

# San Onofre 2

## 1Q/2010 Plant Inspection Findings

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### Initiating Events

**Significance:**  Jan 22, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Follow a Level 1 Quality Assurance Program Affecting Human Performance Procedure**

The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of training personnel to ensure 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 September 27, 2009 and November 17, 2009, training personnel failed to follow Level 1 Quality Assurance Program Affecting Procedure SO123 XXI-1.11.23, "Human Performance Training Program Description," Revision 0, to ensure workers received human performance training before hands-on work was performed in the plant, which resulted in over 80 employees not receiving human performance training and contributed to at least two human performance events. This finding was entered into the licensee's corrective action program as Nuclear Notification 200670169.

The finding is greater than minor because, if left uncorrected, the failure to follow procedures to provide human performance training, would have the potential to lead to more significant safety concerns as is evidenced by the two human performance events that occurred by untrained individuals. This finding is associated with the Initiating Events Cornerstone. 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 contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The finding has a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program 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 [P.1(d)].

Inspection Report# : [2009009](#) (*pdf*)

**Significance:**  Sep 13, 2009

Identified By: NRC

Item Type: FIN Finding

#### **Inadequate Circulating Water System Maintenance Procedures Contribute to Unit 2 Inadvertent Reactor Trip**

The inspectors identified a finding for the failure of maintenance personnel to use the standards described in Procedure SO23-XV-2, "Troubleshooting Plant Equipment and Systems," in developing procedures and work plans to adequately perform, test, and communicate maintenance activities on Unit 2 circulating water gate 5. Specifically, from September 5 through September 13, 2009, maintenance personnel did not have adequate procedures in place to perform corrective maintenance on Unit 2 circulating water gate 5. The attempts to repair gate 5 were repeatedly unsuccessful due to inadequate planning, execution, postmaintenance testing, and communication. This finding was entered into the licensee's corrective action program as Nuclear Notifications NNs 200580999 and 200718204.

The finding is greater than minor because the performance deficiency was a precursor to a significant event (reactor trip). 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 contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The finding has a crosscutting aspect in the area of human performance associated with work control because maintenance personnel failed to incorporate actions to address the need for work groups to communicate, coordinate, and cooperate with each other during activities in which interdepartmental coordination is necessary to assure plant and human performance [H.3(b)] (Section 4OA3).

Inspection Report# : [2009005](#) (*pdf*)

**Significance:**  Sep 01, 2009

Identified By: NRC

Item Type: FIN Finding

**Unit 2 Heat Treat Pre-job Brief Not Performed in Accordance with Procedural Requirements**

The inspectors identified a finding for the failure of operations personnel to perform an adequate pre-job brief in accordance with procedural requirements for a planned Unit 2 heat treat evolution. Specifically, on September 13, 2009, operations personnel failed to provide a thorough pre-job brief in preparation for the performance of the heat treat evolution which contributed to a delay in operator actions which ultimately resulted in a turbine and reactor trip on low condenser vacuum due to escalated circulating water temperatures. This finding was entered into the licensee's corrective action program as Nuclear Notification NN 200580999.

The finding is greater than minor because the performance deficiency was a precursor to a significant event (reactor trip). 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 contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The finding has a crosscutting aspect in the area of human performance associated with resources because the licensee failed to provide adequate procedural guidance to ensure that operations personnel could safely perform plant evolutions [H.2(c)] (Section 40A3).

Inspection Report# : [2009005](#) (*pdf*)

**Significance:**  Aug 25, 2009

Identified By: NRC

Item Type: VIO Violation

**Failure to Assess and Manage Risk for Maintenance That Could Impact Offsite Power Components**

The inspectors identified a cited violation of 10 CFR 50.65(a)(4) for the failure of work control and operations personnel to adequately assess and manage the increase in risk associated with maintenance activities. Specifically, on August 25-27, 2009, work control and operations personnel failed to adequately assess and manage the increase in risk associated with maintenance activities in or near the electrical switchyard and offsite power components. Due to the licensee's failure to restore compliance from the previous NCV 05000361; 05000362/2009003-04 within a reasonable time after the violation was identified, this violation is being cited in a Notice of Violation consistent with Section VI.A of the NRC Enforcement Policy. This finding was entered into the licensee's corrective action program as Nuclear Notifications NNs 200556120 and 200559128.

