500874.

The team determined that the failure to adequately address a regulatory commitment when extending the surveillance testing frequency associated with the engineered safety features actuation signal system was a performance deficiency. This performance deficiency was more than minor because it was associated with the Mitigating Systems Cornerstone attribute of Equipment Performance, and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of the engineered safety features actuation signal system to respond to initiating events to prevent undesirable consequences. Specifically, the NRC commitment identified in document RCTSAI 7673 committed the licensee to: "the BOP ESFAS system will be fully tested at least every 18 months at the time of refueling." When making a change to the Surveillance Frequency Control Program associated with the surveillance test frequency of the engineered safety features actuation signal system, the licensee failed to collect and review all commitments made to the NRC as required by NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1, and failed to follow the requirements of NEI 99-04, "Guidelines for Managing NRC Commitment Changes," Revision 0. In accordance with NRC Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings
At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding had a cross-cutting aspect in the area of human performance because the licensee leaders did not use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority.

Inspection Report# : 2013009 *(pdf)*

Significance:  Mar 28, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure To Provide Adequate Technical Justification For Operability of Containment Spray and Diesel Fuel Oil Systems
The inspectors identified multiple examples of a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations personnel to follow station procedures used to perform operability determinations. Specifically, operations personnel failed to provide sufficient technical justification for the reasonable assurance of operability of a degraded condition involving one train of containment spray system and nonconforming conditions associated with diesel fuel oil piping.

The inspectors concluded the failure of operations personnel to follow station procedures to perform operability determinations was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and 0609, Appendix A, "The Significance Determination Process (SDP) for Findings at-Power." The inspectors concluded the finding was of very low safety significance (Green) because all questions in Exhibit 2 could be answered in the negative. The inspectors determined that the finding had a consistent process cross-cutting aspect in the area of human performance because the licensee did not use a consistent and systematic process to make decisions (H.13).

Inspection Report# : 2014007 *(pdf)*

Significance: G Mar 28, 2014
Identified By: NRC
Item Type: FIN Finding
Failure to Follow Station Process for Root Cause Evaluation
The inspectors identified a Green finding for the failure of station personnel to follow procedures to implement root cause evaluations. Specifically, approximately one third of the root cause evaluations reviewed by inspectors resulted in a probable cause with further information needed to validate the cause. Of this subset, eighty percent of the evaluations did not adhere to station processes.

The failure of station personnel to follow station procedures to implement root cause evaluations was a performance deficiency. The performance deficiency was more than minor, therefore a finding, because if left uncorrected the performance deficiency could become a more significant safety concern in that significant conditions adverse to quality could reoccur prior to the implementation of appropriate corrective action. The finding is associated with multiple cornerstones, though it is most closely associated with the Mitigating Systems Cornerstone and the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, “Initial Characterization of Findings,” and 0609, Appendix A, “The Significance Determination Process (SDP) for Findings at-Power.” The inspectors concluded the finding was of very low safety significance (Green) because all questions in Exhibit 2 could be answered in the negative. The inspectors determined that the finding had a consistent process cross-cutting aspect in the area of human performance because the licensee did not use a consistent and systematic approach when making decisions (H.13).

Inspection Report# : 2014007 *(pdf)*

Barrier Integrity

Significance: G Apr 02, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Surveillance Testing Procedure
The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” which states, in part, “Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings.” Specifically, between November 5, 2010 and September 17, 2012, the licensee failed to follow Procedure 73DP-9ZZ14, “Surveillance Testing,” Step 3.6.1, “Failed Step or Out of Tolerance Data,” which requires personnel to write a Palo Verde Action Request (PVAR) when a failed surveillance test is encountered. On three separate occasions, the licensee failed to initiate a Palo Verde action request when the containment air lock door seal surveillance test failed. In response to this issue, the licensee confirmed that minor maintenance had been performed on the containment air lock door seals immediately following the failure of the surveillances and the surveillances then met the procedure requirements. This finding was entered into the licensee’s corrective action program as Palo Verde Action Requests (PVARs) 4499119 and 4499123.

The team determined that the failure to follow Procedure 73DP-9ZZ14, “Surveillance Testing,” which required maintenance personnel to write a Palo Verde action request upon the failure of a surveillance test, was a performance deficiency. This performance deficiency was more than minor because if left uncorrected, it would lead to a more significant safety concern. Specifically, by not initiating Palo Verde action requests for failed surveillances, the licensee missed the opportunity to enter the failures into their corrective action program, perform formal operability

determinations, consider the conditions for identification of maintenance rule functional failures, identify performance trends, and ultimately, correct the adverse condition in a timely manner. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 3, "Barrier Integrity Screening Questions," the issue screened as having very low safety significance (Green) because it did not represent an actual open pathway in the physical integrity of reactor containment and did not involve an actual reduction in function of hydrogen igniters in the reactor containment. This finding had a cross-cutting aspect in the area of human performance because licensee leaders failed to ensure that personnel, equipment, procedures, and other resources are available and adequate to support nuclear safety.

Inspection Report# : 2013009 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : February 26, 2015

Palo Verde 2
1Q/2015 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Dec 31, 2014
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Failure to Verify the Adequacy of the Design of the Diesel Fuel Oil Cooler
Green. The inspectors reviewed a self-revealing Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control" for the station's failure to adequately review the suitability of materials of the diesel fuel oil cooler. Specifically, the Unit 2 "A" diesel generator fuel oil cooler design allowed for the interface of two dissimilar metals which promoted galvanic corrosion. This corrosion ultimately affected the structural integrity of the cooler which rendered the "A" essential spray pond inoperable. In response to this, the licensee has replaced all six of the fuel oil cooler covers and initiated a design change to remove the fuel oil cooler from service. The licensee has entered the issue into the corrective action program as Condition Report Disposition Request 4543394.

The failure to verify the adequacy of the design of the diesel fuel oil cooler was a performance deficiency. The performance deficiency is more than minor because it affected the equipment performance attribute of the Mitigating Systems cornerstone to ensure the availability, reliability, capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the Unit 2 "A" diesel fuel oil cooler design allowed for the interface of two dissimilar metals which promoted galvanic corrosion. The corrosion ultimately affected the structural integrity of the cooler which rendered the Unit 2 "A" spray pond inoperable. In accordance with NRC Inspection Manual 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions." The finding screened to a detailed risk evaluation because it involved a potential loss of one train of safety related equipment for longer than the technical specification allowed outage time. A Region IV senior reactor analyst performed the detailed risk evaluation. The change to the core damage frequency was 1.5E-7/year (Green). The dominant core damage sequences included loss of offsite power events that lead to station blackout conditions. The gas turbine generators and the auxiliary feedwater system helped to minimize the risk. The inspectors determined this finding has no cross-cutting aspect because it is not indicative of current performance.
Inspection Report# : 2014005 *(pdf)*

Significance: G Sep 30, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Provide Adequate Technical Justification for Operability
Green. The inspectors identified a Green non-cited violation of 10 CFR Part 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations and engineering personnel to follow station procedures to provide an adequate technical justification for continued operation of a degraded structure, system, or component. Specifically, after discovering that the turbine driven auxiliary feedwater pump exhaust line did not have any tornado missile protection, operators performed an immediate operability determination and declared the system

operable. The inspectors challenged this evaluation and determined the licensee did not provide adequate technical justification for continued operation with this condition because: (1) the evaluation relied on a probabilistic risk assessment that assumed the turbine driven auxiliary feedwater pump fails due to impact from a tornado-born missile, and (2) the evaluation assumed that the results of a future analysis would provide satisfactory results. In response to the inspector's operability concerns, plant personnel subsequently completed an analysis that provided a reasonable expectation that the turbine driven auxiliary feedwater pump would be able to perform its safety function if impacted by a tornado-born missile. The licensee entered this issue into the corrective action program as Palo Verde Action Request 4255816.

The inspectors concluded that the failure of plant personnel to adequately evaluate the operability of a safety-related structure, system, or component was a performance deficiency. The inspectors concluded the performance deficiency is more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors performed the initial significance determination for the performance deficiency using NRC Inspection Manual 0609, Appendix A, Exhibit 4, "External Events Screening Questions," dated July 1, 2012. The finding required a detailed risk evaluation because the turbine driven auxiliary feedwater pump is one train of a system that supports a risk significant function. Therefore, a Region IV senior reactor analyst performed a bounding detailed risk evaluation. The change to the core damage frequency was 7E-10/year (Green). The dominant core damage sequences included a tornado induced loss of offsite power initiating event, failure of the turbine driven auxiliary feedwater pump, and random failures of the motor driven auxiliary feedwater pumps. The low frequency for the tornado induced loss of offsite power initiating event helped to minimize the risk significance. The inspectors determined this finding has a cross-cutting aspect in the area of human because the licensee failed to utilize a conservative bias in its evaluation of the missing tornado missile protection, considering the risk significance of the turbine driven auxiliary feedwater pump and lack of any technical evaluation [H.14] (Section 1R15).

Inspection Report# : 2014004 *(pdf)*

Significance: G Sep 30, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Translate Design Basis Requirements for Establishing Operability of Spray Pond System
Green. The inspectors identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to correctly translate the mission time of the essential spray pond system into a procedure used to determine operability. In response to the inspectors' concerns, the licensee re-evaluated essential spray pond operability determinations that had used the erroneous 26-day mission time and concluded that acceptable margin was available to ensure the system would remain operable for the 30-day mission time. The licensee entered this issue into the corrective action program as Palo Verde Action Request 4550539.

The failure to ensure that design basis information associated with the mission time of the essential spray pond system was correctly translated into a procedure used to determine operability was a performance deficiency. This performance deficiency was more than minor because if left uncorrected, it had the potential to lead to a more significant safety concern. Specifically, the failure to use the correct mission time when determining operability could establish nonconservative results that could lead to the essential spray pond system not being able to meet its design safety function. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding has a cross-cutting aspect in the area of human performance because the licensee failed to create and maintain complete, accurate, and

up-to-date documentation. Specifically, after initially recognizing the adverse condition, the licensee did not document a standing order or temporary procedure change to prevent operability evaluations from using the incorrect essential spray pond mission time [H.7]. (Section 1R15).

Inspection Report# : 2014004 *(pdf)*

Significance: G Sep 30, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Component Design Basis Inspection
Green. The team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to assure the adequacy of degraded voltage relay setpoints. Specifically, the team identified that the licensee failed to perform calculations to demonstrate the voltage setpoints for the installed degraded voltage relays would afford adequate voltage to safety-related loads during worst case accident loading.

The failure to assure the adequacy of degraded voltage relay setpoints for voltage and the time delay by performing adequate voltage drop calculations was a performance deficiency. This finding is more than minor because it was associated with the design control attribute of the Mitigating Systems cornerstone and it adversely impacted to the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events. Specifically, the failure to properly ensure that safety-related electrical devices had adequate voltage could impact their safety function. The basis for this conclusion was that despite the non-conservative voltage inputs to voltage calculations and, therefore, loss of design margin for available voltage, there was still adequate voltage for the circuits to perform their safety function based on worst case voltage as demonstrated in the updated calculations. The licensee developed design basis calculations for its DVR voltage setpoints and committed to addressing the technical basis and interim actions in a commitment letter for their corrective actions. There is no cross-cutting aspect associated with this finding because it is a historical condition and not indicative of current performance. (Section 1R21)
Inspection Report# : 2014004 *(pdf)*

Significance: G Apr 02, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Translate Design Basis Requirements for Establishing Operability of the Spray Pond System
The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," which states, in part, "Measures shall be established to assure that applicable regulatory requirements and the design basis, are correctly translated into specifications, drawings, procedures, and instructions. These measures shall include provisions to assure that appropriate quality standards are specified and included in design documents and that deviations from such standards are controlled." Specifically, prior to February 7, 2014, the licensee used Engineering Calculation 13-NS-C088, "Mission Times for EW, SP, SI, AF, and DG systems," for establishing a 26-day mission time of the spray pond system instead of a 30-day availability time as required by Regulatory Guide 1.27, "Ultimate Heat Sink For Nuclear Power Plants," and approved in their safety evaluation report. Consequently, spray pond system operability determinations performed per Procedure 40DP-9OP26, "Operations PVAR Processing and Operability Determination/ Functional Assessment," used the incorrect mission time. In response to this issue, the licensee performed a review of the operability determinations in question using 30 days for the mission time and confirmed that the spray pond system remained operable and maintained an adequate safety margin. This finding was entered into the licensee's corrective action program as Palo Verde Action Request (PVAR) 4500910.

The team determined that the failure to ensure that design basis information associated with the mission time of the spray pond system was correctly translated into a procedure used to determine operability was a performance deficiency. This performance deficiency was more than minor because it adversely affected the Mitigating Systems

Cornerstone attribute of Equipment Performance and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to use the correct mission time when determining operability was a significant deficiency of design control in that operability determination evaluations could establish nonconservative results that could lead to the spray pond system not being able to meet its design safety function. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding had a cross-cutting aspect in the area of human performance because the licensee implemented an engineering study with inaccurate information establishing the incorrect mission time used in operability determinations for the spray pond system.
Inspection Report# : 2013009 *(pdf)*

Significance: G Apr 02, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Deficiencies in Emergency Diesel Generator Engine Room and Control Room Ventilation Air Flow Testing and Evaluation
The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," which states, in part, "A test program shall be established to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents." Specifically, in June, 2013, the licensee failed to evaluate performance test results when high air flow measurements from the emergency diesel generator engine room and control room ventilation air flow performance tests contained values that were beyond the capability of the equipment. Consequently, the condition of the higher measured airflow had not been evaluated to determine if the test results were valid. In response to this issue, the licensee confirmed that the equipment had remained operable, based on the review of more accurate testing performed in 2006. This finding was entered into the licensee's corrective action program as Palo Verde Action Request (PVAR) 4500070.

