San Onofre 2
3Q/2010 Plant Inspection Findings

Initiating Events

Significance: G Jun 17, 2010
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to provide adequate procedure for boron dilution activities
The inspectors reviewed a self-revealing noncited violation of Technical Specification 5.5.1.1.a involving the failure to maintain adequate instructions in San Onofre Procedure SO23-3-2.4, “RCS Purification and De-borating Ion Exchanger Operation,” Revision 21 to control borating of ion exchangers. The failure to maintain an adequate procedure resulted in an unplanned power reduction by control room operators. This issue was entered into the licensee’s corrective action program as Nuclear Notification 200721702. Immediate corrective actions included revising the procedure and operator crew training.

The finding was more than minor because it was associated with the Initiating Events Cornerstone attribute of human performance, and it affected the associated cornerstone objective to limit the likelihood of those events that upset plant stability and that challenge critical safety functions during shutdown, as well as during power operations. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the inspectors concluded that the transient initiator did not contribute to both the likelihood of a reactor trip and to the likelihood that mitigation equipment or functions would not be available. As a result, the issue was of very low safety significance (Green). The finding has a crosscutting aspect in the area of human performance associated with the work practices because licensee supervisory personnel did not ensure activities associated with re-activity control were performed in a controlled manner such that nuclear safety was assured. [H.4(c)]

Inspection Report# : 2010006 *(pdf)*

Significance: G Jun 17, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to secure loose items in the electrical switchyard
The inspectors identified a noncitied violation of Technical Specification 5.5.1.1.a involving the failure to follow procedural guidance of SO123 XX-11, “Switchyard Work Performance.” Specifically, the inspectors identified temporary equipment stored in the switchyard that was not tethered or otherwise secured in accordance with the procedure. The licensee entered a notification in its corrective action program as Nuclear Notification 200870138, and removed or secured the items.

This finding is more than minor because it impacts the protection against the external factors 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 and power operations. Using the Inspection Manual Chapter 0609 “Significance Determination Process,” Phase 1 Worksheet, 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. This finding also has a human performance crosscutting aspect associated with the work control component in that personnel failed to appropriately plan work activities involving job site conditions which may impact plant structures, systems and components. [H.3(a)]

Inspection Report# : 2010006 *(pdf)*

Significance: G May 05, 2010
Identified By: NRC

Item Type: FIN Finding
Failure to Follow Station Procedures on Written Instruction Use and Adherence
The inspectors identified a finding for the failure of the licensee to follow its procedures for written instruction use and adherence during a test to determine the impact on main condenser vacuum of a damaged feedwater heater. Specifically, on May 5, 2010, while performing a vacuum test on a sixth point feedwater heater, an operator failed to stop the activity, as required by Procedure SO123-XV-HU-3, "Written Instruction Use and Adherence," Revision 3, when he encountered unclear and conflicting work instructions. This issue was entered into the licensee's corrective action program as Nuclear Notification NN 200909706.

The performance deficiency is more than minor because it affected the human performance attribute of the Initiating Events Cornerstone objective to limit the likelihood of those events that upset plant stability during power operations, and is therefore a finding. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance 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 has a crosscutting aspect in the area of human performance associated with the component of work practices because the licensee failed to communicate human error prevention techniques such that work activities were performed safely [H.4(a).

Inspection Report# : 2010003 *(pdf)*

Significance: G Apr 28, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Improper Risk Assessment and Management for Emergent Work
The inspectors identified a noncited violation of 10 CFR 50.65(a)(4) for the failure of operations and planning personnel to appropriately characterize the potential impact of work activities on plant systems and to implement appropriate risk mitigating actions. Specifically, on April 28, 2010, operations personnel failed to identify mussel mitigation in the Unit 2 intake structure as having high nuclear risk in the associated work instruction, resulting in inadequate risk management actions being performed by operations personnel. The licensee's immediate corrective actions included ensuring appropriate actions were taken and adequate communications were in place to mitigate the risk during future mussel mitigation efforts. This issue was entered into the licensee's corrective action program as Nuclear Notification NN 200937859.

The performance deficiency is more than minor because it affected the protection against external factors attribute of the Initiating Events Cornerstone objective to limit the likelihood of those events that upset plant stability during power operations, and is therefore a finding. Using Manual Chapter 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," the finding is determined to have very low safety significance because the performance deficiency involved only inadequate risk management actions and not failure to assess risk, incremental core damage probability resulting from this work activity was less than 1E-6, and the incremental large early release probability was less than 1E-7. This finding has a crosscutting aspect in the area of human performance associated with the component of resources because the licensee failed to ensure that procedures were adequate to support nuclear safety, including complete, accurate, and up-to-date work packages [H.2(c)].

Inspection Report# : 2010003 *(pdf)*

Significance: G Apr 28, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Define the Control Room as Required by Technical Specifications
The inspectors identified a noncited violation of Technical Specification 5.1.3 for the failure of licensee management to appropriately define the Control Room Area as depicted in the Licensee Controlled Specifications. Specifically, prior to June 2010, licensee personnel were not specific in the definition of the control room in work instructions and procedures such that, when personnel were directed by procedure to contact the control room, the expectation of station management in most cases was that workers would instead contact the work process area, which is outside the boundaries of the control room as defined in the Licensee Controlled Specifications and other plant procedures. The

licensee initiated Nuclear Notification NN 200972596 to evaluate this issue and identify corrective actions.

The performance deficiency is more than minor because if left uncorrected, it would have the potential to lead to a more significant safety concern, and is therefore a finding. Specifically, changes to critical plant parameters monitored in the control room may not be appropriately anticipated by control room operators; this may lead to misdiagnosis of plant conditions by control room operators. The finding is associated with the Initiating Events Cornerstone. Using Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding does 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 the component of work practices because the licensee failed to define and effectively communicate expectations regarding procedural compliance such that personnel follow procedures [H.4 (b)].