The failure to include maintenance activities in or near the electrical switchyard and offsite power components in the on-line risk assessment was a performance deficiency. 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 or associated with offsite power sources and the electrical switchyard, associated with the initiating events cornerstone. In accordance with Inspection Manual Chapter 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," Step 4.1.1, the inspectors had the licensee re-perform the assessment, correcting the errors that rendered the original risk assessment inadequate. The finding is determined to have very low safety significance because the incremental core damage probability deficit and the incremental large early release probability deficit, used to evaluate the magnitude of the error in the licensee's inadequate risk assessment, were less than  $1 \times 10^{-6}$  and  $1 \times 10^{-7}$ , respectively. This finding has a crosscutting aspect in the area of problem identification and resolution associated with corrective action program because the licensee did not take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity [P.1(d)].

Inspection Report# : [2009004](#) (*pdf*)

**Significance:**  Apr 16, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Assess and Manage Risk for Electrical Switchyard Impacting Maintenance**

The inspectors identified a noncited violation of 10 CFR 50.65(a)(4) for the failure of work control and operations personnel to include maintenance activities in or near the electrical switchyard and offsite power components in the on-line risk assessment. This finding was entered into the licensee's corrective action program as Nuclear Notification

200402733.

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 or associated with offsite power sources and the electrical switchyard. This finding is associated with the Initiating Events Cornerstone. In accordance with Inspection Manual Chapter 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," step 4.1.1, the inspectors had the licensee reperform the assessment, correcting the errors that rendered the original risk assessment inadequate. The finding is determined to have very low safety significance because the incremental core damage probability deficit and the incremental large early release probability deficit, used to evaluate the magnitude of the error in the licensee's inadequate risk assessment, were less than 1E-6 and 1E-7, respectively. This finding has a crosscutting aspect in the area of human performance associated with resources because the licensee did not ensure that procedures and processes were adequate to properly assess and manage the risk associated with on-line maintenance [H.2(c)]

Inspection Report# : [2009003](#) (*pdf*)

**Significance:**  Jun 01, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Failure to Implement Fire Protection Plan Requirements Related to Hot Work Activities**

Three examples of a self-revealing noncited violation of Technical Specification 5.5.1.1.d, was identified for the failure of contractor personnel to properly implement the requirements of a fire protection procedure for the control of hot work activities. Specifically, between September 1 and 29, 2009, three examples were identified where contractor personnel failed to properly implement the requirements of Procedure SO123-XV-1.41, Steps 6.1.1 and 6.4.1.3, in that, combustible materials were not covered or stored at a distance of 35 feet from the ignition source or flame, and no evaluation was performed. This finding was entered into the licensee's corrective action program as Nuclear Notification NN 200604378.

The finding is greater than minor because it is associated with the protection against external factors (fires) 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 as well as power operations. Additionally, if left uncorrected, the practice of conducting hot work in a manner that results in unintended combustion of nearby materials would have the potential to lead to a more significant safety concern in that it could result in a fire in or near risk significant equipment. Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," was used since Appendix F, "Fire Protection Significance Determination Process," does not address the potential risk significance of shutdown fire protection findings, and Appendix G, "Shutdown Operations Significance Determination Process," does not address fire protection findings. The NRC management review was performed by using the Manual Chapter 0609, Appendix F, Phase 1 Worksheet, to establish a bounding analysis. Using the bounding analysis, the finding is determined to have very low safety significance because the finding represented a low degradation rating, in that, it did not have any significant effect on the likelihood that a fire might occur, or that a fire which does occur might not be promptly suppressed. This finding has a crosscutting aspect in the area of human performance associated with work practices because the licensee failed to ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported [H.4(c)] (Section 40A3).