The team determined that the failure to establish and incorporate adequate air flow acceptance criteria into the emergency diesel generator control room supply fan and engine room exhaust fan performance tests was a performance deficiency. This performance deficiency was more than minor because it adversely affected the Mitigating Systems Cornerstone attribute of Equipment Performance and affected the cornerstone objective to ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to incorporate adequate acceptance criteria into the safety-related equipment performance tests was a significant deficiency of test control which could cause unacceptable fan performance conditions to go undetected. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding had a cross-cutting aspect in the area of human performance because the licensee failed to use decision-making practices that emphasize prudent choices over those that are simply allowable.

Inspection Report# : 2013009 *(pdf)*

Significance: G Apr 02, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Establish Adequate Procedures for an Alternate Source of Spray Pond Inventory
The team identified a Green, non-cited violation of Technical Specification 5.4.1, which states, in part, "Written procedures shall be established, implemented, and maintained covering the following activities: Part a. The applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978." Section 6 of Regulatory Guide 1.33, Appendix A, requires procedures for combating emergencies and other significant events. Specifically, prior to January 24, 2014, emergency procedures to provide make-up water to the essential spray pond beyond its 26 day water inventory did not provide sufficient details and contained inaccuracies for supplying the essential spray ponds with water from the regional aquifer via a well. In response to this issue, the licensee confirmed that there had never been an event at the site for which the procedure would have been utilized. This finding was entered into the licensee's corrective action program as Palo Verde Action Requests (PVARs) 4496901, 4497291, 4498167, and 4499085.

The team determined that the failure to establish adequate procedures for an alternate source of spray pond inventory was a performance deficiency. This performance deficiency was more than minor because it adversely affected the Mitigating Systems Cornerstone attribute of Procedure Quality and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the continuous capability of the ultimate heat sink to perform its safety function beyond the 26-day inventory of the essential spray ponds was not ensured. In accordance with Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. The team determined that this finding did not have a cross-cutting aspect because the most significant contributor did not reflect current licensee performance.

Inspection Report# : 2013009 *(pdf)*

Significance: G Apr 02, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Improper Extension of Surveillance Interval for Surveillance Requirements Associated with the Engineered Safety Features Actuation Signal (ESFAS) Sequencer and Relays
The team identified a Green, non-cited violation of Technical Specification 5.5.18, "Surveillance Frequency Control Program" which states, in part, "This program provides controls for Surveillance Frequencies. The program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met." Part (b) states, "Changes of the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, 'Risk-Informed Method for Control of Surveillance Frequencies,' Revision 1." Specifically, prior to February 3, 2014, previous regulatory commitments for the engineered safety features actuation signal system surveillance test frequencies were not properly addressed as required by Technical Specification 5.5.18.b and NEI 04-10. The licensee did not follow the guidance of NEI 04-10 when they revised the Surveillance Frequency Control Program to test each train of the engineered safety features actuation signal system from every 18 months to every 36 months. In response to this issue, the licensee confirmed that the engineered safety features actuation signal system remained operable because the system had been tested satisfactory and none of the technical specification surveillances were overdue. This finding was entered into the licensee's corrective action program as Palo Verde Action Requests (PVARs) 4500910 and

4500874.

The team determined that the failure to adequately address a regulatory commitment when extending the surveillance testing frequency associated with the engineered safety features actuation signal system was a performance deficiency. This performance deficiency was more than minor because it was associated with the Mitigating Systems Cornerstone attribute of Equipment Performance, and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of the engineered safety features actuation signal system to respond to initiating events to prevent undesirable consequences. Specifically, the NRC commitment identified in document RCTSAI 7673 committed the licensee to: "the BOP ESFAS system will be fully tested at least every 18 months at the time of refueling." When making a change to the Surveillance Frequency Control Program associated with the surveillance test frequency of the engineered safety features actuation signal system, the licensee failed to collect and review all commitments made to the NRC as required by NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1, and failed to follow the requirements of NEI 99-04, "Guidelines for Managing NRC Commitment Changes," Revision 0. In accordance with NRC Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings
At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding had a cross-cutting aspect in the area of human performance because the licensee leaders did not use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority.

Inspection Report# : 2013009 *(pdf)*

Barrier Integrity

Significance: G Apr 02, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Follow Surveillance Testing Procedure
The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," which states, in part, "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings." Specifically, between November 5, 2010 and September 17, 2012, the licensee failed to follow Procedure 73DP-9ZZ14, "Surveillance Testing," Step 3.6.1, "Failed Step or Out of Tolerance Data," which requires personnel to write a Palo Verde Action Request (PVAR) when a failed surveillance test is encountered. On three separate occasions, the licensee failed to initiate a Palo Verde action request when the containment air lock door seal surveillance test failed. In response to this issue, the licensee confirmed that minor maintenance had been performed on the containment air lock door seals immediately following the failure of the surveillances and the surveillances then met the procedure requirements. This finding was entered into the licensee's corrective action program as Palo Verde Action Requests (PVARs) 4499119 and 4499123.

The team determined that the failure to follow Procedure 73DP-9ZZ14, "Surveillance Testing," which required maintenance personnel to write a Palo Verde action request upon the failure of a surveillance test, was a performance deficiency. This performance deficiency was more than minor because if left uncorrected, it would lead to a more significant safety concern. Specifically, by not initiating Palo Verde action requests for failed surveillances, the

licensee missed the opportunity to enter the failures into their corrective action program, perform formal operability determinations, consider the conditions for identification of maintenance rule functional failures, identify performance trends, and ultimately, correct the adverse condition in a timely manner. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 3, "Barrier Integrity Screening Questions," the issue screened as having very low safety significance (Green) because it did not represent an actual open pathway in the physical integrity of reactor containment and did not involve an actual reduction in function of hydrogen igniters in the reactor containment. This finding had a cross-cutting aspect in the area of human performance because licensee leaders failed to ensure that personnel, equipment, procedures, and other resources are available and adequate to support nuclear safety.

Inspection Report# : 2013009 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : June 16, 2015

Palo Verde 2
2Q/2015 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Dec 31, 2014
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Failure to Verify the Adequacy of the Design of the Diesel Fuel Oil Cooler
Green. The inspectors reviewed a self-revealing Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control" for the station's failure to adequately review the suitability of materials of the diesel fuel oil cooler. Specifically, the Unit 2 "A" diesel generator fuel oil cooler design allowed for the interface of two dissimilar metals which promoted galvanic corrosion. This corrosion ultimately affected the structural integrity of the cooler which rendered the "A" essential spray pond inoperable. In response to this, the licensee has replaced all six of the fuel oil cooler covers and initiated a design change to remove the fuel oil cooler from service. The licensee has entered the issue into the corrective action program as Condition Report Disposition Request 4543394.

The failure to verify the adequacy of the design of the diesel fuel oil cooler was a performance deficiency. The performance deficiency is more than minor because it affected the equipment performance attribute of the Mitigating Systems cornerstone to ensure the availability, reliability, capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the Unit 2 "A" diesel fuel oil cooler design allowed for the interface of two dissimilar metals which promoted galvanic corrosion. The corrosion ultimately affected the structural integrity of the cooler which rendered the Unit 2 "A" spray pond inoperable. In accordance with NRC Inspection Manual 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions." The finding screened to a detailed risk evaluation because it involved a potential loss of one train of safety related equipment for longer than the technical specification allowed outage time. A Region IV senior reactor analyst performed the detailed risk evaluation. The change to the core damage frequency was 1.5E-7/year (Green). The dominant core damage sequences included loss of offsite power events that lead to station blackout conditions. The gas turbine generators and the auxiliary feedwater system helped to minimize the risk. The inspectors determined this finding has no cross-cutting aspect because it is not indicative of current performance.
Inspection Report# : 2014005 *(pdf)*

Significance: G Sep 30, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Provide Adequate Technical Justification for Operability
Green. The inspectors identified a Green non-cited violation of 10 CFR Part 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of operations and engineering personnel to follow station procedures to provide an adequate technical justification for continued operation of a degraded structure, system, or component. Specifically, after discovering that the turbine driven auxiliary feedwater pump exhaust line did not have any tornado missile protection, operators performed an immediate operability determination and declared the system

operable. The inspectors challenged this evaluation and determined the licensee did not provide adequate technical justification for continued operation with this condition because: (1) the evaluation relied on a probabilistic risk assessment that assumed the turbine driven auxiliary feedwater pump fails due to impact from a tornado-born missile, and (2) the evaluation assumed that the results of a future analysis would provide satisfactory results. In response to the inspector's operability concerns, plant personnel subsequently completed an analysis that provided a reasonable expectation that the turbine driven auxiliary feedwater pump would be able to perform its safety function if impacted by a tornado-born missile. The licensee entered this issue into the corrective action program as Palo Verde Action Request 4255816.

The inspectors concluded that the failure of plant personnel to adequately evaluate the operability of a safety-related structure, system, or component was a performance deficiency. The inspectors concluded the performance deficiency is more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors performed the initial significance determination for the performance deficiency using NRC Inspection Manual 0609, Appendix A, Exhibit 4, "External Events Screening Questions," dated July 1, 2012. The finding required a detailed risk evaluation because the turbine driven auxiliary feedwater pump is one train of a system that supports a risk significant function. Therefore, a Region IV senior reactor analyst performed a bounding detailed risk evaluation. The change to the core damage frequency was 7E-10/year (Green). The dominant core damage sequences included a tornado induced loss of offsite power initiating event, failure of the turbine driven auxiliary feedwater pump, and random failures of the motor driven auxiliary feedwater pumps. The low frequency for the tornado induced loss of offsite power initiating event helped to minimize the risk significance. The inspectors determined this finding has a cross-cutting aspect in the area of human because the licensee failed to utilize a conservative bias in its evaluation of the missing tornado missile protection, considering the risk significance of the turbine driven auxiliary feedwater pump and lack of any technical evaluation [H.14] (Section 1R15).

Inspection Report# : 2014004 *(pdf)*

Significance: G Sep 30, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Translate Design Basis Requirements for Establishing Operability of Spray Pond System
Green. The inspectors identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to correctly translate the mission time of the essential spray pond system into a procedure used to determine operability. In response to the inspectors' concerns, the licensee re-evaluated essential spray pond operability determinations that had used the erroneous 26-day mission time and concluded that acceptable margin was available to ensure the system would remain operable for the 30-day mission time. The licensee entered this issue into the corrective action program as Palo Verde Action Request 4550539.

The failure to ensure that design basis information associated with the mission time of the essential spray pond system was correctly translated into a procedure used to determine operability was a performance deficiency. This performance deficiency was more than minor because if left uncorrected, it had the potential to lead to a more significant safety concern. Specifically, the failure to use the correct mission time when determining operability could establish nonconservative results that could lead to the essential spray pond system not being able to meet its design safety function. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding has a cross-cutting aspect in the area of human performance because the licensee failed to create and maintain complete, accurate, and

up-to-date documentation. Specifically, after initially recognizing the adverse condition, the licensee did not document a standing order or temporary procedure change to prevent operability evaluations from using the incorrect essential spray pond mission time [H.7]. (Section 1R15).

Inspection Report# : 2014004 *(pdf)*

Significance: G Sep 30, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Component Design Basis Inspection
Green. The team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to assure the adequacy of degraded voltage relay setpoints. Specifically, the team identified that the licensee failed to perform calculations to demonstrate the voltage setpoints for the installed degraded voltage relays would afford adequate voltage to safety-related loads during worst case accident loading.

The failure to assure the adequacy of degraded voltage relay setpoints for voltage and the time delay by performing adequate voltage drop calculations was a performance deficiency. This finding is more than minor because it was associated with the design control attribute of the Mitigating Systems cornerstone and it adversely impacted to the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events. Specifically, the failure to properly ensure that safety-related electrical devices had adequate voltage could impact their safety function. The basis for this conclusion was that despite the non-conservative voltage inputs to voltage calculations and, therefore, loss of design margin for available voltage, there was still adequate voltage for the circuits to perform their safety function based on worst case voltage as demonstrated in the updated calculations. The licensee developed design basis calculations for its DVR voltage setpoints and committed to addressing the technical basis and interim actions in a commitment letter for their corrective actions. There is no cross-cutting aspect associated with this finding because it is a historical condition and not indicative of current performance. (Section 1R21)
Inspection Report# : 2014004 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Security

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Miscellaneous

Last modified : August 07, 2015

Palo Verde 2
3Q/2015 Plant Inspection Findings

Initiating Events

Significance: G Jun 30, 2015
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to Take Timely Corrective Actions to Prevent Charging Pump Discharge Bladder Failure
The inspectors documented a finding for the failure to take timely corrective actions associated with failure of the discharge pulsation dampener poppet valves in the positive displacement pump charging system. Specifically, following the investigation of a failing discharge dampener bladder on the Unit 2 charging pump E and the discovery that the poppet valve stem was galled and stuck in the poppet valve seat, the licensee determined that routine monthly monitoring and the 5 year bladder replacement maintenance would identify further failures in the other charging system trains. The licensee entered this issue into the corrective action program as Condition Report 15 4230.

