

San Onofre 2

2Q/2011 Plant Inspection Findings

Initiating Events

Significance: SL-III Apr 18, 2011

Identified By: NRC

Item Type: VIO Violation

Inactive SRO Performed Licensed Duties as Refueling SRO Supervisor

The inspector identified one violation of 10 CFR 55.53(f) which states, in part, that the facility licensee is required to certify that the qualifications and status of a Senior Reactor Operator (SRO) are current and valid prior to the operator resuming activities authorized by their license. Specifically, on October 21, 2010, and October 27, 2010, an SRO performed licensed activities (core alterations) as Refueling SRO Supervisor while his license was INACTIVE.

Additionally, the SRO was on a temporary medical hold from licensed activities on the dates identified. On October 27, 2010, the SRO's license restrictions were questioned by on-shift operations personnel and the SRO was relieved from his watch station. The licensee has entered this violation into their corrective action program as NN 201174957. The corrective actions taken and planned to correct the violation and prevent recurrence and the date when full compliance will be achieved is considered adequate.

Failure of the facility licensee to maintain electronic programs used to verify licensed operator qualifications and to schedule licensed operator watch stations up-to-date with licensed operator worker qualifications and license restrictions could potentially impede the regulatory process by not providing complete and accurate information to NRC inspectors. NRC Enforcement Policy, Section 6.4, Licensed Reactor Operators, Item c.1.(c) states, in part, that if a licensed operator, or a senior operator actively performing the functions covered by that position, is determined to be in noncompliance with a condition stated on the individual's license, then a Severity Level III violation exists.

Inspection Report# : [2011012](#) (pdf)

Significance:  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Properly Store C-Panels in the Radwaste Building

The team identified a Green noncited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of plant personnel to follow site procedures that controlled equipment storage in the radwaste building. Specifically, on October 5, 2010, inspectors identified that plant personnel failed to follow Procedure SO23-XX-31, "Control of Work and Storage Areas within the Protected Area during Unit Outages at SONGS 2 and 3," Revision 0, by improperly storing portable electrical equipment panels outside an approved laydown area. The portable electrical equipment panels were tied-off near a hydrogen supply line which could have been damaged during a seismic event. Consequently, a hydrogen fire could have damaged trains A and B safety related equipment cables in the overhead, but sufficient train A cables were free of the area to permit a safe shutdown. A hydrogen fire was not analyzed in the San Onofre Units 2 and 3 "Fire Hazards Analysis Report," because the hydrogen line was designed to withstand a seismic event. The licensee captured this performance deficiency in their corrective action program as Nuclear Notifications NNs 201142972 and 201140052.

This performance deficiency is more than minor because it could adversely affect the protection against fires attribute of the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations, and is therefore a finding. The inspectors performed the initial significance determination for the finding using the NRC Inspection Manual 0609, Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings." The inspectors transitioned to NRC Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process." However, this guidance was not well suited for this finding. A Region IV senior reactor analyst completed a Phase 3 significance determination and found that the finding was of very low safety significance. The bounding change to core damage frequency was 4E-8/year. The dominant core damage sequence included a loss of offsite power initiating event and failure of a safety relief valve to seat. The relatively low frequency of a seismic induced loss of offsite power event coupled with the remaining available equipment helped to limit the finding's significance. The finding had a

crosscutting aspect in the area of human performance associated with the work practices component and the self-checking theme, because personnel failed to properly check the procedural requirements prior to staging C-panels near the hydrogen line.

Inspection Report# : [2010005](#) (pdf)

Significance:  Jul 16, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Define Authorities and Responsibilities of Work Process Area Operator

The inspectors identified a non-cited violation of Technical Specification 5.5.1.1 for failure to provide a written procedure to define authorities and responsibilities of all work process area operators. Specifically, on July 13, 2010, the work process area had an additional operator, identified on the watchbill as the “CRC” (Control Room Coordinator), who performed activities normally performed by the Work Process Supervisor, including providing oversight for pre-job briefs and authorizing start of tasks without receiving a turnover and formally accepting the position of Work Process Supervisor. The licensee documented this violation in Nuclear Notification 201014984, and its short term corrective actions included required reading and coaching to instruct Work Process Supervisors not to delegate their authority to authorize work without a formal turnover. Southern California Edison will also add guidance procedures SO123-0-A-1 and SO123-0-A-2 “Conduct of Operations”.