Inspection Report# : [2009005](#) (*pdf*)

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## **Mitigating Systems**

**Significance:**  Jan 22, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Maintain Written Procedures Covered in Regulatory Guide 1.33**

The inspectors identified a non-cited violation of Technical Specification 5.5.1, "Procedures," for the failure of procedure writer personnel to maintain written procedures covered in Regulatory Guide 1.33. Specifically, from initial

plant startup of Units 2 and 3 to November 2009, no process requirement or procedure existed to identify procedures that required technical changes so that those procedures could be suspended or put an administrative hold until the required changes were made. This resulted in a quality controlled procedure requiring technical changes available to use on a safety-related system without flagging the required changes. This finding was entered into the licensee's corrective action program as Nuclear Notification 200671179.

The finding is greater than minor because, if left uncorrected, the failure to maintain and control procedures would have the potential to lead to a more significant safety concern by having technically inaccurate procedures being used on safety-related systems. This finding is associated with the Mitigating Systems Cornerstone. 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 a 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 cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program because problems were not thoroughly evaluated such that the resolutions addressed the causes and extent of conditions. This includes properly classifying and prioritizing conditions adverse to quality [P.1(c)].

Inspection Report# : [2009009](#) (pdf)

**Significance:**  Dec 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate Design Control for Safety-Related Electrical Connections**

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," with thirteen examples that occurred between June 2005 and July 2008, for the failure of the licensee to ensure that appropriate measures were in place to assure that systems specified in the design basis were maintained in a configuration which provided a reasonable assurance of operability during design basis events. This finding was entered into the licensee's corrective action program as Action Requests ARs 050601315, 050601324, 060101159, 070200254, 200066209, and Nuclear Notifications NNs 200089167, 200058371, 200100730, and Corrective Action Order 800126624.

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 availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with Manual Chapter 0609, Attachment 4, Table 4a, Question 5, a Phase 3 analysis was required because the finding screened as potentially risk significant due to a seismic, flooding, or severe weather initiating event. In accordance with Inspection Manual Chapter 0609, Appendix A, the analyst determined that the conditions documented in Table 1 of this inspection report should be evaluated as a single inspection finding because they resulted from a common cause. As a combined result of the evaluations performed in the Phase 3 analysis, the analyst determined that this finding was of very low safety significance. The finding has a crosscutting aspect in the area of human performance associated with resources for the failure to maintain complete, accurate, and up-to-date design documentation, procedures, and work packages [H.2(c)] (Section 4OA5).

Inspection Report# : [2009005](#) (pdf)

**Significance:**  Dec 07, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Adequately Identify Problems in Corrective Action Program**

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for failure of engineering personnel to adequately identify for correction conditions adverse to quality between November 10 and December 1, 2009. Specifically, the inspection of potential degradation associated with the support welds and embedded wall plates for safety related seismic pipe restraints for emergency core cooling piping was inadequate, in that, standing water and corrosion product interference was not removed to enable an adequate inspection and evaluation of the structural material. This finding was entered into the licensee's corrective action program as Nuclear Notification NN 200743417.

The finding is greater than minor because the failure to adequately identify for correction conditions adverse to quality on safety related equipment, if left uncorrected, would have the potential to lead to a more significant safety concern.

Additionally, the finding is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affects the 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 Worksheets, the finding is determined to have very low safety significance because it did not represent an actual loss of safety function, and did not 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 human performance associated with decision making because engineering personnel failed to use conservative assumptions for operability decision making when inspecting degraded and nonconforming conditions [H.1(b)] (Section 1R06).

Inspection Report# : [2009005](#) (pdf)

**Significance:**  Nov 10, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Initiate a Notification in a Timely Manner**

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, Drawings," for the failure of operations personnel to initiate a nuclear notification within the required timeframe. Specifically, on September 27, 2009, operations personnel failed to write a nuclear notification to document the problem with a flooded auxiliary feedwater vault prior to the end of their shift. This finding was entered into the licensee's corrective action program as Nuclear Notifications NN 200615922.