Failure to take timely corrective actions to replace the charging pump discharge dampener poppet valve assembly for susceptible charging trains, specifically the Unit 2 charging pump B, was a performance deficiency. The performance deficiency was more than minor because it is associated with the equipment performance attribute and directly affected the Initiating Event Cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the failure to correct this condition adverse to quality did result in a reactor coolant system transient and challenged normal plant operations. Using Manual Chapter 0609, Appendix A, "Significance Determination Process (SDP) for Findings At Power," the performance deficiency was determined to be of low safety significance (Green) because the finding did not result in a reactor trip and the loss of mitigating equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The inspectors also identified a cross-cutting aspect in the area of human performance associated with training: the organization provides training and ensures knowledge transfer to maintain a knowledgeable, technically competent workforce and instill nuclear safety values. Specifically, system engineers were not taught that the station's positive displacement pumps do not have internal check valves, but actually have plate valves that do not prevent gas or fluid from flowing back through the pump. This knowledge gap gave the system engineering staff a false sense of security in that a failure of the discharge pulsation dampener would not affect the other charging pumps. The system engineers failed to recommend a more prompt replacement schedule for the poppet valve and assembly [H.9].
Inspection Report# : 2015002 *(pdf)*

Significance: G Jun 30, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Establish Adequate Procedures to Respond to a Total Loss of Charging Event
The inspectors documented a non-cited violation of Technical Specification 5.4.1.a, Regulatory Guide 1.33, Revision 2, Appendix A, Section 6.t, February 1978. Specifically, the licensee failed to establish adequate procedures for combating emergencies and other significant events regarding a total loss of charging pumps due to gas binding that affected reactor coolant system pressure and level control. On March 20, 2015, Unit 2 experienced a total loss of charging and had to rely on a normal operating procedure, which was not written to combat a total loss of charging flow due to gas binding from a failed discharge pulsation dampener. The licensee entered this issue into the corrective

action program as Condition Report 15 4230.

The failure to provide adequate procedures for combating emergencies and other significant events regarding a total loss of charging pumps due to gas binding that affected reactor coolant system pressure control was a performance deficiency. The performance deficiency was more than minor because it is associated with the procedure quality attribute and directly affected the Initiating Event Cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the lack of adequate procedural guidance unduly challenged reactor operators during the loss of charging event. In accordance with Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process (SDP) for Findings At-Power," the performance deficiency was determined to be of very low safety significance (Green) because the finding did not result in a reactor trip and the loss of mitigating equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The inspectors determined that this finding did not have a cross-cutting aspect because the most significant contributor did not reflect current licensee performance because the decision to eliminate the abnormal operating procedure and not to train reactor operators was made in 1997.

Inspection Report# : 2015002 *(pdf)*

Mitigating Systems

Significance: G Jun 30, 2015
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Failure to Identify and Correct Engineered Safety Features Actuation System Steam Generator Differential Pressure Setpoint Drift
The inspectors reviewed a Green self-revealing non-cited violation of Technical Specification 5.4.1.a for failure to establish and implement procedures recommended by Regulatory Guide 1.33 Appendix A, Item 5.0, "Abnormal, Off-Normal and Alarm Conditions." Specifically, on January 11, 2015, Unit 2 received a steam generator pressure difference setpoint alarm on channel B but failed to determine the cause of the alarm. As a result, the auxiliary feedwater actuation signal channel was inoperable for a period of 13 days, greater than the technical specification allowed outage time of 1 hour. The licensee entered this condition in their corrective action program and performed a root cause evaluation under Condition Report Disposition Request 4618033.

The inspectors concluded that the failure to provide adequate alarm procedures was a performance deficiency. The inspectors concluded that the performance deficiency was more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the control room operators did not have an alarm response procedure for plant monitoring system (RJ) alarm on point SASB22, which resulted in the channel B auxiliary feedwater actuation signal steam generator 2 drifting out of tolerance for a period of 13 days. This exceeds the allowed outage time specified in the technical specifications. The inspectors performed the initial significance determination using NRC Inspection Manual 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions." The finding screened to a detailed risk evaluation because it involved the actual loss of function of at least a single train for greater than its technical specification allowed outage time. A Region IV senior reactor analyst performed a detailed risk evaluation and determined that the change in core damage frequency ?CDF < 5E 9 corresponds to very low (Green) safety significance. The inspectors determined this finding has a cross cutting aspect in the area of human performance associated with the change management component. The licensee had an opportunity to identify the lack of alarm procedures associated with this parameter along with 74 other alarms that

have technical specification implications during the design modification process for the plant computer alarm system.
Inspection Report# : 2015002 *(pdf)*

Significance: G Dec 31, 2014
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Failure to Verify the Adequacy of the Design of the Diesel Fuel Oil Cooler
Green. The inspectors reviewed a self-revealing Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control" for the station's failure to adequately review the suitability of materials of the diesel fuel oil cooler. Specifically, the Unit 2 "A" diesel generator fuel oil cooler design allowed for the interface of two dissimilar metals which promoted galvanic corrosion. This corrosion ultimately affected the structural integrity of the cooler which rendered the "A" essential spray pond inoperable. In response to this, the licensee has replaced all six of the fuel oil cooler covers and initiated a design change to remove the fuel oil cooler from service. The licensee has entered the issue into the corrective action program as Condition Report Disposition Request 4543394.

The failure to verify the adequacy of the design of the diesel fuel oil cooler was a performance deficiency. The performance deficiency is more than minor because it affected the equipment performance attribute of the Mitigating Systems cornerstone to ensure the availability, reliability, capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the Unit 2 "A" diesel fuel oil cooler design allowed for the interface of two dissimilar metals which promoted galvanic corrosion. The corrosion ultimately affected the structural integrity of the cooler which rendered the Unit 2 "A" spray pond inoperable. In accordance with NRC Inspection Manual 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions." The finding screened to a detailed risk evaluation because it involved a potential loss of one train of safety related equipment for longer than the technical specification allowed outage time. A Region IV senior reactor analyst performed the detailed risk evaluation. The change to the core damage frequency was 1.5E-7/year (Green). The dominant core damage sequences included loss of offsite power events that lead to station blackout conditions. The gas turbine generators and the auxiliary feedwater system helped to minimize the risk. The inspectors determined this finding has no cross-cutting aspect because it is not indicative of current performance.
Inspection Report# : 2014005 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Security

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Miscellaneous

Last modified : December 15, 2015

Palo Verde 2
4Q/2015 Plant Inspection Findings

Initiating Events

Significance: G Jun 30, 2015
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to Take Timely Corrective Actions to Prevent Charging Pump Discharge Bladder Failure
The inspectors documented a finding for the failure to take timely corrective actions associated with failure of the discharge pulsation dampener poppet valves in the positive displacement pump charging system. Specifically, following the investigation of a failing discharge dampener bladder on the Unit 2 charging pump E and the discovery that the poppet valve stem was galled and stuck in the poppet valve seat, the licensee determined that routine monthly monitoring and the 5 year bladder replacement maintenance would identify further failures in the other charging system trains. The licensee entered this issue into the corrective action program as Condition Report 15 4230.

Failure to take timely corrective actions to replace the charging pump discharge dampener poppet valve assembly for susceptible charging trains, specifically the Unit 2 charging pump B, was a performance deficiency. The performance deficiency was more than minor because it is associated with the equipment performance attribute and directly affected the Initiating Event Cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the failure to correct this condition adverse to quality did result in a reactor coolant system transient and challenged normal plant operations. Using Manual Chapter 0609, Appendix A, "Significance Determination Process (SDP) for Findings At Power," the performance deficiency was determined to be of low safety significance (Green) because the finding did not result in a reactor trip and the loss of mitigating equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The inspectors also identified a cross-cutting aspect in the area of human performance associated with training: the organization provides training and ensures knowledge transfer to maintain a knowledgeable, technically competent workforce and instill nuclear safety values. Specifically, system engineers were not taught that the station's positive displacement pumps do not have internal check valves, but actually have plate valves that do not prevent gas or fluid from flowing back through the pump. This knowledge gap gave the system engineering staff a false sense of security in that a failure of the discharge pulsation dampener would not affect the other charging pumps. The system engineers failed to recommend a more prompt replacement schedule for the poppet valve and assembly [H.9].
Inspection Report# : 2015002 *(pdf)*

Significance: G Jun 30, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Establish Adequate Procedures to Respond to a Total Loss of Charging Event
The inspectors documented a non-cited violation of Technical Specification 5.4.1.a, Regulatory Guide 1.33, Revision 2, Appendix A, Section 6.t, February 1978. Specifically, the licensee failed to establish adequate procedures for combating emergencies and other significant events regarding a total loss of charging pumps due to gas binding that affected reactor coolant system pressure and level control. On March 20, 2015, Unit 2 experienced a total loss of charging and had to rely on a normal operating procedure, which was not written to combat a total loss of charging flow due to gas binding from a failed discharge pulsation dampener. The licensee entered this issue into the corrective

action program as Condition Report 15 4230.

The failure to provide adequate procedures for combating emergencies and other significant events regarding a total loss of charging pumps due to gas binding that affected reactor coolant system pressure control was a performance deficiency. The performance deficiency was more than minor because it is associated with the procedure quality attribute and directly affected the Initiating Event Cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the lack of adequate procedural guidance unduly challenged reactor operators during the loss of charging event. In accordance with Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process (SDP) for Findings At-Power," the performance deficiency was determined to be of very low safety significance (Green) because the finding did not result in a reactor trip and the loss of mitigating equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The inspectors determined that this finding did not have a cross-cutting aspect because the most significant contributor did not reflect current licensee performance because the decision to eliminate the abnormal operating procedure and not to train reactor operators was made in 1997.

Inspection Report# : 2015002 *(pdf)*

Mitigating Systems

Significance: G Jun 30, 2015
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Failure to Identify and Correct Engineered Safety Features Actuation System Steam Generator Differential Pressure Setpoint Drift
The inspectors reviewed a Green self-revealing non-cited violation of Technical Specification 5.4.1.a for failure to establish and implement procedures recommended by Regulatory Guide 1.33 Appendix A, Item 5.0, "Abnormal, Off-Normal and Alarm Conditions." Specifically, on January 11, 2015, Unit 2 received a steam generator pressure difference setpoint alarm on channel B but failed to determine the cause of the alarm. As a result, the auxiliary feedwater actuation signal channel was inoperable for a period of 13 days, greater than the technical specification allowed outage time of 1 hour. The licensee entered this condition in their corrective action program and performed a root cause evaluation under Condition Report Disposition Request 4618033.

The inspectors concluded that the failure to provide adequate alarm procedures was a performance deficiency. The inspectors concluded that the performance deficiency was more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the control room operators did not have an alarm response procedure for plant monitoring system (RJ) alarm on point SASB22, which resulted in the channel B auxiliary feedwater actuation signal steam generator 2 drifting out of tolerance for a period of 13 days. This exceeds the allowed outage time specified in the technical specifications. The inspectors performed the initial significance determination using NRC Inspection Manual 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions." The finding screened to a detailed risk evaluation because it involved the actual loss of function of at least a single train for greater than its technical specification allowed outage time. A Region IV senior reactor analyst performed a detailed risk evaluation and determined that the change in core damage frequency ?CDF < 5E 9 corresponds to very low (Green) safety significance. The inspectors determined this finding has a cross cutting aspect in the area of human performance associated with the change management component. The licensee had an opportunity to identify the lack of alarm procedures associated with this parameter along with 74 other alarms that

have technical specification implications during the design modification process for the plant computer alarm system.
Inspection Report# : 2015002 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Security

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Miscellaneous

Last modified : March 01, 2016

Palo Verde 2
1Q/2016 Plant Inspection Findings

Initiating Events

Significance: G Jan 15, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Inadequate Loop Flow Test Procedure
The team identified a Green non-cited violation of License Conditions 2.C.7, 2.C.6, and 2.F for Units 1, 2, and 3, respectively, because the licensee had not established criteria for determining when a fire main loop had degraded and had not properly tested all portions of the fire main loop. Specifically, the licensee had not established a differential pressure that would initiate actions to evaluate the cause for a degradation and the licensee had not determined the flow through individual flow paths in their auxiliary and control buildings. The licensee documented these issues in Condition Reports 15 00513 and 16 00686 and initiated actions to correct the procedure and perform the flow test of the individual loops.

The team identified a performance deficiency related to the procedure used to test their fire main loop. Specifically, the licensee had not established criteria for determining a degraded fire main loop and had not properly tested all portions of the fire main loop. This performance deficiency was more than minor because it was associated with the protection against external factors attribute (fire) and adversely affected the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to test the fire main loops inside the control/auxiliary building separately and failure to establish appropriate acceptance criteria affected the ability to demonstrate the continued capability to deliver adequate flow and pressure to the fire suppression systems.

The finding was screened in accordance with NRC Inspection Manual Chapter (IMC) 0609, “Significance Determination Process,” Attachment 4, “Initial Characterization of Findings,” dated June 19, 2012. The inspectors determined that an IMC 0609, Appendix F, “Fire Protection Significance Determination Process,” dated September 20, 2013, review was required as the finding affected the ability to reach and maintain safe shutdown conditions in case of a fire. Using IMC 0609, Appendix F, Attachment 1, “Fire Protection Significance Determination Process Worksheet,” dated September 20, 2013, the finding was screened as a Green finding of very low safety significance in accordance with Task 1.4.7, “Fire Water Supply,” Question A. The inspectors determined that although the licensee failed to test portions of the fire main system in accordance with code requirements, the inspectors determined that at least 50 percent of required fire water capacity would be available based on the testing is done with only one fire pump in service and there are three available fire pumps. Since these fire main loops inside the control/auxiliary building had not been monitored for pressure changes when flow tested since initial testing and nothing caused the licensee to reevaluate the test, the team determined that this failure did not reflect current performance.