Inspection Report# : 2010003 *(pdf)*

Significance: G Feb 18, 2010
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), “Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants,” involving multiple instances where operations and work control personnel failed to adequately assess and implement appropriate risk management activities. Specifically, between February 18, and February 23, 2010, operations and work control personnel failed to adequately assess and manage the increase in risk associated with maintenance activities in the electrical switchyard. Following the inspectors’ identification of the findings, the licensee adequately assessed and managed the increase in risk for the maintenance activities. This issue was entered into the licensee’s corrective action program as Nuclear Notifications NNs 200801929 and 200805635. The finding is greater than minor since it was similar to both more than minor Examples 7.e and 7.f in NRC Inspection Manual Chapter 0612, Appendix E, “Examples of Minor Issues,” because when the activities were correctly assessed plant procedures required risk management actions to be taken. The finding is associated with the Initiating Events Cornerstone. The inspectors determined that the licensee does not maintain a shutdown probabilistic risk analysis model, and as such, an incremental core damage probability cannot be estimated for the plant conditions that existed at the time of the performance deficiency. For this reason, the inspectors determined that 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 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 because the finding did not result in any additional loss of defense in depth systems. This finding has a crosscutting aspect in the area of human performance associated with the work practices attribute because the licensee failed to define and effectively communicate expectations regarding procedural compliance and that personnel follow procedures [H.4(b)].
Inspection Report# : 2010002 *(pdf)*

Significance: G 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: G Jan 04, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Implement Fire Protection Plan Requirements Related to Hot Work Activities
The inspectors identified three examples of a noncited violation of Technical Specification 5.5.1.1.d, for the failure of contractor and station personnel to properly implement the requirements of a station fire protection procedure for control of hot work activities. Specifically, between January 4 and March 17, 2010, three examples were identified where contractor and station personnel failed to properly implement the requirements of procedure SO123-XV-1.41, “Control of Ignition Sources,” Revision 14, Steps 6.2.1 and 6.4.1.3. Specifically, contractor and station personnel failed to ensure that combustible materials were covered or removed from the ignition source. Following the inspectors’ identification of each example, the licensee immediately stopped the hot work activities and restored compliance with the requirements of procedure SO123-XV-1.41. This issue was entered into the licensee’s corrective action program as Nuclear Notifications NNs 200729747, 200746059 and 200835830.
The finding is greater than minor because if left uncorrected, the practice of conducting hot work in a manner that allows uncontrolled combustibles to be within the procedurally specified exclusion area would have the potential to lead to a more significant safety concern, in that, it could result in a fire in or near risk important equipment. The finding is associated with the Initiating Events Cornerstone. The inspectors determined that Manual Chapter 0609, 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, and therefore could not be applied to shutdown plant conditions. Because of this, the inspectors used Manual Chapter 0609, Appendix M, “Significance Determination Process Using Qualitative Criteria.” 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 had a crosscutting aspect in the area of human performance associated with work practices, in that, the licensee failed to define and effectively communicate expectations regarding procedural compliance and personnel following procedures [H.4(b)].
Inspection Report# : 2010002 *(pdf)*

Significance: G 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: G 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 4OA3).

Inspection Report# : 2009005 *(pdf)*

Significance: G 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 x 10-6 and 1 x 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)*

Mitigating Systems

Significance: G Jul 12, 2010
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Promptly Identify and Correct a Condition Adverse to Quality Associated with Safety-related Emergency Ventilation Fans
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the licensee's failure to promptly identify and correct a condition adverse to quality associated with safety-related emergency ventilation fans. Specifically, the licensee did not adequately identify a degrading material condition on the emergency ventilation fan nose cones that resulted in failure of the emergency diesel generator train B vaneaxial fan on July 12, 2010. The licensee's apparent cause evaluation developed corrective actions to periodically replace safety-related emergency ventilation fans at a 12 year interval. This issue was entered into the licensee's corrective action program as Nuclear Notifications NNs 201009885 and 201088409.
The performance deficiency is more than minor and is therefore a finding because it is associated with 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 the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding was determined to have very low safety significance because the finding: (1) is not a design or qualification issue confirmed not to result in a loss of operability or functionality; (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 nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather imitating event. Since the inadequate corrective actions were developed in 2003 and the licensee's corrective action program has improved with respect to extent of condition reviews, the inspectors determined that this finding was not reflective of current performance, and therefore, did not have a crosscutting aspect associated with it (Section 1R15).
Inspection Report# : 2010004 *(pdf)*

Significance: G Jun 25, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Provide Training Mandated by a Root Cause Evaluation
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for failure of electrical maintenance management personnel to adequately ensure that training was provided to electrical maintenance workers on techniques to prevent loose electrical connections. This training was a required action as described in root cause evaluation RCE 050601315 written in response to a June 2005 failure of an emergency diesel generator surveillance test due to a loose electrical connection in an emergency supply fan for the Unit 3 train B emergency diesel generator. The licensee entered this finding into their corrective action program as Nuclear Notifications NNs 200986184 and 200992291.
The failure of electrical maintenance management personnel to adequately implement corrective actions as prescribed by a root cause evaluation was a performance deficiency. The performance deficiency is more than minor and is therefore a finding because it is associated with the human performance attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective of ensuring 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 was determined to have very low safety significance because the finding: (1) was not a design or qualification issue confirmed not to result in a loss of operability or functionality; (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 nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. Since this finding is associated with a 2005 root cause evaluation, that required training as part of the corrective action followup and there have been changes to the licensee's corrective action program, the inspectors determined that this was not reflective of current performance and therefore did not have a crosscutting aspect associated with it (Section 4OA2).
Inspection Report# : 2010004 *(pdf)*

Significance: G Jun 17, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate operability determination of the turbine driven auxiliary feed water pump steam admission valves.
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," involving the failure to follow procedural requirements for performing operability determinations. Specifically, the licensee's operability evaluation for a degraded turbine-driven auxiliary feedwater pump steam admission valve failed to address all the specified safety functions of the affected component as described in the Final Safety Analysis Report and design basis documents. For example, the operability determination incorrectly stated that manual closure of the valves was not a credited safety function and incorrectly assumed nonsafety-related instrument air would always be available to close the valves. This finding was entered into the licensee's corrective action program as Nuclear Notifications 200869281 and 200887620. The licensee's corrective actions included re-performing the evaluation and emphasizing with licensee staff the importance of ensuring all design basis information is considered in operability evaluations.

The finding was more than minor because it impacted the Mitigating Systems Cornerstones and its objective to ensure the availability and reliability of equipment that responds to initiating events. Using Inspection Manual Chapter 0609 the issue screened to a Phase 3 analysis because it represented a loss of safety function for greater than the allowed technical specification allowed outage time and it screened to greater than Green using the Phase 2 pre-solved worksheet. The senior reactor analyst determined that this finding was of very low safety significance (Green) based on a bounding calculation which assumed inoperability of the component for a year. The senior reactor analyst determined that the combined significance of these scenarios was a delta-core damage frequency of 1.3E-7/yr and a delta-large early release frequency of 4.2E-8/yr. Therefore the violation was determined to be of very low safety significance (Green). The analyst determined that the cause of the finding has a crosscutting aspect in the area of human performance associated with decision making. Specifically, the licensee utilized unsupportable assumptions in its evaluation that were not consistent with the Final Safety Analysis Report or the valve vendor manual. [H.1.b] (Section 40A2.5a)

Inspection Report# : 2010006 *(pdf)*

Significance: G Jun 17, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to translate design basis information into procedures for the turbine-driven auxiliary feed water pump steam admission valves
The team identified an NON-CITED VIOLATION of 10 CFR 50, Appendix B, Criterion III, "Design Control" in that the licensee failed to translate design basis information into procedures for the turbine-driven auxiliary feedwater pump steam admission valves. Specifically, the licensee did not translate into procedures the design requirements to manually close and gag the valves within 30 minutes in response to high energy line breaks or fire in the auxiliary feed water pump room, or in the event of a steam generator tube rupture. In addition, the licensee failed to determine the forces required to manually close the valves. As a result of the team's questioning, the licensee found that a person could not manually close the valve against the spring and system pressures. This issue was entered into the licensee's corrective action program as Nuclear Notification NN 200887620.