The finding is greater than minor because the failure to follow procedures for writing nuclear notifications, if left uncorrected, would have the potential to lead to a more significant safety concern. The finding is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affects the 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 Worksheets, the finding is determined to have very low safety significance because the finding did not result in an actual loss of safety function, and 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 corrective action program since the licensee failed to implement the corrective action program with an appropriate threshold for identified issues [P.1(a)] (Section 1R06).

Inspection Report# : [2009005](#) (pdf)

**Significance:**  Sep 09, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Adequately Implement Compensatory Measures to Maintain Equipment Operable**

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 procedures and adequately implement identified compensatory measures. Specifically, on November 25 and 28, 2009, operations personnel did not follow requirements to establish a compensatory measure to substitute manual operator actions for automatic actions to support the operability of the functions provided by the refueling water storage tank to charging pump suction piping. This finding was entered into the licensee's corrective action program as Nuclear Notification NN 200689450.

The finding is greater than minor because the inadequate implementation of compensatory measures, if left uncorrected, would have the potential to lead to a more significant safety concern. The finding is associated with the procedure quality 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 Worksheets, the finding is determined to have very low safety significance because the finding did not result in an actual loss of safety function, and 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 human performance associated with decision making because operations personnel failed to make decisions using a systematic process, especially when faced with uncertain or unexpected plant conditions, to ensure safety is maintained [H.1(a)] (Section 1R15).

Inspection Report# : [2009005](#) (pdf)

**Significance:** SL-IV Jun 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Submit Complete Revisions to Updated Final Safety Analysis Report for Penetration Seal Changes**

The inspectors identified a noncited violation of 10 CFR 50.71(e)(4) for the failure of licensing personnel to submit revisions to the Updated Final Safety Analysis Report reflecting changes to the Unit 2 safety equipment building emergency core cooling pump room piping penetration that were in place for more than 24 months. Specifically, for the reporting periods between (1) July 2005 and June 2007; and (2) July 2007 and June 2009, licensing personnel failed to submit complete revisions to the Updated Final Safety Analysis Report reflecting the removal of the boot seal from the Unit 2 emergency core cooling system train B pump room penetration. This seal was removed in July 2005 and was left in this condition as discovered by the inspectors in August 2009. This finding was entered into the licensee's corrective action program as Nuclear Notification NN 200550985.

The failure of licensing personnel to submit revisions to the Updated Final Safety Analysis Report to describe changes to the Unit 2 safety equipment building emergency core cooling pump room piping penetration that were in place for more than 24 months was a performance deficiency. 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 update the Updated Final Safety Analysis Report in a timely manner. The finding was determined to be a Severity Level IV violation in accordance with Section D.6 of Supplement I of the NRC Enforcement Policy. The finding is more than minor because the degraded flood barrier is associated with the external events attribute of the mitigating systems cornerstone and adversely 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 Worksheets, the finding is determined to have very low safety significance because the finding did not result in a loss of operability or functionality. This finding has a crosscutting aspect in the area of problem identification and resolution 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 [P.1(d)]

Inspection Report# : [2009004](#) (pdf)

**G**

**Significance:** Jun 05, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Maintain Written Procedures Covered in Regulatory Guide 1.33**

The inspectors identified 54 examples of a noncited violation of Technical Specification 5.5.1, "Procedures," for the failure of operations and maintenance personnel to maintain written procedures covered in Regulatory Guide 1.33. Specifically, from plant startup to June 2009, no process requirement or procedure existed to suspend or put an administrative hold on a procedure or work order when a technical change is required for the procedure. This resulted in 54 uncontrolled procedures and work instructions available to use on safety related systems without flagging the required changes. This finding was entered into the licensee's corrective action program as Nuclear Notification 200453351.