Inspection Report# : 2015008 *(pdf)*

Significance: G Jun 30, 2015
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to Take Timely Corrective Actions to Prevent Charging Pump Discharge Bladder Failure

The inspectors documented a finding for the failure to take timely corrective actions associated with failure of the discharge pulsation dampener poppet valves in the positive displacement pump charging system. Specifically, following the investigation of a failing discharge dampener bladder on the Unit 2 charging pump E and the discovery that the poppet valve stem was galled and stuck in the poppet valve seat, the licensee determined that routine monthly monitoring and the 5 year bladder replacement maintenance would identify further failures in the other charging system trains. The licensee entered this issue into the corrective action program as Condition Report 15 4230.

Failure to take timely corrective actions to replace the charging pump discharge dampener poppet valve assembly for susceptible charging trains, specifically the Unit 2 charging pump B, was a performance deficiency. The performance deficiency was more than minor because it is associated with the equipment performance attribute and directly affected the Initiating Event Cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the failure to correct this condition adverse to quality did result in a reactor coolant system transient and challenged normal plant operations. Using Manual Chapter 0609, Appendix A, "Significance Determination Process (SDP) for Findings At Power," the performance deficiency was determined to be of low safety significance (Green) because the finding did not result in a reactor trip and the loss of mitigating equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The inspectors also identified a cross-cutting aspect in the area of human performance associated with training: the organization provides training and ensures knowledge transfer to maintain a knowledgeable, technically competent workforce and instill nuclear safety values. Specifically, system engineers were not taught that the station's positive displacement pumps do not have internal check valves, but actually have plate valves that do not prevent gas or fluid from flowing back through the pump. This knowledge gap gave the system engineering staff a false sense of security in that a failure of the discharge pulsation dampener would not affect the other charging pumps. The system engineers failed to recommend a more prompt replacement schedule for the poppet valve and assembly [H.9].
Inspection Report# : 2015002 *(pdf)*

Significance: G Jun 30, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Establish Adequate Procedures to Respond to a Total Loss of Charging Event
The inspectors documented a non-cited violation of Technical Specification 5.4.1.a, Regulatory Guide 1.33, Revision 2, Appendix A, Section 6.t, February 1978. Specifically, the licensee failed to establish adequate procedures for combating emergencies and other significant events regarding a total loss of charging pumps due to gas binding that affected reactor coolant system pressure and level control. On March 20, 2015, Unit 2 experienced a total loss of charging and had to rely on a normal operating procedure, which was not written to combat a total loss of charging flow due to gas binding from a failed discharge pulsation dampener. The licensee entered this issue into the corrective action program as Condition Report 15 4230.

The failure to provide adequate procedures for combating emergencies and other significant events regarding a total loss of charging pumps due to gas binding that affected reactor coolant system pressure control was a performance deficiency. The performance deficiency was more than minor because it is associated with the procedure quality attribute and directly affected the Initiating Event Cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the lack of adequate procedural guidance unduly challenged reactor operators during the loss of charging event. In accordance with Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process (SDP) for Findings At-Power," the performance deficiency was determined to be of very low safety significance (Green) because the finding did not result in a reactor trip and the loss of mitigating equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The inspectors determined that this finding did not have a cross-cutting aspect because the most significant contributor did not reflect current licensee performance because the decision to eliminate the abnormal operating procedure and not to train reactor operators was made in

1997.

Inspection Report# : 2015002 *(pdf)*

Mitigating Systems

Significance: G Mar 24, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Operations Department Failure to Document Conditions Adverse to Quality in Condition Reports
DRAFT-The inspection activities described in this report were performed between March 8 and March 24, 2016, by three inspectors from the NRC's Region IV offices, the senior resident inspector at Palisades Nuclear Generating Station, and the resident inspector at the Palo Verde Nuclear Generating Station. The report documents one finding of very low safety significance (Green). This finding involved a violation of NRC requirements. The significance of inspection findings is indicated by their color (Green, White, Yellow, or Red), which is determined using Inspection Manual Chapter 0609, "Significance Determination Process." Their cross-cutting aspects are determined using Inspection Manual Chapter 0310, "Aspects Within the Cross-Cutting Areas." Violations of NRC requirements are dispositioned in accordance with the NRC Enforcement Policy. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process."

Assessment of Problem Identification and Resolution

Based on its inspection sample, the team concluded that the licensee maintained a corrective action program in which individuals generally identified issues at an appropriately low threshold. Once entered into the corrective action program, the licensee generally evaluated and addressed these issues appropriately and timely, commensurate with their safety significance. The licensee's corrective actions were generally effective, addressing the causes and extents of condition of problems.

The licensee appropriately evaluated industry operating experience for relevance to the facility and entered applicable items in the corrective action program. The licensee incorporated industry and internal operating experience in its root cause and apparent cause evaluations. The licensee performed effective and self-critical nuclear oversight audits and self-assessments. The licensee maintained an effective process to ensure significant findings from these audits and self-assessments were addressed.

The licensee maintained a safety-conscious work environment in which personnel were willing to raise nuclear safety concerns without fear of retaliation.
Inspection Report# : 2016008 *(pdf)*

Significance: G Jun 30, 2015
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Failure to Identify and Correct Engineered Safety Features Actuation System Steam Generator Differential Pressure Setpoint Drift
The inspectors reviewed a Green self-revealing non-cited violation of Technical Specification 5.4.1.a for failure to establish and implement procedures recommended by Regulatory Guide 1.33 Appendix A, Item 5.0, "Abnormal, Off-Normal and Alarm Conditions." Specifically, on January 11, 2015, Unit 2 received a steam generator pressure

difference setpoint alarm on channel B but failed to determine the cause of the alarm. As a result, the auxiliary feedwater actuation signal channel was inoperable for a period of 13 days, greater than the technical specification allowed outage time of 1 hour. The licensee entered this condition in their corrective action program and performed a root cause evaluation under Condition Report Disposition Request 4618033.

The inspectors concluded that the failure to provide adequate alarm procedures was a performance deficiency. The inspectors concluded that the performance deficiency was more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the control room operators did not have an alarm response procedure for plant monitoring system (RJ) alarm on point SASB22, which resulted in the channel B auxiliary feedwater actuation signal steam generator 2 drifting out of tolerance for a period of 13 days. This exceeds the allowed outage time specified in the technical specifications. The inspectors performed the initial significance determination using NRC Inspection Manual 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions." The finding screened to a detailed risk evaluation because it involved the actual loss of function of at least a single train for greater than its technical specification allowed outage time. A Region IV senior reactor analyst performed a detailed risk evaluation and determined that the change in core damage frequency ?CDF < 5E 9 corresponds to very low (Green) safety significance. The inspectors determined this finding has a cross cutting aspect in the area of human performance associated with the change management component. The licensee had an opportunity to identify the lack of alarm procedures associated with this parameter along with 74 other alarms that have technical specification implications during the design modification process for the plant computer alarm system. Inspection Report# : 2015002 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : July 11, 2016

Palo Verde 2
2Q/2016 Plant Inspection Findings

Initiating Events

Significance: G Jan 15, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Inadequate Loop Flow Test Procedure
The team identified a Green non-cited violation of License Conditions 2.C.7, 2.C.6, and 2.F for Units 1, 2, and 3, respectively, because the licensee had not established criteria for determining when a fire main loop had degraded and had not properly tested all portions of the fire main loop. Specifically, the licensee had not established a differential pressure that would initiate actions to evaluate the cause for a degradation and the licensee had not determined the flow through individual flow paths in their auxiliary and control buildings. The licensee documented these issues in Condition Reports 15 00513 and 16 00686 and initiated actions to correct the procedure and perform the flow test of the individual loops.

The team identified a performance deficiency related to the procedure used to test their fire main loop. Specifically, the licensee had not established criteria for determining a degraded fire main loop and had not properly tested all portions of the fire main loop. This performance deficiency was more than minor because it was associated with the protection against external factors attribute (fire) and adversely affected the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to test the fire main loops inside the control/auxiliary building separately and failure to establish appropriate acceptance criteria affected the ability to demonstrate the continued capability to deliver adequate flow and pressure to the fire suppression systems.

The finding was screened in accordance with NRC Inspection Manual Chapter (IMC) 0609, “Significance Determination Process,” Attachment 4, “Initial Characterization of Findings,” dated June 19, 2012. The inspectors determined that an IMC 0609, Appendix F, “Fire Protection Significance Determination Process,” dated September 20, 2013, review was required as the finding affected the ability to reach and maintain safe shutdown conditions in case of a fire. Using IMC 0609, Appendix F, Attachment 1, “Fire Protection Significance Determination Process Worksheet,” dated September 20, 2013, the finding was screened as a Green finding of very low safety significance in accordance with Task 1.4.7, “Fire Water Supply,” Question A. The inspectors determined that although the licensee failed to test portions of the fire main system in accordance with code requirements, the inspectors determined that at least 50 percent of required fire water capacity would be available based on the testing is done with only one fire pump in service and there are three available fire pumps. Since these fire main loops inside the control/auxiliary building had not been monitored for pressure changes when flow tested since initial testing and nothing caused the licensee to reevaluate the test, the team determined that this failure did not reflect current performance.

Inspection Report# : 2015008 *(pdf)*

Mitigating Systems

Significance: G Mar 24, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Operations Department Failure to Document Conditions Adverse to Quality in Condition Reports
The team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, for the licensee's failure to document conditions adverse to quality in the corrective action program. Previous similar failures to initiate condition reports led to, or contributed to, two significant conditions adverse to quality over the last 15 months.

The failure of the operations department to document identified conditions adverse to quality in condition reports, as required by Procedure 01DP-0AP12, "Condition Reporting Process," Revision 23, was a performance deficiency. This performance deficiency was more than minor, and therefore a finding, because if left uncorrected, it had the potential to lead to a more significant safety concern. Specifically, on two other occasions since January 2015, failures by operations personnel to write condition reports for equipment-related problems resulted in or contributed to significant conditions adverse to quality. This performance deficiency demonstrated a continued gap within Palo Verde Nuclear Generation Station's operations department in understanding condition report initiation criteria. This performance deficiency is associated with the mitigating systems cornerstone. Using NRC Inspection Manual Chapter 0609, Appendix A, the team determined that this finding was of very low safety significance (Green) because it did not affect the operability or functionality of a mitigating structure, system, or component. This finding has a resolution cross-cutting aspect in the area of problem identification and resolution because the licensee failed to take effective corrective actions to address issues in a timely manner commensurate with their safety significance (P.3)

Inspection Report# : 2016008 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related

information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : August 29, 2016

Palo Verde 2
3Q/2016 Plant Inspection Findings

Initiating Events

Significance: G Jan 15, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Inadequate Loop Flow Test Procedure
The team identified a Green non-cited violation of License Conditions 2.C.7, 2.C.6, and 2.F for Units 1, 2, and 3, respectively, because the licensee had not established criteria for determining when a fire main loop had degraded and had not properly tested all portions of the fire main loop. Specifically, the licensee had not established a differential pressure that would initiate actions to evaluate the cause for a degradation and the licensee had not determined the flow through individual flow paths in their auxiliary and control buildings. The licensee documented these issues in Condition Reports 15 00513 and 16 00686 and initiated actions to correct the procedure and perform the flow test of the individual loops.

The team identified a performance deficiency related to the procedure used to test their fire main loop. Specifically, the licensee had not established criteria for determining a degraded fire main loop and had not properly tested all portions of the fire main loop. This performance deficiency was more than minor because it was associated with the protection against external factors attribute (fire) and adversely affected the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to test the fire main loops inside the control/auxiliary building separately and failure to establish appropriate acceptance criteria affected the ability to demonstrate the continued capability to deliver adequate flow and pressure to the fire suppression systems.

The finding was screened in accordance with NRC Inspection Manual Chapter (IMC) 0609, “Significance Determination Process,” Attachment 4, “Initial Characterization of Findings,” dated June 19, 2012. The inspectors determined that an IMC 0609, Appendix F, “Fire Protection Significance Determination Process,” dated September 20, 2013, review was required as the finding affected the ability to reach and maintain safe shutdown conditions in case of a fire. Using IMC 0609, Appendix F, Attachment 1, “Fire Protection Significance Determination Process Worksheet,” dated September 20, 2013, the finding was screened as a Green finding of very low safety significance in accordance with Task 1.4.7, “Fire Water Supply,” Question A. The inspectors determined that although the licensee failed to test portions of the fire main system in accordance with code requirements, the inspectors determined that at least 50 percent of required fire water capacity would be available based on the testing is done with only one fire pump in service and there are three available fire pumps. Since these fire main loops inside the control/auxiliary building had not been monitored for pressure changes when flow tested since initial testing and nothing caused the licensee to reevaluate the test, the team determined that this failure did not reflect current performance.