The inspectors concluded that the finding was more than minor because it could be reasonably viewed as a precursor to a significant event. Specifically, lack of a procedure to define the roles, responsibilities, and authorities of all personnel who may simultaneously hold work process area authority may lead to inadequate coordination of concurrent work and inadvertent authorization of multiple activities that could cause a plant transient or reactor trip. The finding is associated with the Initiating Events cornerstone. Using NRC Inspection Manual 0609, Attachment 0609.04, “Phase 1-Initial Screening and Characterization of Findings”, the inspectors determined the finding 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. The inspectors determined the finding has a crosscutting aspect in the area of human performance associated with decision-making because the licensee did not make safety-significant decisions using a systematic process, including formally defining the authority and roles for decisions affecting nuclear safety.

Inspection Report# : [2010010](#) (pdf)

Mitigating Systems

Significance:  Jun 23, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Compensatory Measures for a Design Nonconformance

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, for the failure of operations personnel to establish adequate compensatory measures to restore or maintain operability as required by Procedure SO123-XV-52, “Operability Determination and Functionality Assessments,” Revision 18. Specifically, on November 12, 2010, although engineering identified measures were required to maintain water level below the steam line in the auxiliary feedwater trenches, no measures had been taken to stage pumps or limit flows into the trenches. On May 5, 2011, as a result of the inspectors’ questions, the licensee established additional compensatory measures including blocking storm drains that flow into the trench and staging sump pumps. This issue was entered into the licensee’s corrective action program as Nuclear Notification NN 201448584.

The performance deficiency is more than minor, and therefore a finding, because it is associated with the protection against external events 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. During a design basis flooding from a probable maximum precipitation event, the auxiliary feedwater pump could be rendered inoperable. Using NRC Inspection Manual 0609, Attachment 4, “Phase 1 – Initial Screening and Characterization of Findings,” the finding screened to a Phase 2 significance determination because it involved a potential loss of safety function. A Phase 2 was not appropriate for this external event. The senior reactor analyst determined that the finding had very low significance. This was based on information received from the licensee

indicating that the precipitation intensity required to render the turbine-driven auxiliary feedwater pump non-functional had a return frequency well below 1.0E-6/yr. In the case of clogged drains, less intense rain could affect the function of the pump, but would likely not cause a transient. A bounding risk estimate indicated that the delta core damage frequency of this scenario was less than 1.0E-7/yr. The finding was determined to have a cross-cutting aspect in the area of human performance associated with the decision-making component because operations personnel failed to verify the validity of underlying assumptions for operability decision-making [H.1(b)](Section 1R01).
Inspection Report# : [2011003](#) (pdf)

Significance: **G** Jun 23, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Work Instructions to Ensure Environmentally Qualified Configuration

The inspectors identified that work instructions to replace a safety-related steam generator differential pressure transmitter did not contain adequate instructions to ensure that the scope of work was defined and the installed configuration would satisfy environmental qualification requirements. This involved multiple examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings." The inspectors also identified that the licensee had failed to maintain procedures intended to address previous problems damaging delicate insulation needed to maintain environmental qualification, and had failed to plan modifications needed to implement a planned improvement to the environmental qualification configuration, challenging maintenance workers during transmitter replacement. The licensee has entered this issue into their corrective action program as Nuclear Notification NN 201477774.

Failure to provide adequate work instructions to replace a safety-related steam generator differential pressure transmitter to ensure that the scope of work was defined and the installed configuration would satisfy environmental qualification requirements is a performance deficiency. The performance deficiency affected the procedure quality attribute of the Mitigating Systems Cornerstone. This finding is more than minor because, if left uncorrected, it would have the potential to lead to a more significant safety concern in that inadequate work instructions could result in a failure to meet the environmental qualification in systems needed to mitigate accidents. This finding was determined to have very low safety significance during a Phase 1 significance determination because it involved a qualification deficiency that was confirmed not to result in loss of operability or functionality. This finding has a cross-cutting aspect in the resources component in the human performance area because the licensee failed to ensure that procedures and other resources were adequate to assure nuclear safety. Specifically, the licensee did not ensure that complete, accurate, and up-to-date design documentation, procedures, and work packages were provided to support replacement activities for generator differential pressure transmitter 2PDT-0979-2 [H.2(c)](Section 1R12).