The finding is greater than minor because, if left uncorrected, the failure to maintain and control operations and maintenance procedures could lead to a more significant safety concern by having technically inaccurate procedures being used on safety-related systems. 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. The finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because problems were not thoroughly evaluated such that the resolutions addressed the causes and extent of conditions. This includes properly classifying and prioritizing conditions adverse to quality [P.1(c)].

Inspection Report# : [2009003](#) (pdf)

**G**

**Significance:** Jun 02, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Evaluate the Impact of Temporary Scaffolding on Installed Fire Protection Systems**

The inspectors identified a noncited violation of License Condition 2.C.(14), "Fire Protection," for the failure of licensee personnel to evaluate scaffolding for its impact on fire protection systems. Specifically, the licensee failed either (1) to demonstrate that obstructed sprinkler heads in the Unit 2 emergency diesel generator building train B, the Unit 3 emergency diesel generator building train A, and the Unit 2 saltwater cooling pump room were operable; or (2) to generate a fire protection impairment and establish an hourly firewatch for inoperable sprinkler heads in the Unit 2 emergency diesel generator building train B, the Unit 3 emergency diesel generator building train A, and the Unit 2 saltwater cooling pump room. This finding was entered into the licensee's corrective action program as Nuclear Notification 200449046.

This finding is greater than minor because the identified programmatic deficiencies could lead to a more significant safety concern if left uncorrected. This finding is associated with the Mitigating Systems Cornerstone. Using Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," Attachment 2, this finding was determined to have a LOW degradation rating because fewer than 10 percent of the sprinkler heads were nonfunctional, there was a functional sprinkler head within 10 feet of the combustibles of concern, and the system was nominally code compliant. Therefore, this finding was determined to be of very low safety significance. This finding has a crosscutting aspect in area of human performance associated with work practices because the licensee failed to ensure personnel work practices support human performance. Specifically, the licensee failed to effectively communicate human error prevention techniques such as proper documentation of activities and failed to ensure personnel do not proceed in the face of uncertainty [H.4(a)].

Inspection Report# : [2009003](#) (pdf)

**Significance:**  May 14, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Follow Corrective Action Process for an Inadequate Postmaintenance Test**

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to follow corrective action program procedures to address deficiencies associated with postmaintenance testing. Specifically, between April 20 and May 14, 2009, the licensee failed to follow Procedure SO123 XX 1 ISS2, "Notification Initiation and Processing," Revision 23, to report a problem associated with the adequacy of postmaintenance testing until prompted by the inspectors. Emergency chiller ME336 was restored to operable on April 19, following a maintenance evolution, then declared inoperable on April 20, approximately 8 hours later when operations personnel identified an operability issue associated with the equipment configuration. However, licensee personnel failed to recognize that the postmaintenance testing may have been inadequate, in that, emergency chiller ME336 was returned to service in an inoperable condition, until prompted by the inspectors on several occasions between April 20 and May 13. This finding was entered into the licensee's corrective action program as Nuclear Notification NN 200427700.

The failure to follow corrective action program procedures to identify and correct a condition adverse to quality was a performance deficiency. The finding is greater than minor because the failure to identify and correct deficiencies associated with postmaintenance testing would have the potential to lead to a more significant safety concern if left uncorrected. The finding is associated with the mitigating systems cornerstone. 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 affect both trains of any single mitigating system or represent an actual loss of a safety function of a single train 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 because the licensee failed to identify and correct deficiencies associated with inadequate postmaintenance testing at a threshold commensurate with the safety significance [P.1(a)].

Inspection Report# : [2009004](#) (pdf)

**Significance:**  Apr 13, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Risk Assessment Performed Using Risk Assessment Tools with Known Errors**

The inspectors identified a noncited violation of 10 CFR 50.65(a)(4) involving the failure of work control and operations personnel to assess and manage the increase in risk associated with planned maintenance activities. Specifically, the risk assessment for planned maintenance on emergency chiller ME336 was performed using risk assessment tools that had known errors that had the potential to change the outcome of the assessment. This finding

was entered into the licensee's corrective action program as Nuclear Notification 200389219.