Inspection Report# : 2015008 *(pdf)*

Mitigating Systems

Significance: G Sep 01, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Establish Maintenance Activities and Instructions for Gas Turbine Generator Station Blackout Batteries
DRAFT: The team identified a Green, non-cited violation of 10 CFR 50.63, "Loss of All Alternating Current," which states, in part, "The alternate AC power source, as defined in 10 CFR 50.2, will constitute acceptable capability to withstand station blackout provided an analysis is performed which demonstrates that the plant has this capability from onset of the station blackout until the alternate AC source(s) and required shutdown equipment are started and lined up to operate." Specifically, prior to August 5, 2016, the licensee replaced the gas turbine generator station blackout batteries in a modification to address obsolete components, but failed to identify the initial parameters to baseline the batteries and failed to implement a battery testing and maintenance program. In response to this issue, the licensee determined that the batteries continued to satisfy their design function and began to develop the necessary testing and preventive maintenance procedures. This finding was entered into the licensee's corrective action program as Condition Report 14-02346.

The team determined that failure to implement preventative maintenance activities for the gas turbine generator station blackout batteries since their replacement in 2014 was a performance deficiency. This performance deficiency was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee replaced the gas turbine generator station blackout batteries in a modification to address obsolete components, but failed to identify the initial parameters to baseline the batteries and failed to implement a battery testing and maintenance program. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the finding was determined to have very low safety significance (Green) because it was a design or qualification deficiency that did not result in a loss of operability or functionality; did not represent an actual loss of safety function of a system or train; did not result in the loss of a single train for greater than technical specification allowed outage time; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding had a crosscutting aspect in the area of problem identification and resolution associated with resolution because the licensee failed to take effective corrective actions to address issues in a timely manner commensurate with their safety significance [P.3].

Inspection Report# : 2016007 *(pdf)*

Significance: G Sep 01, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Translate Information from Design Modification into Design Documentation, Operating Procedures, and Operator Training
DRAFT: The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," which states, in part, "measures shall be established to assure that applicable regulatory requirements and the design basis, for those structures, systems, and components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions." Specifically, prior to August 5, 2016, the licensee did not adequately implement operator training and annunciator response procedures for Design Modification 216914, which resulted in the failure to adequately evaluate the impact on operability for the loss of forced cooling capability for the L31 load center transformer. In response to this issue, the licensee confirmed that the L31 load center was operable, but degraded, based on the remaining life for the transformer insulation when considering the maximum design basis accident load on the transformer and the expected load duration with the cooling fans disabled. This finding was

entered into the licensee's corrective action program as Condition Report 3-16-12571 and Condition Report 3-16-13316.

The team determined that the failure to adequately update design documentation, operating procedures, and operator training was a performance deficiency. This performance deficiency was more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to update appropriate design calculations, annunciator response procedures, and licensed operator training when Design Modification 216904 was implemented in 1996 contributed to conditions that resulted in Operations preparing an inadequate Immediate Operability Determination when the L31 transformer cooling equipment failed on April 21, 2015. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the finding was determined to have very low safety significance (Green) because it was a design or qualification deficiency that did not result in the loss of operability or functionality; did not represent an actual loss of safety function of a system or train; did not result in the loss of a single train for greater than technical specification allowed outage time; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding did not have a crosscutting aspect because the most significant contributor did not reflect current licensee performance.
Inspection Report# : 2016007 *(pdf)*

Significance: G Sep 01, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Verify the Ability to Isolate the Safety-Related Condensate Storage Tank from Non-Safety Piping
DRAFT: The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," which states, in part, "Measures shall be established to assure that applicable regulatory requirements and the design basis for those structures, systems, and components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions." Specifically, prior to August 3, 2016, the licensee failed to establish measures to assure an adequate water level was maintained in the condensate storage tank, failed to establish a time critical action to isolate the condensate storage tank, and failed to establish specific procedures to isolate the condensate storage tank in the event of a tornado. In response to this issue, the licensee initiated the process to revise plant procedures and evaluate associated operator time critical actions. This finding was entered into the licensee's corrective action program as Condition Reports 16-13761, 16-12430, and 16 13762.

The team determined that failure to verify the ability to isolate the safety-related condensate storage tank from the non-safety portion of the auxiliary feedwater system while preserving enough tank capacity to safely shutdown was a performance deficiency. This performance deficiency was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee's failure to ensure timely isolation of the condensate storage tank would adversely affect the capability to safely shutdown the plant using the condensate storage tank and safety-related auxiliary feedwater system. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the finding was determined to have very low safety significance (Green) because it was a design or qualification deficiency that did not result in a loss of operability or functionality; did not represent an actual loss of safety function of a system or train; did not result in the loss of a single train for greater than technical specification allowed outage time; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding did not have a crosscutting aspect because the most significant contributor did not reflect current licensee performance.

Inspection Report# : 2016007 *(pdf)*

Significance: G Sep 01, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Pipe Welds Not Incorporated into the Inservice Inspection Program
DRAFT: The team identified a Green, non-cited violation of 10 CFR 50.55a(g)4, "Inservice Inspection Standards Requirement for Operating Plants," which states, in part, "Throughout the service life of a pressurized water-cooled nuclear power facility, components that are classified as ASME Code Class 1, Class 2, and Class 3 must meet the requirements set forth in Section XI of the ASME Code." The ASME Code, Section XI, Article IWA-2610, requires that a reference system be established for all welds and areas subject to a surface or volumetric examination. Specifically, prior to August 8, 2016, for two welds located in an ASME Code, Section XI, Class 3, suction line between the condensate storage tank and the non-safety-related auxiliary feedwater pump, a weld reference system was not established. In response to this issue, the licensee reclassified the subject welds and scheduled weld examinations to ensure potential cracks would be detected. This finding was entered into the licensee's corrective action program as Condition Report 16-13150.

The team determined that the licensee's failure to establish a weld reference system for two welds in the suction line between the condensate storage tank and the startup feed pump system was contrary to the ASME Code, Section XI, Article IWA-2610, and was a performance deficiency. This performance deficiency was more than minor because the finding, if left uncorrected, would become a more significant safety concern. Specifically, absent NRC identification, the licensee would not have examined these welds, which could have allowed service induced cracks to go undetected. Undetected cracks would place the suction pipe segment at increased risk for through-wall leakage and/or failure, which would affect the safety of an operating reactor. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the finding was determined to have very low safety significance (Green) because it was a design or qualification deficiency that did not result in the loss of operability of functionality; did not represent an actual loss of safety function of a system or train; did not result in the loss of a single train for greater than technical specification allowed outage time; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding did not have a crosscutting aspect because the most significant contributor did not reflect current licensee performance.
Inspection Report# : 2016007 *(pdf)*

Significance: G Mar 24, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Operations Department Failure to Document Conditions Adverse to Quality in Condition Reports
The team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, for the licensee's failure to document conditions adverse to quality in the corrective action program. Previous similar failures to initiate condition reports led to, or contributed to, two significant conditions adverse to quality over the last 15 months.

The failure of the operations department to document identified conditions adverse to quality in condition reports, as required by Procedure 01DP-0AP12, "Condition Reporting Process," Revision 23, was a performance deficiency. This performance deficiency was more than minor, and therefore a finding, because if left uncorrected, it had the potential to lead to a more significant safety concern. Specifically, on two other occasions since January 2015, failures by operations personnel to write condition reports for equipment-related problems resulted in or contributed to significant conditions adverse to quality. This performance deficiency demonstrated a continued gap within Palo Verde Nuclear Generation Station's operations department in understanding condition report initiation criteria. This

performance deficiency is associated with the mitigating systems cornerstone. Using NRC Inspection Manual Chapter 0609, Appendix A, the team determined that this finding was of very low safety significance (Green) because it did not affect the operability or functionality of a mitigating structure, system, or component. This finding has a resolution cross-cutting aspect in the area of problem identification and resolution because the licensee failed to take effective corrective actions to address issues in a timely manner commensurate with their safety significance (P.3)

Inspection Report# : 2016008 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : December 08, 2016

Palo Verde 2
4Q/2016 Plant Inspection Findings

Initiating Events

Significance: G Sep 28, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Follow Advance Work Authorization Procedure
The inspectors identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," because the licensee failed to accomplish activities affecting quality in accordance with documented procedures. Specifically, the inspectors identified multiple examples of design changes performed under the Advanced Work Authorization process which were placed into service prior to the completion of the associated engineering work orders. As an immediate corrective action, the licensee instituted a requirement for the design engineering director to approve all Advance Work Authorizations to ensure the in service point is clearly identified and understood. The licensee entered this issue into the corrective action program as Condition Report 16-09965.

The failure to establish adequate constraints to ensure that final engineering approval of advance work is completed prior to placing modified systems in service was a performance deficiency. This performance deficiency was more than minor, and therefore a finding, because if left uncorrected, the performance deficiency would have the potential to lead to a more significant safety concern. Specifically, routinely failing to implement the requirements of the engineering design change advance work authorization process could result in equipment being placed in service without an approved design configuration. In accordance with Inspection Manual Chapter 0609, Significance Determination Process, Attachment 4, "Initial Characterization of Findings," dated June 19, 2012, Table 2, reactor coolant system boundary issues are considered under the Initiating Event Cornerstone. Using Table 3, the inspectors determined the finding pertained to an event or degraded condition while the plant was shutdown and, therefore, used Inspection Manual Chapter 0609, Appendix G "Shutdown Operations Significance Determination Process," dated May 9, 2014, for significance determination. The inspectors reviewed Appendix G, Attachment 1, Exhibit 2, "Initiating Events Screening Questions." The inspectors answered "No" to Question A.1, and found all other questions to be not applicable and therefore concluded that the finding was of very low safety significance (Green). The inspectors determined that this finding had a human performance crosscutting aspect associated with work management, because the licensee did not coordinate with all affected work groups so that operations personnel understood the constraints prior to placing the modified system back in service.
Inspection Report# : 2016003 *(pdf)*

Significance: G Jan 15, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Inadequate Loop Flow Test Procedure
The team identified a Green non-cited violation of License Conditions 2.C.7, 2.C.6, and 2.F for Units 1, 2, and 3, respectively, because the licensee had not established criteria for determining when a fire main loop had degraded and had not properly tested all portions of the fire main loop. Specifically, the licensee had not established a differential pressure that would initiate actions to evaluate the cause for a degradation and the licensee had not determined the flow through individual flow paths in their auxiliary and control buildings. The licensee documented these issues in Condition Reports 15 00513 and 16 00686 and initiated actions to correct the procedure and perform the flow test of

the individual loops.

The team identified a performance deficiency related to the procedure used to test their fire main loop. Specifically, the licensee had not established criteria for determining a degraded fire main loop and had not properly tested all portions of the fire main loop. This performance deficiency was more than minor because it was associated with the protection against external factors attribute (fire) and adversely affected the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to test the fire main loops inside the control/auxiliary building separately and failure to establish appropriate acceptance criteria affected the ability to demonstrate the continued capability to deliver adequate flow and pressure to the fire suppression systems.

The finding was screened in accordance with NRC Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," Attachment 4, "Initial Characterization of Findings," dated June 19, 2012. The inspectors determined that an IMC 0609, Appendix F, "Fire Protection Significance Determination Process," dated September 20, 2013, review was required as the finding affected the ability to reach and maintain safe shutdown conditions in case of a fire. Using IMC 0609, Appendix F, Attachment 1, "Fire Protection Significance Determination Process Worksheet," dated September 20, 2013, the finding was screened as a Green finding of very low safety significance in accordance with Task 1.4.7, "Fire Water Supply," Question A. The inspectors determined that although the licensee failed to test portions of the fire main system in accordance with code requirements, the inspectors determined that at least 50 percent of required fire water capacity would be available based on the testing is done with only one fire pump in service and there are three available fire pumps. Since these fire main loops inside the control/auxiliary building had not been monitored for pressure changes when flow tested since initial testing and nothing caused the licensee to reevaluate the test, the team determined that this failure did not reflect current performance.

Inspection Report# : 2015008 *(pdf)*

Mitigating Systems

Significance: G Sep 01, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Establish Maintenance Activities and Instructions for Gas Turbine Generator Station Blackout Batteries
The team identified a Green, non-cited violation of 10 CFR 50.63, "Loss of All Alternating Current," which states, in part, "The alternate AC power source, as defined in 10 CFR 50.2, will constitute acceptable capability to withstand station blackout provided an analysis is performed which demonstrates that the plant has this capability from onset of the station blackout until the alternate AC source(s) and required shutdown equipment are started and lined up to operate." Specifically, prior to August 5, 2016, the licensee replaced the gas turbine generator station blackout batteries in a modification to address obsolete components, but failed to identify the initial parameters to baseline the batteries and failed to implement a battery testing and maintenance program. In response to this issue, the licensee determined that the batteries continued to satisfy their design function and began to develop the necessary testing and preventive maintenance procedures. This finding was entered into the licensee's corrective action program as Condition Report 14-02346.

The team determined that failure to implement preventative maintenance activities for the gas turbine generator station blackout batteries since their replacement in 2014 was a performance deficiency. This performance deficiency was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems

Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee replaced the gas turbine generator station blackout batteries in a modification to address obsolete components, but failed to identify the initial parameters to baseline the batteries and failed to implement a battery testing and maintenance program. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the finding was determined to have very low safety significance (Green) because it was a design or qualification deficiency that did not result in a loss of operability or functionality; did not represent an actual loss of safety function of a system or train; did not result in the loss of a single train for greater than technical specification allowed outage time; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding had a crosscutting aspect in the area of problem identification and resolution associated with resolution because the licensee failed to take effective corrective actions to address issues in a timely manner commensurate with their safety significance [P.3].
Inspection Report# : 2016007 *(pdf)*

Significance:  Sep 01, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Translate Information from Design Modification into Design Documentation, Operating Procedures, and Operator Training
. The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," which states, in part, "measures shall be established to assure that applicable regulatory requirements and the design basis, for those structures, systems, and components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions." Specifically, prior to August 5, 2016, the licensee did not adequately implement operator training and annunciator response procedures for Design Modification 216914, which resulted in the failure to adequately evaluate the impact on operability for the loss of forced cooling capability for the L31 load center transformer. In response to this issue, the licensee confirmed that the L31 load center was operable, but degraded, based on the remaining life for the transformer insulation when considering the maximum design basis accident load on the transformer and the expected load duration with the cooling fans disabled. This finding was entered into the licensee's corrective action program as Condition Report 3-16-12571 and Condition Report 3-16-13316.