The finding is more than minor because it impacted the Mitigating Systems Cornerstones and its objective to ensure the availability and reliability of equipment that responds to initiating events. The inspectors screened the issue to more than one cornerstone due to its effect on early release (steam generator tube rupture), fire protection, and mitigating systems (high energy line break). A senior reactor analyst performed a Phase 3 analysis to determine the risk significance of the degraded turbine-driven auxiliary feedwater steam admission valve. The analysis considered the effects of a high energy line break in the pump room, a steam generator tube rupture, and fires in the pump room and auxiliary feedwater pipe tunnel. The analyst determined that the combined significance of these scenarios was a delta-CDF of 1.3E-7/yr and a delta-LERF of 4.2E-8/yr. Therefore the violation was determined to be of very low safety significance (Green). [Troy's comments are that we need more explanation what makes it green.] The team determined that cause of the finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program. Specifically, the licensee had multiple opportunities to evaluate this

problem when the licensee removed the valve from the inservice testing program in 2004-2005, and in evaluating external operating experience in November 2009. [P.1(a)]

Inspection Report# : 2010006 *(pdf)*

Significance: G Jun 17, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Lack of preventive maintenance results in valve failure and inoperable condensate storage tank.
The inspectors identified a noncited violation of Technical Specification 3.7.6, which requires, in part, that Condensate Storage Tank T-120 be operable. Specifically, the tank isolation valve 2HV5715 had been inoperable for a period greater than the allowed outage time of seven days while Unit 2 was in Modes 1, 2, and 3. The valve isolates nonseismic piping from the tank and is required to be manually closed within 90 minutes following a seismic event. The licensee had not performed preventive maintenance on the valve resulting in the valve failing to close during an in-service test on January 26, 2010. This finding was entered into the licensee's corrective action program as Nuclear Notification 200765235. The licensee's corrective actions included repairing the isolation valve.

This finding is more than minor because it impacted 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, Phase 1, "Initial Screening and Characterization of Findings," a Phase 2 analysis was performed because the condensate storage, Tank T-120, was inoperable greater than that allowed in technical specifications. Phase 2 analysis resulted in a potential greater than Green issue therefore, a Phase 3 was performed.

The analyst performed a Phase 3 using San Onofre seismic information and fragility data associated with the piping that could not be isolated because of the failed condition of valve 2HV5715. The frequency of a seismic event that would cause a pipe break and drain tank T-120 was estimated to be 2.7E-5/yr. Given a seismic event that causes a loss of offsite power (nearly 100 percent of seismic events that rupture the piping would also cause a loss of offsite power), operators are compelled by procedure to cool down and initiate shutdown cooling. The amount of water that is protected with valve 2HV5715 failed to open, which includes inventory from tank T-121 and water below the break line in tank T-120, given that operators close the working manual isolation valve within 30 minutes, is more than what is needed to get to shutdown cooling in natural circulation with only 1 of 2 steam generator atmospheric dump valves in operation, even if there is a 4-hour hold time at hot standby. The analyst estimated that the failure probability of operators to cool down and initiate shutdown cooling is 1.0E-2. Therefore, assuming a zero base case, the estimated delta- core damage frequency of the finding is 2.7E-5/yr. (1.0E-2) = 2.7E-7/yr.

The inspectors also determined that the cause of the finding has a crosscutting aspect in the area of human performance associated with resources in that the licensee did not ensure that equipment was available and adequate to assure nuclear safety by minimization of long standing equipment issues in that the valve was not being maintained through a preventive maintenance program. [H.2(a)]

Inspection Report# : 2010006 *(pdf)*

Significance: G Jun 17, 2010
Identified By: NRC
Item Type: VIO Violation
Failure to maintain written procedures covered in Regulatory Guide 1.33
The inspectors identified a cited violation of Technical Specification 5.5.1.1.a, involving the failure to maintain adequate written procedures. Specifically, as of April 23, 2010, the licensee's controls over its backlog of procedure change requests associated with plant modifications were inadequate to prevent licensee personnel from using outdated procedures with known technical errors in the plant. The performance deficiency of failing to control the backlog of procedure changes, such that procedures with known technical errors were in use in the plant were previously identified by the NRC on two occasions and were documented as noncited violations 05000361; 05000362/2009003 09 and 2009009-02. Because the licensee failed to restore compliance within a reasonable time after the previous noncited violations were identified, this violation is being cited in a Notice of Violation in

accordance with Section VI.a.1 of the NRC's Enforcement Policy. This finding was entered into the licensee's corrective action program as Nuclear Notification 200888919. The licensee's corrective action included immediate actions to administratively suspend these procedures until they could be revised and to evaluate changes needed to its program to prevent recurrence.

The failure to maintain procedures covered by Regulatory Guide 1.33 is a performance deficiency. The finding is of more than minor significance because, if left uncorrected, the failure to maintain and control procedures would have the potential to lead to a more significant safety concern. Using Inspection Manual Chapter 0609, 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 component, because problems were not thoroughly evaluated, such that the resolutions addressed the causes and extents of condition. This includes properly classifying and prioritizing conditions adverse to quality. [P.1(c)]

Inspection Report# : 2010006 *(pdf)*

Significance: G Jun 17, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to establish goals and monitor for Auxiliary Feedwater trains
Two examples of a noncited violation of 10 CFR 50.65(a)(1) were identified involving the failure to monitor the unavailability time associated with equipment failures which were maintenance induced. The first example involved maintenance inadvertently bending the fuse holder contacts such that there was a loose connection on the power supply on the turbine-driven auxiliary feedwater pump resulting in its failure. The second example involved the failure to perform maintenance associated with a condensate storage tank isolation valve resulting in its failure during in-service testing. In both cases, if the licensee had assessed the unavailability time due to the maintenance induced failures, the systems would have exceeded the 10 CFR 50.65(a)(2) monitoring criteria, necessitating the systems to be placed in 10 CFR 50.65(a)(1) goal setting. The licensee's corrective actions included evaluating its procedures to prevent recurrence, and re-evaluating these systems to determine the impact of accounting for unavailable time.