This finding is greater than minor because the risk assessment had known errors that had the potential to change the outcome of the assessment. This finding is associated with the Mitigating Systems Cornerstone. In accordance with Inspection Manual Chapter 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," step 4.1.1, the inspectors had the licensee reperform the assessment, correcting the errors that rendered the original risk assessment inadequate. The finding is determined to have very low safety significance because the incremental core damage probability deficit and the incremental large early release probability deficit, used to evaluate the magnitude of the error in the licensee's inadequate risk assessment, were less than 1E-6 and 1E-7, respectively. The finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because engineering personnel failed to take appropriate corrective actions to address identified errors in the risk assessment tools in a timely manner [P.1(d)].

Inspection Report# : [2009003](#) (pdf)

**Significance:** **W** Dec 11, 2008

Identified By: NRC

Item Type: VIO Violation

**Failure to Establish Appropriate Instructions**

The team identified a White violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," involving the failure to establish appropriate instructions for performing maintenance activities on safety-related 125 Vdc station battery Breaker 2D201. As a result, during replacement of the breaker in March 2004 electrical connection integrity was not adequate to ensure that the equipment would be able to perform its safety function. This condition existed for approximately four years. This issue was entered into the licensee's corrective action program as Root Cause Evaluation 800121216.

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 availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The final significance determination performed by the senior reactor analyst and approved by the NRC significance and enforcement review panel determined the finding was of low to moderate safety significance (White). This finding has a crosscutting aspect in the area of human performance associated with resources because the licensee failed to establish adequate procedures and programs related to electrical connection integrity [H.2(c)] (Sections 2.1.5 and 3.5)

This violation is discussed in Inspection Report 2009003 in Section 4OA2.3.

On December 4, 2009, the U.S. Nuclear Regulatory Commission staff performed a supplemental inspection pursuant to Inspection Procedure 95001, documented in IR 2009008. During this supplemental inspection, the inspectors determined that the your staff performed a comprehensive evaluation of the events associated with inadequate standards and inadequate enforcement of station policies and procedures as they related to the loose bolts on the Battery 2B008 output breaker, and for the human performance deficiencies associated with the events which occurred on March 25, 2008, in efforts associated with recovery from the loose breaker bolts event. However, many of the corrective actions associated with the root and contributing causes, including cultural issues, were broadly defined and not fully developed. Several of the corrective actions had been revised or developed just prior to the inspection, and at least one of the supporting root cause evaluations was being revised due to an NRC evaluation that the root cause was too narrowly focused. The NRC lacks assurance that the corrective actions are fully developed and that their implementation will be effective. Therefore, the White finding will remain open until performance improvement provides assurance that the corrective actions are fully developed and will adequately address the performance deficiencies.

Inspection Report# : [2008013](#) (pdf)

Inspection Report# : [2009003](#) (pdf)

Inspection Report# : [2009005](#) (pdf)

Inspection Report# : [2009008](#) (pdf)

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# Barrier Integrity

**Significance:**  Dec 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

## **Failure to Adequately Store and Preserve Materials Used in Safety-Related Concrete**

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XIII, “Handling, Storage and Shipping,” for the failure of contractor personnel to establish measures to ensure adequate controls for the storage and preservation of material, associated with the admixture and fly ash, to be used in the production of safety-related concrete. Specifically, on December 10, 2009, contractor personnel failed to properly control key materials from being exposed to the elements which could damage or deteriorate the material and adversely impact the properties of safety-related concrete. This finding was entered into the licensee’s corrective action program as Nuclear Notification NN 200703527.

The finding is greater than minor because use of incorrect material, or material whose properties may have been altered due to improper storage, if left uncorrected, would have the potential to lead to a more significant safety concern. The finding is associated with the design control attribute of the Barrier Integrity Cornerstone and affects the cornerstone objective to provide reasonable assurance that physical design barriers (containment) protect the public from radionuclide release 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 represent an actual open pathway in the physical integrity of reactor containment and because the concrete for the containment opening had not yet been batched or placed into the containment structure. The finding has a crosscutting aspect in the area of human performance associated with work practices since the licensee failed to ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported [H.4(c)].