The team determined that the failure to adequately update design documentation, operating procedures, and operator training was a performance deficiency. This performance deficiency was more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to update appropriate design calculations, annunciator response procedures, and licensed operator training when Design Modification 216904 was implemented in 1996 contributed to conditions that resulted in Operations preparing an inadequate Immediate Operability Determination when the L31 transformer cooling equipment failed on April 21, 2015. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the finding was determined to have very low safety significance (Green) because it was a design or qualification deficiency that did not result in the loss of operability or functionality; did not represent an actual loss of safety function of a system or train; did not result in the loss of a single train for greater than technical specification allowed outage time; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding did not have a crosscutting aspect because the most significant contributor did not reflect current licensee performance.
Inspection Report# : 2016007 *(pdf)*

Significance: G Sep 01, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Verify the Ability to Isolate the Safety-Related Condensate Storage Tank from Non-Safety Piping
The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," which states, in part, "Measures shall be established to assure that applicable regulatory requirements and the design basis for those structures, systems, and components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions." Specifically, prior to August 3, 2016, the licensee failed to establish measures to assure an adequate water level was maintained in the condensate storage tank, failed to establish a time critical action to isolate the condensate storage tank, and failed to establish specific procedures to isolate the condensate storage tank in the event of a tornado. In response to this issue, the licensee initiated the process to revise plant procedures and evaluate associated operator time critical actions. This finding was entered into the licensee's corrective action program as Condition Reports 16-13761, 16-12430, and 16 13762.

The team determined that failure to verify the ability to isolate the safety-related condensate storage tank from the non-safety portion of the auxiliary feedwater system while preserving enough tank capacity to safely shutdown was a performance deficiency. This performance deficiency was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee's failure to ensure timely isolation of the condensate storage tank would adversely affect the capability to safely shutdown the plant using the condensate storage tank and safety-related auxiliary feedwater system. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the finding was determined to have very low safety significance (Green) because it was a design or qualification deficiency that did not result in a loss of operability or functionality; did not represent an actual loss of safety function of a system or train; did not result in the loss of a single train for greater than technical specification allowed outage time; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding did not have a crosscutting aspect because the most significant contributor did not reflect current licensee performance.
Inspection Report# : 2016007 *(pdf)*

Significance: G Sep 01, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Pipe Welds Not Incorporated into the Inservice Inspection Program
The team identified a Green, non-cited violation of 10 CFR 50.55a(g)4, "Inservice Inspection Standards Requirement for Operating Plants," which states, in part, "Throughout the service life of a pressurized water-cooled nuclear power facility, components that are classified as ASME Code Class 1, Class 2, and Class 3 must meet the requirements set forth in Section XI of the ASME Code." The ASME Code, Section XI, Article IWA-2610, requires that a reference system be established for all welds and areas subject to a surface or volumetric examination. Specifically, prior to August 8, 2016, for two welds located in an ASME Code, Section XI, Class 3, suction line between the condensate storage tank and the non-safety-related auxiliary feedwater pump, a weld reference system was not established. In response to this issue, the licensee reclassified the subject welds and scheduled weld examinations to ensure potential cracks would be detected. This finding was entered into the licensee's corrective action program as Condition Report 16-13150.

The team determined that the licensee's failure to establish a weld reference system for two welds in the suction line between the condensate storage tank and the startup feed pump system was contrary to the ASME Code, Section XI, Article IWA-2610, and was a performance deficiency. This performance deficiency was more than minor because the

finding, if left uncorrected, would become a more significant safety concern. Specifically, absent NRC identification, the licensee would not have examined these welds, which could have allowed service induced cracks to go undetected. Undetected cracks would place the suction pipe segment at increased risk for through-wall leakage and/or failure, which would affect the safety of an operating reactor. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the finding was determined to have very low safety significance (Green) because it was a design or qualification deficiency that did not result in the loss of operability of functionality; did not represent an actual loss of safety function of a system or train; did not result in the loss of a single train for greater than technical specification allowed outage time; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding did not have a crosscutting aspect because the most significant contributor did not reflect current licensee performance.
Inspection Report# : 2016007 *(pdf)*

Significance: G Mar 24, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Operations Department Failure to Document Conditions Adverse to Quality in Condition Reports
The team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, for the licensee's failure to document conditions adverse to quality in the corrective action program. Previous similar failures to initiate condition reports led to, or contributed to, two significant conditions adverse to quality over the last 15 months.

The failure of the operations department to document identified conditions adverse to quality in condition reports, as required by Procedure 01DP-0AP12, "Condition Reporting Process," Revision 23, was a performance deficiency. This performance deficiency was more than minor, and therefore a finding, because if left uncorrected, it had the potential to lead to a more significant safety concern. Specifically, on two other occasions since January 2015, failures by operations personnel to write condition reports for equipment-related problems resulted in or contributed to significant conditions adverse to quality. This performance deficiency demonstrated a continued gap within Palo Verde Nuclear Generation Station's operations department in understanding condition report initiation criteria. This performance deficiency is associated with the mitigating systems cornerstone. Using NRC Inspection Manual Chapter 0609, Appendix A, the team determined that this finding was of very low safety significance (Green) because it did not affect the operability or functionality of a mitigating structure, system, or component. This finding has a resolution cross-cutting aspect in the area of problem identification and resolution because the licensee failed to take effective corrective actions to address issues in a timely manner commensurate with their safety significance (P.3)

Inspection Report# : 2016008 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : February 01, 2017

Palo Verde 2 – Quarterly Plant Inspection Findings

2Q/2017 – Plant Inspection Findings

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- Public Radiation Safety
- Security

Initiating Events

Significance: G Sep 28, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Follow Advance Work Authorization Procedure
The inspectors identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," because the licensee failed to accomplish activities affecting quality in accordance with documented procedures. Specifically, the inspectors identified multiple examples of design changes performed under the Advanced Work Authorization process which were placed into service prior to the completion of the associated engineering work orders. As an immediate corrective action, the licensee instituted a requirement for the design engineering director to approve all Advance Work Authorizations to ensure the in service point is clearly identified and understood. The licensee entered this issue into the corrective action program as Condition Report 16-09965.

The failure to establish adequate constraints to ensure that final engineering approval of advance work is completed prior to placing modified systems in service was a performance deficiency. This performance deficiency was more than minor, and therefore a finding, because if left uncorrected, the performance deficiency would have the potential to lead to a more significant safety concern. Specifically, routinely failing to implement the requirements of the engineering design change advance work authorization process could result in equipment being placed in service without an approved design configuration. In accordance with Inspection Manual Chapter 0609, Significance Determination Process, Attachment 4, "Initial Characterization of Findings," dated June 19, 2012, Table 2, reactor coolant system boundary issues are considered under the Initiating Event Cornerstone. Using Table 3, the inspectors determined the finding pertained to an event or degraded condition while the plant was shutdown and, therefore, used Inspection Manual Chapter 0609, Appendix G "Shutdown Operations Significance Determination Process," dated May 9, 2014, for significance determination. The inspectors reviewed Appendix G, Attachment 1, Exhibit 2, "Initiating Events Screening Questions." The inspectors answered "No" to Question A.1, and found all other questions to be not applicable and therefore concluded that the finding was of very low safety significance (Green). The inspectors

determined that this finding had a human performance crosscutting aspect associated with work management, because the licensee did not coordinate with all affected work groups so that operations personnel understood the constraints prior to placing the modified system back in service.
Inspection Report# : 2016003 *(pdf)*

Mitigating Systems

Significance: G Mar 31, 2017
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to establish station procedure instructions for denial work authorizations
The inspectors identified a Green, non-cited violation of Technical Specification 5.4.1.a, "Procedures," for the failure to establish procedure instructions for work authorization denials or deferrals. Specifically, this led to a 60 day extended unavailability of the diverse auxiliary feedwater actuation system when corrective maintenance was inappropriately deferred by the operations department.

Failure to provide adequate procedural guidance in the event of a denied work authorization, a circumstance anticipated to occur, is a performance deficiency. The performance deficiency is more than minor, because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability and reliability of equipment that responds to an initiating event. Specifically, because the corrective maintenance was not performed in a timely manner, both trains of the diverse auxiliary feedwater actuation system remained in bypass for an additional 60 days whereby the system was not capable of performing its required safety function. The inspectors evaluated the significance of the finding using Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process for Findings at Power," Exhibit 2, "Mitigating Systems Screening Questions," Section A, Question 2, which required a detailed risk evaluation because the finding involved a loss of system safety function. A Region IV senior reactor analyst performed a detailed risk assessment of the finding and determined that the finding was of very low safety significance (Green). The inspectors determined that the finding had a cross-cutting aspect in the human performance area of Work Management. The work process includes the identification and management of risk commensurate to the work and the need for coordination with different groups or job activities. Specifically, the Unit Operations Manager's decision to deny the work authorization was based on conservative but faulty assumptions, and if other work groups with greater specific technical knowledge had been involved, the corrective maintenance likely would have proceeded [H.5].
Inspection Report# : 2017001 *(pdf)*

Significance: G Dec 29, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Inadequate monitoring of MSIV nitrogen pre-charge pressure
Green. The inspectors reviewed a self-revealing non-cited violation of Technical Specification 3.7.2 for exceeding the Condition A completion time for an inoperable main steam isolation valve (MSIV) single actuator train and not immediately declaring the affected main steam isolation valve inoperable in accordance with Condition E. Specifically, the Unit 2 main steam isolation valve 171 actuator A was inoperable from July 30, 2016, to August 9, 2016, when a known nitrogen leak was not adequately monitored. The licensee's inadequate monitoring allowed the nitrogen pre-charge pressure in the actuator to decrease to below the minimum acceptable limit for operability. The licensee restored the pre-charge pressure and entered this issue into their corrective action program as Condition Report 16-12740.

The failure to perform adequate monitoring for a degraded condition as required by procedure 40DP-9OP26, "Operations Condition Reporting Process and Operability Determination/Functional Assessment," was a performance

deficiency. The performance deficiency was more-than-minor and therefore a finding because it affected the equipment performance attribute of the Mitigating Systems Cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically the failure to adequately monitor a known nitrogen leak resulted in depressurizing one of two hydraulic accumulators thereby reducing the reliability of the system to initiate a fast closure of MSIV 171 upon receipt of a main steam isolation signal. The inspectors performed the initial significance determination using NRC Inspection Manual Chapter 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," Issue Date: June 9, 2012. The finding required a detailed risk evaluation since it represented a loss of function for a single train for greater than the Technical Specification allowed outage time. A Region IV senior reactor analyst determined the finding was of very low safety significance (Green) since the MSIV remained capable of performing its safety function with the alternate actuator. The finding has a cross-cutting aspect in the area of human performance associated with the teamwork component. Specifically, the licensee failed to coordinate activities across organizational boundaries in that the operations personnel did not obtain engineering input to ensure that additional monitoring requirements for the nitrogen pre-charge leak were adequate to verify continued MSIV 171 operability.
Inspection Report# : 2016004 *(pdf)*

Significance: G Sep 01, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Establish Maintenance Activities and Instructions for Gas Turbine Generator Station Blackout Batteries
The team identified a Green, non-cited violation of 10 CFR 50.63, "Loss of All Alternating Current," which states, in part, "The alternate AC power source, as defined in 10 CFR 50.2, will constitute acceptable capability to withstand station blackout provided an analysis is performed which demonstrates that the plant has this capability from onset of the station blackout until the alternate AC source(s) and required shutdown equipment are started and lined up to operate." Specifically, prior to August 5, 2016, the licensee replaced the gas turbine generator station blackout batteries in a modification to address obsolete components, but failed to identify the initial parameters to baseline the batteries and failed to implement a battery testing and maintenance program. In response to this issue, the licensee determined that the batteries continued to satisfy their design function and began to develop the necessary testing and preventive maintenance procedures. This finding was entered into the licensee's corrective action program as Condition Report 14-02346.

The team determined that failure to implement preventative maintenance activities for the gas turbine generator station blackout batteries since their replacement in 2014 was a performance deficiency. This performance deficiency was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee replaced the gas turbine generator station blackout batteries in a modification to address obsolete components, but failed to identify the initial parameters to baseline the batteries and failed to implement a battery testing and maintenance program. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the finding was determined to have very low safety significance (Green) because it was a design or qualification deficiency that did not result in a loss of operability or functionality; did not represent an actual loss of safety function of a system or train; did not result in the loss of a single train for greater than technical specification allowed outage time; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding had a crosscutting aspect in the area of problem identification and resolution associated with resolution because the licensee failed to take effective corrective actions to address

issues in a timely manner commensurate with their safety significance [P.3].
Inspection Report# : 2016007 *(pdf)*

Significance: G Sep 01, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Translate Information from Design Modification into Design Documentation, Operating Procedures, and Operator Training
. The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," which states, in part, "measures shall be established to assure that applicable regulatory requirements and the design basis, for those structures, systems, and components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions." Specifically, prior to August 5, 2016, the licensee did not adequately implement operator training and annunciator response procedures for Design Modification 216914, which resulted in the failure to adequately evaluate the impact on operability for the loss of forced cooling capability for the L31 load center transformer. In response to this issue, the licensee confirmed that the L31 load center was operable, but degraded, based on the remaining life for the transformer insulation when considering the maximum design basis accident load on the transformer and the expected load duration with the cooling fans disabled. This finding was entered into the licensee's corrective action program as Condition Report 3-16-12571 and Condition Report 3-16-13316.