This finding is more than minor because it affects the equipment performance attribute of the Mitigating Systems Cornerstone per Inspection Manual Chapter 612, Appendix B. Using Inspection Manual Chapter 0609, Phase 1, "Initial Screening and Characterization of Findings," the inspectors determined the finding to be of very low safety significance (Green) because they did not represent the loss of a system safety function and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The cause of the finding was determined to have a crosscutting aspect in the area of human performance. Specifically, personnel failed to use a formal decision making process to determine how to count unavailable hours for the maintenance rule. [H.1(a)]

Inspection Report# : 2010006 *(pdf)*

Significance: G Jun 17, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to identify and correct the use of deficient relays.
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," in that, from October 2008 to April 2010, the licensee failed to promptly identify and correct potentially degraded motor-driven relays in safety-related systems and components. Specifically, after identifying a degraded relay affecting an emergency diesel generator, the licensee replaced all similar relays in the other diesel generators but failed to evaluate the use of these potentially degraded relays in other safety-related systems. The licensee entered this issue into the corrective action program as Nuclear Notification 200146292, and developed a plan to replace the 62 degraded relays that were installed in other safety-related equipment.

This finding was more than minor because it impacted 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 0609.04, Phase 1, “Initial Screening and Characterization of Findings,” the inspectors determined the finding to be of very low safety significance (Green) because it did not represent the loss of a system 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 the decision-making component, in that the licensee did not use conservative assumptions in making decisions about the extent of condition [H.1(b)]

Inspection Report# : 2010006 *(pdf)*

Significance: G Jun 17, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to maintain design basis information
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” involving the failure to translate nonconservative errors in calculations and procedures identified during review of external operating experiences. The first example involved the sizing calculation for the condensate storage tank failing to account for effects of auxiliary feedwater pump heat during recirculation. The second example involved the failure to update procedural guidance concerning the adverse effects of placing the low pressure safety injection system into operation following use of the residual heat removal system in the shutdown cooling mode of operation above 200?F. This issue was entered into the licensee’s corrective action program as Nuclear Notification 200886265. The licensee initiated actions to correct its procedure and calculation for each instance.
The finding is of more than minor significance because it adversely affects the design control attribute of the mitigating systems cornerstone objective. Using Inspection Manual Chapter 0609.04, Phase 1, “Initial Screening and Characterization of Findings,” the finding was determined to have a very low safety significance (Green) 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 operating experience component because the licensee failed to implement and institutionalize operating experience information, including vendor recommendations, through changes to plant processes, procedures, equipment, and training programs. [P.2(b)]

Inspection Report# : 2010006 *(pdf)*

Significance: G May 19, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Operability Determination for Safety-Related Concrete Cracks
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 to determine the operability of a degraded structure, system, or component. Specifically, on May 19, 2010, the operability determination performed to determine the operability of degraded safety-related concrete in the Unit 3 intake structure was not accomplished in accordance with Procedure SO123-XV-52, “Functionality Assessments and Operability Determinations,” Revision 17. After the inadequate operability determination was identified by the inspectors, operations and engineering personnel re-evaluated the conditions. This issue was entered into the licensee’s corrective action program as Nuclear Notification NN 200957926.

The performance deficiency is more than minor because if left uncorrected, it would have the potential to lead to a more significant safety concern, and is therefore a finding. Specifically, the continued failure of operations personnel to perform adequate operability determinations could result in an inoperable structure, system, or component not being recognized and addressed in a timely manner. The finding is associated with the Mitigating Systems Cornerstone. Using Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding: (1) is not a design or qualification issue confirmed not to result in a loss of operability or functionality; (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. This finding has a crosscutting aspect in the area of human performance associated with the component of decision making because the licensee failed to demonstrate that nuclear safety was an overriding priority through the use of conservative assumptions in decision making and adopting a requirement to demonstrate that a 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# : 2010003 *(pdf)*

Significance: G May 18, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Inappropriate Control of Operator Aids
The inspectors identified a noncited violation of Technical Specification 5.5.1.1 for the failure of operations personnel to follow Procedure SO123-0-A1, "Conduct of Operations," Revision 27, to appropriately control operator aids. Specifically, between March 30 and May 18, 2010, the inspectors identified several operator aids that were not controlled per the requirements of Procedure SO123-0-A1, Section 6.10, "Operator Aids." Operations personnel implemented the controls required by Procedure SO123 0 A1 for the operator aids identified by the inspectors, and performed an extent of condition review to identify and correct additional operator aids. This issue was entered into the licensee's corrective action program as Nuclear Notification NN 200856079.

The performance deficiency is more than minor because it 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, and is therefore a finding. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding: (1) is not a design or qualification issue confirmed not to result in a loss of operability or functionality; (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 nontechnical specification equipment; and (4) 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 component of corrective action program because operations personnel failed to implement a corrective action program with a low threshold for identifying issues [P.1(a)].

Inspection Report# : 2010003 *(pdf)*

Significance: G Mar 30, 2010
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Follow Work Control Procedures
A self-revealing noncited violation of Technical Specification 5.5.1.1 was identified for the failure of maintenance and construction services personnel to follow procedures for performing work on safety-related components. Specifically, between November 12, 2009, and March 30, 2010, maintenance personnel failed to implement the requirements of Procedure SO123-MA-1, "Maintenance and Construction Division," Revision 7, Section 4.14, and Procedure SO123-I-1.7, "Work Order Preparation and Processing," Revision 36, Section 6.4.10, to ensure that work on safety-related components had an approved work order to direct the activity. On March 31, 2010, the licensee restored drain valves MR042 and MR264 using approved work orders to direct the valve reassembly. This issue was entered into the licensee's corrective action program as Nuclear Notification NN 200856112.

This performance deficiency is more than minor because if left uncorrected, it would have the potential to lead to a more significant safety concern, and is therefore a finding. Specifically, the continued failure of the licensee to follow authorized work orders when performing work on safety-related components could impact structure, system, or component operability. The finding is associated with the Mitigating Systems Cornerstone. Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," was used since Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," does not specifically address the particular condition of hot shutdown (Mode 4), in which time to boil is greater than 2 hours. The NRC management review was performed using the Manual Chapter 0609, Appendix G, Attachment 1, Phase 1 guidance, to establish a bounding analysis. Using the bounding analysis, the finding is determined to have very low safety significance because the

finding did not represent a loss of any shutdown safety functions. This finding has a crosscutting aspect in the area of human performance associated with the component of work practices because the licensee failed to define and effectively communicate expectations regarding procedure compliance for work on safety-related equipment such that personnel follow work order procedures [H.4(b)].

Inspection Report# : 2010003 *(pdf)*

Significance: G Mar 20, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Appropriately Identify and Classify Degraded Voltage on a Class 1E Battery
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of engineering personnel to fully evaluate a degraded condition in accordance with its corrective action program procedures. Specifically, on March 20, 2010, after identifying that there was not a reasonable expectation that a degraded safety-related battery was operable, operations and engineering personnel failed to initiate a nuclear notification in accordance with corrective action procedures. In response to the inspectors' question, the licensee initiated Nuclear Notification NN 200973110 to perform appropriate evaluations of the degraded battery cell. This issue was entered into the licensee's corrective action program as Nuclear Notification NN 200973110.