Inspection Report# : [2009007](#) (*pdf*)

**Significance:**  Dec 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

## **Incorrect Mixing and Batching Associated with Concrete**

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instruction, Procedures, and Drawings,” for the failure of contractor personnel to follow procedures to ensure proper mixing and batching of safety-related concrete. Specifically, on December 19, 2009, contractor personnel failed to ensure each batch contained the specified proportion of hydration controlling admixture. This finding was entered into the licensee’s corrective action program as Nuclear Notification NN 200715236.

The finding is greater than minor because the failure to follow procedures for mixing containment concrete, if left uncorrected, would have the potential to lead to a more significant safety concern. The finding is associated with the design control attribute of the Barrier Integrity Cornerstone and affects the cornerstone objective to provide reasonable assurance that physical design barriers (containment) protect the public from radionuclide release 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 represent an actual open pathway in the physical integrity of reactor containment and because the batch of the concrete in question met the desired design strength as verified by testing. The finding has a crosscutting aspect in the area of human performance associated with work practices since the licensee failed to ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported [H.4(c)].

Inspection Report# : [2009007](#) (*pdf*)

**Significance:**  May 06, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

## **Failure to Perform Operability Determination in a Timely Manner on Safety-Related Equipment**

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 procedures to evaluate the operability of an identified

nonconforming condition associated with containment structural tendon H-14. Specifically, contaminated grease was placed in the tendon sheathing for containment structural tendon H 14, which constituted a nonconforming condition. However, operations personnel and notification screening processes failed to identify the nonconforming condition as a condition that needed to be evaluated in accordance with Procedure SO123-XV-52, "Functionality Assessments and Operability Determinations," Revision 11. This finding was entered into the licensee's corrective action program as Nuclear Notification 200417206.

The finding is greater than minor because the failure to perform timely evaluations of nonconforming conditions for operability, if left uncorrected, would have a potential to lead to a more significant safety concern. The finding is associated with the design control attribute of the Containment Barrier Integrity Cornerstone and affects the associated 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 Worksheets, the finding is determined to have very low safety significance because the finding did not represent a degradation of the radiological barrier function provided for the control room or auxiliary building, and did not represent an actual open pathway in the physical integrity of reactor containment and heat removal components. This finding has a crosscutting aspect in the area of problem identification and resolution associated with corrective action program because licensee personnel failed to properly classify, prioritize, and evaluate for operability conditions adverse to quality [P.1(c)].

Inspection Report# : [2009003](#) (*pdf*)

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## Emergency Preparedness

**Significance:** SL-IV Jul 13, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Failure to Notify the NRC within Required Timeframe**

A self-revealing noncited violation of 10 CFR 50.72 was identified for the failure to notify the NRC in the time required after computer engineering personnel discovered an event requiring an eight hour notification. Specifically, on July 13, 2009, Nuclear Regulatory Affairs personnel failed to notify the NRC, within 8 hours after the discovery of a loss of the ability to activate 10 Community Alert Sirens located on the Camp Pendleton Marine Corp Base. The NRC was notified of the loss of the ability to activate the Community Alert Sirens, approximately 24 hours late, on July 14, 2009. This finding was entered in the licensee's corrective action program as Nuclear Notification NN 200501125.

The failure to notify the NRC of an event in the time required by 10 CFR 50.72 was a performance deficiency. 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 report the event. The finding is associated with the emergency preparedness cornerstone. The finding was determined to be a Severity Level IV violation in accordance with Section D 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 finding has a crosscutting aspect in the area of problem identification and resolution associated with corrective action program because computer engineering personnel failed implement the corrective action program at an appropriate threshold for identified issues [P.1(a)].

Inspection Report# : [2009004](#) (*pdf*)

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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.

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## Miscellaneous

Last modified : May 26, 2010