The team determined that the failure to adequately update design documentation, operating procedures, and operator training was a performance deficiency. This performance deficiency was more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to update appropriate design calculations, annunciator response procedures, and licensed operator training when Design Modification 216904 was implemented in 1996 contributed to conditions that resulted in Operations preparing an inadequate Immediate Operability Determination when the L31 transformer cooling equipment failed on April 21, 2015. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the finding was determined to have very low safety significance (Green) because it was a design or qualification deficiency that did not result in the loss of operability or functionality; did not represent an actual loss of safety function of a system or train; did not result in the loss of a single train for greater than technical specification allowed outage time; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding did not have a crosscutting aspect because the most significant contributor did not reflect current licensee performance.
Inspection Report# : 2016007 *(pdf)*

Significance: G Sep 01, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Verify the Ability to Isolate the Safety-Related Condensate Storage Tank from Non-Safety Piping
The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," which states, in part, "Measures shall be established to assure that applicable regulatory requirements and the design basis for those structures, systems, and components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions." Specifically, prior to August 3, 2016, the licensee failed to establish measures to assure an adequate water level was maintained in the condensate storage tank, failed to establish a time critical action to isolate the condensate storage tank, and failed to establish specific procedures to isolate the condensate storage tank in the event of a tornado. In response to this issue, the licensee initiated the process to revise plant procedures and

evaluate associated operator time critical actions. This finding was entered into the licensee's corrective action program as Condition Reports 16-13761, 16-12430, and 16 13762.

The team determined that failure to verify the ability to isolate the safety-related condensate storage tank from the non-safety portion of the auxiliary feedwater system while preserving enough tank capacity to safely shutdown was a performance deficiency. This performance deficiency was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee's failure to ensure timely isolation of the condensate storage tank would adversely affect the capability to safely shutdown the plant using the condensate storage tank and safety-related auxiliary feedwater system. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the finding was determined to have very low safety significance (Green) because it was a design or qualification deficiency that did not result in a loss of operability or functionality; did not represent an actual loss of safety function of a system or train; did not result in the loss of a single train for greater than technical specification allowed outage time; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding did not have a crosscutting aspect because the most significant contributor did not reflect current licensee performance.
Inspection Report# : 2016007 *(pdf)*

Significance: G Sep 01, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Pipe Welds Not Incorporated into the Inservice Inspection Program
The team identified a Green, non-cited violation of 10 CFR 50.55a(g)4, "Inservice Inspection Standards Requirement for Operating Plants," which states, in part, "Throughout the service life of a pressurized water-cooled nuclear power facility, components that are classified as ASME Code Class 1, Class 2, and Class 3 must meet the requirements set forth in Section XI of the ASME Code." The ASME Code, Section XI, Article IWA-2610, requires that a reference system be established for all welds and areas subject to a surface or volumetric examination. Specifically, prior to August 8, 2016, for two welds located in an ASME Code, Section XI, Class 3, suction line between the condensate storage tank and the non-safety-related auxiliary feedwater pump, a weld reference system was not established. In response to this issue, the licensee reclassified the subject welds and scheduled weld examinations to ensure potential cracks would be detected. This finding was entered into the licensee's corrective action program as Condition Report 16 -13150.

The team determined that the licensee's failure to establish a weld reference system for two welds in the suction line between the condensate storage tank and the startup feed pump system was contrary to the ASME Code, Section XI, Article IWA-2610, and was a performance deficiency. This performance deficiency was more than minor because the finding, if left uncorrected, would become a more significant safety concern. Specifically, absent NRC identification, the licensee would not have examined these welds, which could have allowed service induced cracks to go undetected. Undetected cracks would place the suction pipe segment at increased risk for through-wall leakage and/or failure, which would affect the safety of an operating reactor. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the finding was determined to have very low safety significance (Green) because it was a design or qualification deficiency that did not result in the loss of operability of functionality; did not represent an actual loss of safety function of a system or train; did not result in the loss of a single train for greater than technical specification allowed outage time; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather.

This finding did not have a crosscutting aspect because the most significant contributor did not reflect current licensee performance.
Inspection Report# : 2016007 *(pdf)*

Barrier Integrity
Emergency Preparedness
Occupational Radiation Safety
Public Radiation Safety
Security

The security cornerstone is an important component of the ROP, which includes various security inspection activities the NRC uses to verify licensee compliance with Commission regulations and thus ensure public health and safety. The Commission determined in the staff requirements memorandum (SRM) for SECY-04-0191, "Withholding Sensitive Unclassified Information Concerning Nuclear Power Reactors from Public Disclosure," dated November 9, 2004, that specific information related to findings and performance indicators associated with the security cornerstone will not be publicly available to ensure that security-related information is not provided to a possible adversary. Security inspection report cover letters will be available on the NRC Web site; however, security-related information on the details of inspection finding(s) will not be displayed.

Miscellaneous

Current data as of : August 03, 2017

Page Last Reviewed/Updated Wednesday, August 10, 2016

Palo Verde 2 – Quarterly Plant Inspection Findings

2Q/2017 – Plant Inspection Findings

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- Mitigating Systems
- Barrier Integrity
- Emergency Preparedness
- Occupational Radiation Safety
- Public Radiation Safety
- Security

Initiating Events

Significance: G Sep 28, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Follow Advance Work Authorization Procedure
The inspectors identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," because the licensee failed to accomplish activities affecting quality in accordance with documented procedures. Specifically, the inspectors identified multiple examples of design changes performed under the Advanced Work Authorization process which were placed into service prior to the completion of the associated engineering work orders. As an immediate corrective action, the licensee instituted a requirement for the design engineering director to approve all Advance Work Authorizations to ensure the in service point is clearly identified and understood. The licensee entered this issue into the corrective action program as Condition Report 16-09965.

The failure to establish adequate constraints to ensure that final engineering approval of advance work is completed prior to placing modified systems in service was a performance deficiency. This performance deficiency was more than minor, and therefore a finding, because if left uncorrected, the performance deficiency would have the potential to lead to a more significant safety concern. Specifically, routinely failing to implement the requirements of the engineering design change advance work authorization process could result in equipment being placed in service without an approved design configuration. In accordance with Inspection Manual Chapter 0609, Significance Determination Process, Attachment 4, "Initial Characterization of Findings," dated June 19, 2012, Table 2, reactor coolant system boundary issues are considered under the Initiating Event Cornerstone. Using Table 3, the inspectors determined the finding pertained to an event or degraded condition while the plant was shutdown and, therefore, used Inspection Manual Chapter 0609, Appendix G "Shutdown Operations Significance Determination Process," dated May 9, 2014, for significance determination. The inspectors reviewed Appendix G, Attachment 1, Exhibit 2, "Initiating Events Screening Questions." The inspectors answered "No" to Question A.1, and found all other questions to be not applicable and therefore concluded that the finding was of very low safety significance (Green). The inspectors

determined that this finding had a human performance crosscutting aspect associated with work management, because the licensee did not coordinate with all affected work groups so that operations personnel understood the constraints prior to placing the modified system back in service.
Inspection Report# : 2016003 *(pdf)*

Mitigating Systems

Significance: G Mar 31, 2017
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to establish station procedure instructions for denial work authorizations
The inspectors identified a Green, non-cited violation of Technical Specification 5.4.1.a, "Procedures," for the failure to establish procedure instructions for work authorization denials or deferrals. Specifically, this led to a 60 day extended unavailability of the diverse auxiliary feedwater actuation system when corrective maintenance was inappropriately deferred by the operations department.

Failure to provide adequate procedural guidance in the event of a denied work authorization, a circumstance anticipated to occur, is a performance deficiency. The performance deficiency is more than minor, because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability and reliability of equipment that responds to an initiating event. Specifically, because the corrective maintenance was not performed in a timely manner, both trains of the diverse auxiliary feedwater actuation system remained in bypass for an additional 60 days whereby the system was not capable of performing its required safety function. The inspectors evaluated the significance of the finding using Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process for Findings at Power," Exhibit 2, "Mitigating Systems Screening Questions," Section A, Question 2, which required a detailed risk evaluation because the finding involved a loss of system safety function. A Region IV senior reactor analyst performed a detailed risk assessment of the finding and determined that the finding was of very low safety significance (Green). The inspectors determined that the finding had a cross-cutting aspect in the human performance area of Work Management. The work process includes the identification and management of risk commensurate to the work and the need for coordination with different groups or job activities. Specifically, the Unit Operations Manager's decision to deny the work authorization was based on conservative but faulty assumptions, and if other work groups with greater specific technical knowledge had been involved, the corrective maintenance likely would have proceeded [H.5].
Inspection Report# : 2017001 *(pdf)*

Significance: G Dec 29, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Inadequate monitoring of MSIV nitrogen pre-charge pressure
Green. The inspectors reviewed a self-revealing non-cited violation of Technical Specification 3.7.2 for exceeding the Condition A completion time for an inoperable main steam isolation valve (MSIV) single actuator train and not immediately declaring the affected main steam isolation valve inoperable in accordance with Condition E. Specifically, the Unit 2 main steam isolation valve 171 actuator A was inoperable from July 30, 2016, to August 9, 2016, when a known nitrogen leak was not adequately monitored. The licensee's inadequate monitoring allowed the nitrogen pre-charge pressure in the actuator to decrease to below the minimum acceptable limit for operability. The licensee restored the pre-charge pressure and entered this issue into their corrective action program as Condition Report 16-12740.

The failure to perform adequate monitoring for a degraded condition as required by procedure 40DP-9OP26, "Operations Condition Reporting Process and Operability Determination/Functional Assessment," was a performance

deficiency. The performance deficiency was more-than-minor and therefore a finding because it affected the equipment performance attribute of the Mitigating Systems Cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically the failure to adequately monitor a known nitrogen leak resulted in depressurizing one of two hydraulic accumulators thereby reducing the reliability of the system to initiate a fast closure of MSIV 171 upon receipt of a main steam isolation signal. The inspectors performed the initial significance determination using NRC Inspection Manual Chapter 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," Issue Date: June 9, 2012. The finding required a detailed risk evaluation since it represented a loss of function for a single train for greater than the Technical Specification allowed outage time. A Region IV senior reactor analyst determined the finding was of very low safety significance (Green) since the MSIV remained capable of performing its safety function with the alternate actuator. The finding has a cross-cutting aspect in the area of human performance associated with the teamwork component. Specifically, the licensee failed to coordinate activities across organizational boundaries in that the operations personnel did not obtain engineering input to ensure that additional monitoring requirements for the nitrogen pre-charge leak were adequate to verify continued MSIV 171 operability.
Inspection Report# : 2016004 *(pdf)*

Significance:  Sep 01, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Establish Maintenance Activities and Instructions for Gas Turbine Generator Station Blackout Batteries
The team identified a Green, non-cited violation of 10 CFR 50.63, "Loss of All Alternating Current," which states, in part, "The alternate AC power source, as defined in 10 CFR 50.2, will constitute acceptable capability to withstand station blackout provided an analysis is performed which demonstrates that the plant has this capability from onset of the station blackout until the alternate AC source(s) and required shutdown equipment are started and lined up to operate." Specifically, prior to August 5, 2016, the licensee replaced the gas turbine generator station blackout batteries in a modification to address obsolete components, but failed to identify the initial parameters to baseline the batteries and failed to implement a battery testing and maintenance program. In response to this issue, the licensee determined that the batteries continued to satisfy their design function and began to develop the necessary testing and preventive maintenance procedures. This finding was entered into the licensee's corrective action program as Condition Report 14-02346.

The team determined that failure to implement preventative maintenance activities for the gas turbine generator station blackout batteries since their replacement in 2014 was a performance deficiency. This performance deficiency was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee replaced the gas turbine generator station blackout batteries in a modification to address obsolete components, but failed to identify the initial parameters to baseline the batteries and failed to implement a battery testing and maintenance program. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the finding was determined to have very low safety significance (Green) because it was a design or qualification deficiency that did not result in a loss of operability or functionality; did not represent an actual loss of safety function of a system or train; did not result in the loss of a single train for greater than technical specification allowed outage time; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding had a crosscutting aspect in the area of problem identification and resolution associated with resolution because the licensee failed to take effective corrective actions to address

issues in a timely manner commensurate with their safety significance [P.3].
Inspection Report# : 2016007 *(pdf)*

Significance: G Sep 01, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Translate Information from Design Modification into Design Documentation, Operating Procedures, and Operator Training
. The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," which states, in part, "measures shall be established to assure that applicable regulatory requirements and the design basis, for those structures, systems, and components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions." Specifically, prior to August 5, 2016, the licensee did not adequately implement operator training and annunciator response procedures for Design Modification 216914, which resulted in the failure to adequately evaluate the impact on operability for the loss of forced cooling capability for the L31 load center transformer. In response to this issue, the licensee confirmed that the L31 load center was operable, but degraded, based on the remaining life for the transformer insulation when considering the maximum design basis accident load on the transformer and the expected load duration with the cooling fans disabled. This finding was entered into the licensee's corrective action program as Condition Report 3-16-12571 and Condition Report 3-16-13316.