The performance deficiency is more than minor because it is associated with the equipment reliability 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, and is therefore a finding. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding: (1) is not a design or qualification issue confirmed not to result in a loss of operability or functionality; (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. This finding has a crosscutting aspect in the area of human performance associated with the component of work practices because licensee management failed to define and effectively communicate expectations regarding procedural compliance such that personnel follow procedures [H.4(b)].

Inspection Report# : 2010003 *(pdf)*

Significance: G Mar 18, 2010
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Assure Circuit Breakers Were Qualified for Installation
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion VII, "Control of Purchased Material, Equipment, and Services," was identified for the failure of engineering personnel to assure that 4 kV vacuum circuit breakers supplied by NLI/Square D conformed to the procurement documents prior to installation in Unit 2 bus 2A06 train B. Specifically, on December 18, 2009, 4 kV bus 2A06 was restored to operable status following installation of 4 kV vacuum circuit breakers supplied by NLI/Square D that did not conform to the design requirements specified in the procurement documents. Engineering personnel failed to assure that 4 kV vacuum circuit breakers conformed to the requirements of Specification SO23-302-02A, "4kV Roll-in Replacement Circuit Breakers," Revision 1, and failed to identify that the vendor completed seismic qualification test deviated from the procurement specifications prior to installation in the plant. On March 18, 2010, an unexpected trip of component cooling water pump circuit breaker 2A0605 prompted an investigation that identified the design inadequacies. Operations personnel declared the associated circuit breakers inoperable following identification of the design inadequacies. Immediate actions to eliminate the design inadequacies were completed to return 4 kV bus 2A06 to operable on March 25, 2010. Apparent Cause Evaluation ACE 200845084 was initiated to identify additional corrective actions. This issue was entered into the licensee's corrective action program as Nuclear Notification NN 200842716.

The performance deficiency is more than minor because it is associated with the design control 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, and is therefore a finding. Using the Manual Chapter 0609, Appendix G, “Shutdown Operations Significance Determination Process,” Phase 1 guidance, the finding is determined to have very low safety significance because the finding did not result in an increase in the likelihood of a loss of reactor coolant system inventory, degrade the ability to add reactor coolant system inventory, or degrade the ability to recover decay heat removal. Since the lack of questioning attitude that contributed to an overreliance on the specifications occurred in 2005, and Procurement Specification Training was conducted in 2008 to close an identified gap in specification review and implementation, the inspectors determined that this was not reflective of current performance and therefore did not have a crosscutting aspect associated with it.

Inspection Report# : 2010003 *(pdf)*

Significance: G Feb 26, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Adequately Implement Station Work Order
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the failure of maintenance personnel to follow Work Order 800195196 and provide appropriate oversight to transmission and distribution personnel while performing work in the electrical switchyard. Specifically, on February 26, 2010, maintenance personnel failed to follow Work Order 800195196, and procedure SO123-XV-15.3, “Temporary System Alteration and Restoration,” Revision 17, to provide appropriate oversight of transmission and distribution personnel who were performing work in the plant switchyard, which resulted in the over torquing of nine bolts on the reserve auxiliary transformer circuit breakers. The licensee corrected the over torqued bolt condition. This issue was entered into the licensee’s corrective action program as Nuclear Notifications NNs 200803364 and 200811993.
The finding is greater than minor because circumventing procedural requirements, if left uncorrected, would have the potential to lead to a more significant safety concern, in that, more risk significant equipment could be rendered inoperable without the knowledge and approval of appropriate management or control room personnel. 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 a very low safety significance because the finding: (1) is not a design or qualification issue confirmed not to result in a loss of operability or functionality; (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 nontechnical specification equipment; and (4) 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 work practices because maintenance personnel failed to ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported [H.4(c)].
Inspection Report# : 2010002 *(pdf)*

Significance: G Jan 27, 2010
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Follow Operations Procedure to Monitor Component Cooling Water Surge Tank pressure
A self-revealing noncited violation of Technical Specification 5.5.1.1 was identified for the failure of operations personnel to follow procedures for operating the component cooling water system. Specifically, on January 27, 2010, operations personnel failed to follow the requirements of procedure SO123-2-17, “Component Cooling Water System Operation,” Revision 31, while performing a planned drain down of the component cooling water surge tanks. Operations personnel failed to maintain the surge tank pressure, in accordance with procedure SO23-2-17, such that, component cooling water surge tank pressure was permitted to go low out of the expected operating range. As a result of this low surge tank pressure, operators declared the component cooling water and shutdown cooling train A systems inoperable. This issue was entered into the licensee’s corrective action program as Nuclear Notification NN 200771367.
The finding is greater than minor because the continued failure to follow procedures when operating safety-related plant equipment, if left uncorrected, would have the potential to lead to a more significant safety concern. The finding is associated with the Mitigating Systems Cornerstone. Using the Manual Chapter 0609, Appendix G, “Shutdown Operations Significance Determination Process,” Phase 1 guidance, the finding is determined to have very low safety significance because the finding did not result in an increase in the likelihood of a loss of reactor coolant system

inventory, degrade the ability to add reactor coolant system inventory, or degrade the ability to recover decay heat removal. This finding has a crosscutting aspect in the area of human performance associated with work practices because operations personnel failed to use proper human error prevention techniques and proceeded in the face of unexpected circumstances when operating the component cooling water system [H.4(a)].
Inspection Report# : 2010002 *(pdf)*

Significance: G 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: G Jan 21, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Appropriately Scope Auxiliary Feedwater Pump Trench Eductors in the Maintenance Rule Monitoring Program
The inspectors identified a noncited violation of 10 CFR 50.65(b)(2)(ii) for the licensee's failure to appropriately scope the steam driven auxiliary feedwater pump trench eductor in the maintenance rule monitoring program. Specifically, from the inception of the facilities monitoring program through March 2010, the licensee failed to properly scope the steam driven auxiliary feedwater pump trench educator. The eductors prevent water from accumulating in the trench because water in contact with the pump's steam supply piping would cause condensation of the steam in the pipe. Condensation would cause the turbine to over speed, which would render the pump incapable of performing its specified safety function. This issue was entered into the licensee's corrective action program as Nuclear Notification NN 200765185.
The finding is greater than minor because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and directly affected the cornerstone objective of ensuring 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: (1) is not a design or qualification issue confirmed not to result in a loss of operability or functionality; (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 nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined that since the scoping of the systems had occurred more than 2 years in the past, and the opportunity to reevaluate system scoping had not occurred recently, that the finding did not represent current plant performance and therefore did not have a crosscutting aspect associated with it.
Inspection Report# : 2010002 *(pdf)*

Significance: G Jan 21, 2010
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure of Schedule 10S Piping
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," was identified for the licensee's failure to determine the cause and take corrective actions to preclude repetition of a significant condition adverse to quality associated with repeated leakage of safety-related piping. Specifically, from 1985 through June 2008, the licensee failed to determine the cause of the numerous failures of the Schedule 10S piping and did not take corrective actions to preclude repetition of additional piping leaks. In January 2010, the licensee initiated a root cause evaluation and developed an extensive inspection and repair plan. This issue was entered into the licensee's corrective action program as Nuclear Notification NN 200753741.

The performance deficiency 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, and is therefore a finding. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding: (1) is not a design or qualification issue confirmed not to result in a loss of operability or functionality; (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 nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. Since the most recent opportunity to identify and correct this condition was in June 2008, and the licensee has instituted numerous corrective actions to address this issue, the inspectors determined that this was not reflective of current performance and therefore did not have a crosscutting aspect associated with it.

Inspection Report# : 2010003 *(pdf)*

Significance: G Jan 21, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Procedures While Implementing a Design Change
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of maintenance personnel to follow the requirements of station procedures while performing work on containment sump pump discharge isolation valve 2HV5803. Specifically, on January 21, 2010, while performing scheduled maintenance activities on the valve maintenance personnel identified the need to perform a modification to the electrical wiring of the valve. When the modification was implemented on January 25, 2010, maintenance personnel failed to follow the requirements of procedures SO123-II-15.3, "Temporary System Alteration and Restoration Form," Revision 17, and SO123-XXIV-10.1, "Preparation, Review, Approval, Issuance, Implementation, and Closure of Engineering Change Packages (NECPs) and Engineering Change Notices (ECNs)," Revision 21, and did not have an implementing work order to affect a design change on valve 2HV5803. Planned corrective action is still being evaluated by the licensee. This issue was entered into the licensee's corrective action program as Nuclear Notifications NNs 201061230, 200767264 and 200964035.
The performance deficiency was determined to be more than minor and is therefore a finding because if left uncorrected, the continued practice of circumventing site procedural requirements by craft personnel during maintenance or design modification work on safety-related equipment would have the potential to leave more risk significant equipment in a degraded or inoperable condition without documentation and without the knowledge and approval of site management and operations personnel. The finding was associated with the design control attribute of the Mitigating Systems Cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding was determined to have very low safety significance because the finding: (1) was not a design or qualification issue confirmed not to result in a loss of operability or functionality; (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 nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding was determined to have a crosscutting aspect in the area of human performance, associated with work practices component, in that the licensee failed to define and effectively communicate expectations regarding procedural compliance, and that personnel follow procedures [H.4(b)] (Section 1R13).
Inspection Report# : 2010004 *(pdf)*

Significance: G Jan 15, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Procedure Results in an Inadequate Operability Determination
The inspectors identified two examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instruction, Procedures, and Drawing," for the failure of operations personnel to follow procedures to approve and document operability determinations using adequate or technically correct information. Specifically, on January 15, and January 22, 2010, operations personnel failed to follow procedure SO123-XV-52, "Functionality Assessments and Operability Determinations," Revision 14, in that, the documented bases for operability for degraded conditions did not adequately support the basis for an operability position taken by the licensee. Following the inspectors' identification of the issues, operations personnel performed new operability determinations to provide adequate bases for operability. This issue was entered into the licensee's corrective action program as Nuclear Notifications NNs 200765208 and 200753880.
The finding is greater than minor because, if left uncorrected, inadequate operability determinations would have the potential to lead to a more significant safety concern. Specifically, the failure to recognize that risk significant equipment is in a potentially inoperable condition and as such, may not be able to perform its specified safety function would not be recognized and accounted for by operators. 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: (1) is not a design or qualification issue confirmed not to result in a loss of operability or functionality; (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 nontechnical specification equipment; and (4) 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 because the licensee failed to thoroughly evaluate problems such that the resolutions addressed causes and extent of conditions as necessary [P.1(c)].
Inspection Report# : 2010002 *(pdf)*

Significance: G Jan 04, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Enter Conditions Adverse to Quality into the Corrective Action Program
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of licensee personnel to follow procedure SO123-XV-50.CAP-1, "Writing Nuclear Notifications for Problem Identification and Resolution," Revision 2, and enter conditions adverse to quality into the corrective action program. Specifically, between January 4 and March 14, 2010, the inspectors identified multiple instances, including two programs, where licensee personnel were aware of the existence of conditions adverse to quality, but failed to appropriately enter them into the corrective action program without being prompted by the inspectors. This issue was entered into the licensee's corrective action program as Nuclear Notifications NNs 200778816 and 200780926.
The finding is greater than minor because it was similar to more than minor example 3.j in NRC Manual Chapter 0612, Appendix E, "Examples of Minor Issues," in that programmatic deficiencies were identified associated with this issue that would have the potential to lead to more significant safety concerns if left uncorrected. Specifically, contractor and licensee personnel's failure to enter conditions adverse to quality into the station corrective action program could result in the licensee's failure to recognize that risk significant equipment is in a degraded or nonconforming condition, and as such, may not be able to perform its specified safety function. 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: (1) is not a design or qualification issue confirmed not to result in a loss of operability or functionality; (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. 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 a corrective action program with a low threshold for identifying issues. This also includes identifying such issues completely, accurately, and in a timely manner commensurate with their safety significance [P.1(a)].
Inspection Report# : 2010002 *(pdf)*

Significance: G 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: G Dec 20, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Assess and Manage Risk for Maintenance on Emergency Diesel Generators
The inspectors identified a noncited violation of 10 CFR 50.65(a)(4), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," involving multiple instances where operations and work planning personnel failed to adequately assess and implement appropriate risk management activities. Specifically, between November 20, 2009, and March 17, 2010, operations and work planning personnel failed to adequately assess and manage the increase in risk for maintenance activities associated with the station's emergency diesel generators. Following the inspectors' identification of the finding, the licensee adequately assessed and managed the increase in risk for maintenance activities associated with emergency diesel generators. This issue was entered into the licensee's corrective action program as Nuclear Notifications NNs 200810952, and 200818599.

The performance deficiency is more than minor because it affected the configuration control 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, and is therefore a finding. The examples of this finding were associated with both at-power and shutdown plant operations. For the examples associated with the at-power operations, using Manual Chapter 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," Flowcharts 1 and 2, the finding was determined to have very low safety significance because this finding dealt with the licensee's failure to implement procedurally required risk management actions and the incremental core damage probability deficit was less than 1E-6. Since the licensee does not maintain a shutdown probabilistic risk analysis model, an incremental core damage probability cannot be estimated for the plant conditions that existed for the examples associated with shutdown operations. For this reason, the inspectors determined that Manual Chapter 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," Flowchart 2, could not be used. Using Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," the finding is determined to have very low safety significance because the finding did not result in any additional loss of defense in depth systems. This finding has a crosscutting aspect in the area of human performance associated with the component of work practices because the licensee failed to define and effectively communicate expectations regarding procedural compliance which resulted in a failure to follow procedures by workers [H.4.(b)].