The team determined that the failure to adequately update design documentation, operating procedures, and operator training was a performance deficiency. This performance deficiency was more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to update appropriate design calculations, annunciator response procedures, and licensed operator training when Design Modification 216904 was implemented in 1996 contributed to conditions that resulted in Operations preparing an inadequate Immediate Operability Determination when the L31 transformer cooling equipment failed on April 21, 2015. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the finding was determined to have very low safety significance (Green) because it was a design or qualification deficiency that did not result in the loss of operability or functionality; did not represent an actual loss of safety function of a system or train; did not result in the loss of a single train for greater than technical specification allowed outage time; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding did not have a crosscutting aspect because the most significant contributor did not reflect current licensee performance.
Inspection Report# : 2016007 *(pdf)*

Significance: G Sep 01, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Verify the Ability to Isolate the Safety-Related Condensate Storage Tank from Non-Safety Piping
The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," which states, in part, "Measures shall be established to assure that applicable regulatory requirements and the design basis for those structures, systems, and components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions." Specifically, prior to August 3, 2016, the licensee failed to establish measures to assure an adequate water level was maintained in the condensate storage tank, failed to establish a time critical action to isolate the condensate storage tank, and failed to establish specific procedures to isolate the condensate storage tank in the event of a tornado. In response to this issue, the licensee initiated the process to revise plant procedures and

evaluate associated operator time critical actions. This finding was entered into the licensee's corrective action program as Condition Reports 16-13761, 16-12430, and 16 13762.

The team determined that failure to verify the ability to isolate the safety-related condensate storage tank from the non-safety portion of the auxiliary feedwater system while preserving enough tank capacity to safely shutdown was a performance deficiency. This performance deficiency was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee's failure to ensure timely isolation of the condensate storage tank would adversely affect the capability to safely shutdown the plant using the condensate storage tank and safety-related auxiliary feedwater system. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the finding was determined to have very low safety significance (Green) because it was a design or qualification deficiency that did not result in a loss of operability or functionality; did not represent an actual loss of safety function of a system or train; did not result in the loss of a single train for greater than technical specification allowed outage time; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. This finding did not have a crosscutting aspect because the most significant contributor did not reflect current licensee performance.
Inspection Report# : 2016007 *(pdf)*

Significance:  Sep 01, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Pipe Welds Not Incorporated into the Inservice Inspection Program
The team identified a Green, non-cited violation of 10 CFR 50.55a(g)4, "Inservice Inspection Standards Requirement for Operating Plants," which states, in part, "Throughout the service life of a pressurized water-cooled nuclear power facility, components that are classified as ASME Code Class 1, Class 2, and Class 3 must meet the requirements set forth in Section XI of the ASME Code." The ASME Code, Section XI, Article IWA-2610, requires that a reference system be established for all welds and areas subject to a surface or volumetric examination. Specifically, prior to August 8, 2016, for two welds located in an ASME Code, Section XI, Class 3, suction line between the condensate storage tank and the non-safety-related auxiliary feedwater pump, a weld reference system was not established. In response to this issue, the licensee reclassified the subject welds and scheduled weld examinations to ensure potential cracks would be detected. This finding was entered into the licensee's corrective action program as Condition Report 16-13150.

The team determined that the licensee's failure to establish a weld reference system for two welds in the suction line between the condensate storage tank and the startup feed pump system was contrary to the ASME Code, Section XI, Article IWA-2610, and was a performance deficiency. This performance deficiency was more than minor because the finding, if left uncorrected, would become a more significant safety concern. Specifically, absent NRC identification, the licensee would not have examined these welds, which could have allowed service induced cracks to go undetected. Undetected cracks would place the suction pipe segment at increased risk for through-wall leakage and/or failure, which would affect the safety of an operating reactor. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the finding was determined to have very low safety significance (Green) because it was a design or qualification deficiency that did not result in the loss of operability of functionality; did not represent an actual loss of safety function of a system or train; did not result in the loss of a single train for greater than technical specification allowed outage time; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather.

This finding did not have a crosscutting aspect because the most significant contributor did not reflect current licensee performance.
Inspection Report# : 2016007 *(pdf)*

Barrier Integrity
Emergency Preparedness
Occupational Radiation Safety
Public Radiation Safety
Security

The security cornerstone is an important component of the ROP, which includes various security inspection activities the NRC uses to verify licensee compliance with Commission regulations and thus ensure public health and safety. The Commission determined in the staff requirements memorandum (SRM) for SECY-04-0191, "Withholding Sensitive Unclassified Information Concerning Nuclear Power Reactors from Public Disclosure," dated November 9, 2004, that specific information related to findings and performance indicators associated with the security cornerstone will not be publicly available to ensure that security-related information is not provided to a possible adversary. Security inspection report cover letters will be available on the NRC Web site; however, security-related information on the details of inspection finding(s) will not be displayed.

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Palo Verde 2 – Quarterly Plant Inspection Findings

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Initiating Events

Mitigating Systems

Significance: G Mar 31, 2017
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to establish station procedure instructions for denial work authorizations
The inspectors identified a Green, non-cited violation of Technical Specification 5.4.1.a, "Procedures," for the failure to establish procedure instructions for work authorization denials or deferrals. Specifically, this led to a 60 day extended unavailability of the diverse auxiliary feedwater actuation system when corrective maintenance was inappropriately deferred by the operations department.

Failure to provide adequate procedural guidance in the event of a denied work authorization, a circumstance anticipated to occur, is a performance deficiency. The performance deficiency is more than minor, because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability and reliability of equipment that responds to an initiating event. Specifically, because the corrective maintenance was not performed in a timely manner, both trains of the diverse auxiliary feedwater actuation system remained in bypass for an additional 60 days whereby the system was not capable of performing its required safety function. The inspectors evaluated the significance of the finding using Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process for Findings at Power," Exhibit 2, "Mitigating Systems Screening Questions," Section A, Question 2, which required a detailed risk evaluation because the finding involved a loss of system safety function. A Region IV senior reactor analyst performed a detailed risk assessment of the finding and determined that the finding was of very low safety significance (Green). The inspectors determined that the finding had a cross-cutting aspect in the human performance area of Work Management. The work process includes the identification and management of risk commensurate to the work and the need for coordination with different groups or job activities. Specifically, the Unit Operations Manager's decision to deny the work authorization was based on conservative but faulty assumptions, and if other work groups with greater specific technical knowledge had been involved, the corrective maintenance

likely would have proceeded [H.5].
Inspection Report# : 2017001 *(pdf)*

Significance: G Dec 29, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Inadequate monitoring of MSIV nitrogen pre-charge pressure
Green. The inspectors reviewed a self-revealing non-cited violation of Technical Specification 3.7.2 for exceeding the Condition A completion time for an inoperable main steam isolation valve (MSIV) single actuator train and not immediately declaring the affected main steam isolation valve inoperable in accordance with Condition E. Specifically, the Unit 2 main steam isolation valve 171 actuator A was inoperable from July 30, 2016, to August 9, 2016, when a known nitrogen leak was not adequately monitored. The licensee's inadequate monitoring allowed the nitrogen pre-charge pressure in the actuator to decrease to below the minimum acceptable limit for operability. The licensee restored the pre-charge pressure and entered this issue into their corrective action program as Condition Report 16-12740.

The failure to perform adequate monitoring for a degraded condition as required by procedure 40DP-9OP26, "Operations Condition Reporting Process and Operability Determination/Functional Assessment," was a performance deficiency. The performance deficiency was more-than-minor and therefore a finding because it affected the equipment performance attribute of the Mitigating Systems Cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically the failure to adequately monitor a known nitrogen leak resulted in depressurizing one of two hydraulic accumulators thereby reducing the reliability of the system to initiate a fast closure of MSIV 171 upon receipt of a main steam isolation signal. The inspectors performed the initial significance determination using NRC Inspection Manual Chapter 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," Issue Date: June 9, 2012. The finding required a detailed risk evaluation since it represented a loss of function for a single train for greater than the Technical Specification allowed outage time. A Region IV senior reactor analyst determined the finding was of very low safety significance (Green) since the MSIV remained capable of performing its safety function with the alternate actuator. The finding has a cross-cutting aspect in the area of human performance associated with the teamwork component. Specifically, the licensee failed to coordinate activities across organizational boundaries in that the operations personnel did not obtain engineering input to ensure that additional monitoring requirements for the nitrogen pre-charge leak were adequate to verify continued MSIV 171 operability.
Inspection Report# : 2016004 *(pdf)*

Barrier Integrity
Emergency Preparedness
Occupational Radiation Safety
Public Radiation Safety
Security

The security cornerstone is an important component of the ROP, which includes various security inspection activities the NRC uses to verify licensee compliance with Commission regulations and thus ensure public health and safety. The Commission determined in the staff requirements memorandum (SRM) for SECY-04-0191, "Withholding Sensitive Unclassified Information Concerning Nuclear Power Reactors from Public Disclosure," dated November 9, 2004, that specific information related to findings and performance indicators associated with the security cornerstone will not be publicly available to ensure that security-related information is not provided to a possible adversary. Security inspection report cover letters will be available on the NRC Web site; however, security-related information on the details of inspection finding(s) will not be displayed.

Miscellaneous

Current data as of : November 29, 2017

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Palo Verde 2 – Quarterly Plant Inspection Findings

4Q/2017 – Plant Inspection Findings

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Initiating Events

Mitigating Systems

Significance: G May 10, 2017
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to establish station procedure instructions for denial work authorizations
The inspectors identified a Green, non-cited violation of Technical Specification 5.4.1.a, "Procedures," for the failure to establish procedure instructions for work authorization denials or deferrals. Specifically, this led to a 60 day extended unavailability of the diverse auxiliary feedwater actuation system when corrective maintenance was inappropriately deferred by the operations department.

Failure to provide adequate procedural guidance in the event of a denied work authorization, a circumstance anticipated to occur, is a performance deficiency. The performance deficiency is more than minor, because it affected the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure the availability and reliability of equipment that responds to an initiating event. Specifically, because the corrective maintenance was not performed in a timely manner, both trains of the diverse auxiliary feedwater actuation system remained in bypass for an additional 60 days whereby the system was not capable of performing its required safety function. The inspectors evaluated the significance of the finding using Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process for Findings at Power," Exhibit 2, "Mitigating Systems Screening Questions," Section A, Question 2, which required a detailed risk evaluation because the finding involved a loss of system safety function. A Region IV senior reactor analyst performed a detailed risk assessment of the finding and determined that the finding was of very low safety significance (Green). The inspectors determined that the finding had a cross-cutting aspect in the human performance area of Work Management. The work process includes the identification and management of risk commensurate to the work and the need for coordination with different groups or job activities. Specifically, the Unit Operations Manager's decision to deny the work authorization was based on conservative but faulty assumptions, and if other work groups with greater specific technical knowledge had been involved, the corrective maintenance

likely would have proceeded [H.5].
Inspection Report# : 2017001 *(pdf)*

Significance: G Apr 06, 2017
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Analyze Shutdown Cooling and Feedwater Lines for High-Energy Line Break Pipe Whip Effects

The team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, ?Design Control,? which states, in part, ?Measures shall be established to assure that applicable regulatory requirements and the design basis, as defined in § 50.2 and as specified in the license application, for those structures, systems, and components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions.? Specifically, from August 11, 1982, to March 3, 2017, the licensee did not analyze dynamic pipe whip effects of a main feedwater line for a high-energy line break of a shutdown cooling line. In response to this issue, the licensee performed immediate and prompt operability evaluations and determined that the piping systems remained operable and could withstand the effects of a high-energy line break. This finding was entered into the licensee?s corrective action program as Condition Report CR-17-02815.

The team determined that the failure to perform an adequate analysis for shutdown cooling and feedwater lines for high-energy line break pipe whip effects was a performance deficiency. This finding was more-than-minor because it was associated with the design control attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to analyze the main feedwater piping for high-energy line break effects called the operability of the piping system into question. In accordance with Inspection Manual Chapter 0609, Appendix A, ?The Significance Determination Process (SDP) for Findings At-Power,? dated June 19, 2012, Exhibit 2, ?Mitigating Systems Screening Questions,? the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk significant due to seismic, flooding, or severe weather. The team determined that this finding did not have a cross-cutting aspect because the most significant contributor to the performance deficiency did not reflect current licensee performance. Specifically, the licensee performed the calculation in 1982 and revised it in 1991; therefore, the performance deficiency occurred outside of the nominal three-year period for ?present performance.?

Inspection Report# : 2017007 *(pdf)*

Barrier Integrity
Emergency Preparedness
Occupational Radiation Safety
Public Radiation Safety
Security

The security cornerstone is an important component of the ROP, which includes various security inspection activities the NRC uses to verify licensee compliance with Commission regulations and thus ensure public health and safety. The Commission determined in the staff requirements memorandum (SRM) for SECY-04-0191, "Withholding Sensitive Unclassified Information Concerning Nuclear Power Reactors from Public Disclosure," dated November 9, 2004, that

specific information related to findings and performance indicators associated with the security cornerstone will not be publicly available to ensure that security-related information is not provided to a possible adversary. Security inspection report cover letters will be available on the NRC Web site; however, security-related information on the details of inspection finding(s) will not be displayed.

Miscellaneous

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