Inspection Report# : 2010003 *(pdf)*

Significance: G Dec 17, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Enter Operating Experience into Corrective Action Program for Timely Evaluation
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 properly implement procedure requirements to ensure that applicable risk significant operating experience was entered into the corrective action program for timely evaluation. Specifically, on December 17, 2009, the operating experience review committee failed to properly implement the requirements of procedure SO23-XV-40, "Sharing Industry Information," Revision 1. An industry operating experience report review determined the operating experience was not applicable and was distributed as information only; not requiring any action. The same industry operating experience was later determined to be applicable by the probabilistic risk assessment group, and interim compensatory measures were initiated on February 10, 2010, to address the issues. This issue was entered into the licensee's corrective action program as Nuclear Notifications NN 200805879.
The finding is greater than minor because it 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: (1) is not a design or qualification issue confirmed not to result in a loss of operability or functionality; (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 nontechnical specification equipment; and (4) 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 the operating experience review committee did not use a systematic process when making a safety significant decision, to ensure safety is maintained and obtaining interdisciplinary inputs and reviews on risk-significant decisions [H.1(a)].
Inspection Report# : 2010002 *(pdf)*

Significance: G 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: G 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: G Oct 25, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Perform an Adequate Postmaintenance Test
A self-revealing Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” was identified for failure of maintenance planning personnel to develop and specify an adequate postmaintenance test in the work instructions used to perform maintenance on the backup nitrogen regulator for the component cooling water surge tank. Specifically, on October, 25, 2009, Maintenance Order MO 800335873 did not specify postmaintenance testing instructions that would verify that nitrogen supply valve PCV 5403 would perform satisfactorily in service, following calibration, and properly control surge tank pressure during changes in surge tank levels. This issue was entered into the licensee’s corrective action program as Nuclear Notifications NNs 200766430 and 200887764.
The finding is greater than minor because it 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. Furthermore, the finding is similar to more than minor example 3.i in NRC Inspection Manual Chapter 0612, Appendix E, “Examples of Minor Issues,” in that, an extensive engineering evaluation was required to verify that the component cooling water system remained capable of performing its safety function during a design basis earthquake. Using the Manual Chapter 0609, Appendix G, “Shutdown Operations Significance Determination Process,” Phase 1 guidance, the finding is determined to have very low safety significance because the finding did not result in an increase in the likelihood of a loss of reactor coolant system inventory, degrade the ability to add reactor coolant system inventory, or degrade the ability to recover decay heat removal. This finding has a crosscutting aspect in the area of human performance associated with work practices because maintenance planning personnel failed to follow procedures to develop adequate work instructions to perform maintenance on safety-related equipment [H.4(b)].
Inspection Report# : 2010002 *(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)*

Barrier Integrity

Significance: G Jan 13, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Adequately Implement Foreign Material Exclusion Controls
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” associated with the licensee’s failure to adequately implement procedures SO123-I-3.7, “Refueling Foreign Material Exclusion Control,” Revision 6, and SO123-I-1.18, “Foreign Material Exclusion,” Revision 14. Specifically, between January 12, 2010, and February 23, 2010, multiple occasions were identified during Refueling Outage U2C16, where licensee personnel failed to implement appropriate foreign material exclusion controls in areas designated as Zone 1 foreign material exclusion areas. This issue was entered into the licensee’s corrective action program as Nuclear Notifications NNs 200760484, 200742082, 200743834 and 200805961.
The finding is greater than minor because it is associated with the human performance attribute of the Barrier Integrity Cornerstone and affects the cornerstone objective of providing reasonable assurance that physical barriers protect the public from radionuclide releases caused by accidents or events. Furthermore, the programmatic deficiencies that were identified associated with this issue would have the potential to lead to a more significant safety concern, if left uncorrected. Specifically, licensee personnel’s continued failure to implement appropriate foreign material exclusion controls would result in degradation and adverse impacts on materials and systems associated with the spent fuel pool or the reactor cavity. Using the Manual Chapter 0609, Appendix G, “Shutdown Operations Significance Determination Process,” Phase 1 guidance, the finding is determined to have very low safety significance because the finding did not result in an increase in the likelihood of a loss of reactor coolant system inventory, degrade the ability to add reactor coolant system inventory, or degrade the ability to recover decay heat removal. This finding had a crosscutting aspect in the area of human performance associated with work practices because the licensee failed to define and effectively communicate expectations regarding procedural compliance which resulted in a failure to

follow procedure by licensee personnel [H.4(b)].
Inspection Report# : 2010002 *(pdf)*

Significance: G 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: G 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)*

Emergency Preparedness

Occupational Radiation Safety

Significance: G Feb 12, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Appropriately Control Access to a Locked High Radiation Area
The inspectors identified a noncited violation of Technical Specification 5.8.2 for the failure of radiation protection personnel to provide a locked door sufficient to prevent unauthorized entry into an area with radiation doses greater than 1.0 rem in 1 hour at 30 centimeters. Specifically, from February 2004 through March 17, 2010, the locked door that radiation protection personnel provided for the access ladder and installed ladder extension to the upper refueling cavity was not adequate to prevent unauthorized access when the door was being used as the means to control access to an individual high radiation area in the lower cavity where the maximum measured radiation dose rate was 2.8 rem per hour. The inspectors determined that with the ladder extension installed on the back side of the ladder, which was not controlled by the locked access door, was accessible and as such, the controls the licensee had in place to control access to the refueling cavity could have been easily circumvented. On March 17, 2010, radiation protection personnel removed the ladder extension which sufficiently impeded access to the back side of the ladder. This issue was entered into the licensee's corrective action program as Nuclear Notifications NNs 200793188 and 200837345.
The finding is greater than minor because it is associated with the program and process attribute of the Radiation Safety Cornerstone and directly affected the associated cornerstone objective of ensuring the adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. Using Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," this finding is determined to have 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. The inspectors determined that since the licensee had not recently re-evaluated the locked high radiation area controls associated with this ladder; this finding did not represent current plant performance, and therefore, did not have a crosscutting aspect associated with it.

Inspection Report# : 2010002 *(pdf)*

Public Radiation Safety

Significance: G Jun 17, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to establish component cooling water radiation monitoring procedures.
The inspectors identified a noncited violation of Technical Specification 5.5.1.1.a, "Scope," involving the failure to establish procedures for component cooling water system alignments such that leakage of radionuclides to the environment would be monitored during all operational alignments of component cooling water. Specifically, radiation monitors could be aligned to only one train of component cooling water at a time and the licensee's procedures had no provision for monitoring the second train when both trains were in-service. This finding was entered into the licensee's corrective action program as Nuclear Notification 200871387, and actions were implemented to require periodic grab sampling of the train which was not being monitored.

The inspectors determined that this finding was more than minor because this issue impacted the Public Radiation Protection Cornerstone and its 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. Specifically, the radiation monitors for component cooling water were not sufficient to ensure adequate release measurements. The inspectors evaluated the significance of this finding using Phase 1 of Inspection Manual Chapter 0609.04 and determined that the finding screened to Inspection Manual Chapter 0609, Appendix D, "Public Radiation Safety Significance Determination Process." The inspectors evaluated the significance of this finding using Inspection Manual Chapter 0609, Appendix D, and determined that the finding was of very low safety significance (Green) because dose did not exceed Appendix I criteria. This finding was determined to have a crosscutting aspect in the area

of problem identification and resolution associated with the corrective action program in that the plant operators did not have a low threshold for identifying deficiencies in procedures. [P.1(c)]

Inspection Report# : 2010006 *(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 Jun 17, 2010
Identified By: NRC
Item Type: FIN Finding
San Onofre Nuclear Generating Station Biennial PI&R Inspection Summary.
The inspectors reviewed approximately 300 condition reports, work orders, engineering evaluations, root and apparent cause evaluations, and other supporting documentation to determine if problems were being properly identified, characterized, and entered into the corrective action program for evaluation and resolution. The inspectors reviewed a sample of system health reports, self-assessments, trending reports and metrics, and various other documents related to the corrective action program.

When compared with the findings from the previous inspection conducted in September 2008, the findings from this inspection indicate that the corrective action program effectiveness has declined. As previously discussed in the past five NRC assessment letters, the licensee's ability to thoroughly evaluate problems such that the resolutions effectively address the causes and extent of conditions is of concern. The licensee's efforts to reverse the trend of substantive crosscutting issues in both the human performance and problem identification and resolution areas have not shown to be effective.

Additionally, the inspection identified a number of issues that the licensee's staff had previous opportunities to identify. The inspectors noted that even after issues were discussed with the licensees' staff, thorough evaluations were not consistently completed. We noted examples were the evaluations for deficient components failed to fully address the component safety functions for all applicable design basis accident scenarios.

The inspectors determined that the licensee adequately evaluated industry operating experience for relevance to the facility, and entered applicable items in the corrective action program. The inspectors noted that operating experience was considered in cause evaluations. The inspectors noted that following the review of operating experience the licensee failed to consistently incorporate the knowledge into procedural guidance and design calculations.

In February 2010, the inspectors found that several work groups at San Onofre did not feel free to raise safety concerns

without fear of retaliation. This was documented in NRC Inspection Report 050000361; 05000362/2009009 dated March 2, 2010, and in the NRC's Chilling Effect Letter dated March 2, 2010.

Inspection Report# : 2010006 *(pdf)*

Significance: G Jun 17, 2010
Identified By: NRC
Item Type: FIN Finding

Failure to meet action plan for substantive crosscutting issues
The inspectors identified a Green finding associated with the licensee's failure to meet the actions described to the NRC in letters dated April 21, 2009, and October 29 and 30, 2009, addressing corrective actions to improve site performance in the areas of human performance and problem identification and resolution. Specifically, 16 actions were not implemented on time and a number of actions were modified from what was previously described, all prior to informing the NRC. These findings were documented in Nuclear Notification 200848923.

The inspectors determined that the licensee's failure to perform actions as documented in its plan to the NRC was more than minor because if left uncorrected could result in a more significant safety concern. Using Inspection Manual Chapter 0609, Appendix M, this finding was reviewed by NRC management and was determined to be of very low safety significance (Green). This finding has a crosscutting aspect in the areas of human performance. [H.4 (c)]

Inspection Report# : 2010006 *(pdf)*

Significance: SL-IV Dec 23, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Notify the NRC Within Eight Hours of a Nonemergency Event
The inspectors identified a noncited violation of 10 CFR 50.72, "Immediate Notification Requirements for Operating Nuclear Power Reactors," for the licensee's failure to notify the NRC Operations Center within 8 hours following discovery of an event meeting the reportability criteria as specified. Specifically, on December 23, 2009, the licensee failed to notify the NRC Operations Center within 8 hours after the discovery of an event or condition that resulted in a condition where the spent fuel pool cooling system was prevented from fulfilling its safety function of residual heat removal with the complete core off loaded. This issue was entered into the licensee's corrective action program as Nuclear Notification NN 200733257.
The finding is greater than minor because the NRC relies on licensee's to identify and report conditions or events meeting the criteria specified in regulations in order to perform its regulatory function, and when this is not done the regulatory function is impacted. The inspectors reviewed this issue in accordance with Inspection Manual Chapter 0612 and the NRC Enforcement Manual. Through this review, the inspectors determined that traditional enforcement was applicable to this issue because the NRC's regulatory ability was affected. The inspectors determined that this finding was not suitable for evaluation using the significance determination process, and as such, was evaluated in accordance with the NRC Enforcement Policy. The finding was reviewed by NRC management and because the violation was determined to be of very low safety significance, was not repetitive or willful, and was entered into the corrective action program, this violation 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 problem identification and resolution associated with the corrective action program because the licensee failed to thoroughly evaluate problems such that the resolutions addressed causes and extent of conditions as necessary. This includes properly classifying, prioritizing, and evaluating for operability and reportability conditions adverse to quality [P.1(c)].
Inspection Report# : 2010002 *(pdf)*

Significance: SL-IV Dec 23, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Obtain a License Amendment for a Technical Specfication Bases Change
The inspectors identified a noncited violation of 10 CFR 50.59, "Changes, Test, and Experiments," for the failure of licensing personnel to obtain a technical specification license amendment for a change made to the technical specification bases concerning the emergency chilled water system. Specifically, in 1996, licensing personnel implemented a technical specification bases change for Limiting Condition for Operation 3.7.10, "Emergency Chilled Water," which changed the intent and application of the technical specification, and added wording which allowed a period of time for required support systems to be inoperable without declaring the emergency chillers inoperable. This issue was entered into the licensee's corrective action program as Nuclear Notifications NNs 200747320 and 200758329.
The finding is greater than minor because the failure to follow the requirements of 10 CFR 50.59 and receive prior NRC approval for changes in licensed actions impacted the NRC's regulatory ability. The inspectors reviewed this issue in accordance with Inspection Manual Chapter 0612 and the NRC Enforcement Manual. Through this review, the inspectors determined that traditional enforcement was applicable to this issue because the NRC's regulatory

ability was affected. The inspectors determined that this finding was not suitable for evaluation using the significance determination process, and as such, was evaluated in accordance with the NRC Enforcement Policy. The finding was reviewed by NRC management and because the violation was determined to be of very low safety significance, was not repetitive or willful, and was entered into the corrective action program, this violation is being treated as a Severity Level IV noncited violation consistent with the NRC Enforcement Policy. Since the bases change was made in 1996, the inspectors determined that this was not reflective of current licensee performance and therefore did not have a crosscutting aspect associated with it.
Inspection Report# : 2010002 *(pdf)*

Last modified : November 29, 2010