Inspection Report# : [2011003](#) (pdf)

Significance: **G** Jun 23, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Appropriately Assess and Manage Risk for Work in Unit 3 Intake

A self-revealing noncited violation of 10 CFR 50.65(a)(4), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," was identified for the failure of work control and operations personnel to adequately assess and manage the increase in risk associated with maintenance on the Unit 3 fish elevator.

Specifically, on March 29, 2011, a stop log was installed in the Unit 3 intake structure without informing the Unit 2 control room operators or establishing measures to maintain adequate Unit 2 saltwater flow to ensure the operability of the component cooling water system. Immediate corrective actions included verifying and monitoring Unit 2 train A component cooling water operability and taking actions to restore saltwater cooling flow and component cooling water/saltwater cooling heat exchanger differential pressure to normal. This issue was entered into the licensee's corrective action program as Nuclear Notification NN 201395115.

The performance deficiency is more than minor and therefore a finding because it is associated with the operating equipment configuration control attribute of the Mitigating Systems Cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using 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 the incremental core damage probability deficit was less than 1E-6 and the incremental large early release probability deficit was less than 1E-7. This finding has a cross-cutting aspect in the

area of human performance associated with the decision-making component because work control and operations personnel did not communicate decisions and the basis for decisions to individuals that needed to know the information in order to perform work safely and take appropriate risk management actions [H.1(c)](Section 1R13).
Inspection Report# : [2011003](#) (pdf)

Significance:  Jun 23, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Provide Adequate Long-Time Over-Current Protection for the Cables for Charging Pumps 2P190 and 2P191

The inspectors identified that the licensee did not provide adequate long-time over-current protection for charging pumps 2P190 and 2P191 feeder cables. The finding involved a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control", for failure to translate applicable regulatory requirements and the design basis into specifications, drawings, procedures, and instructions. The licensee entered this issue into their corrective action program as Nuclear Notification NN 201443248.

Failure to provide adequate long-time over-current protection for the feeder cables for charging pumps 2P190 and 2P191 is a performance deficiency. The performance deficiency affected the Mitigating Systems Cornerstone. The performance deficiency is more than minor and therefore a finding, because if left uncorrected, it would have the potential to lead to a more significant safety concern in that possible mechanical problems with the pump or motor could cause the affected cables to exceed their current limit and cause cable damage without tripping the associated breaker. The finding was determined to have very low safety significance during a Phase 1 significance determination because it involved a design deficiency that was confirmed not to have resulted in a loss of operability or functionality. No crosscutting aspect was identified because this issue is not reflective of current performance, since this condition has existed since construction (Section 1R17).

Inspection Report# : [2011003](#) (pdf)

Significance:  Jun 23, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedure Requirements for a Failed Surveillance

The inspectors identified a noncited violation of Technical Specification 5.5.1.1, "Procedures," for the failure of operations personnel to follow the surveillance program requirements for control element assembly testing, when a satisfactory verification of control element assembly movement was not obtained. Specifically, on May 8, 2011, operations personnel failed to refer to the abnormal procedure and the applicable action statement for Technical Specification 3.1.5, "Control Element Assembly (CEA) Alignment," as required by Procedure SO23-3-3.5, "CEA/Reactor Trip Circuit Breaker Operability Testing," Revision 18, when a satisfactory verification of control element assembly movement was not obtained. The licensee assumed the inability to move a control element assembly was due to a control rod drive mechanism control system failure without establishing a technical basis. This issue was entered into the licensee's corrective action program as Nuclear Notification NN 201474804.

The performance deficiency is more than minor and therefore a finding, because, if left uncorrected, it would have the potential to lead to a more significant safety concern since using presumptions of operability with inadequate factual basis could result in a condition prohibited by technical specifications. The finding is associated with 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 has a cross-cutting aspect in the area of human performance associated with the decision-making component because operations personnel failed to use conservative assumptions in decision-making when evaluating test results to determine an appropriate course of action [H.1(b)](Section 1R22).

Inspection Report# : [2011003](#) (pdf)

Significance:  Jun 23, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Lack of Adequate Procedures to Respond to the Inability to Drive Control Rods

The inspectors identified a noncited violation of Technical Specification 5.5.1.1, "Procedures," for the licensee's failure to establish procedures for the inability to drive control rods. Specifically, from initial licensing to May 2011, Abnormal Operating Instruction SO23-13-13, "Misaligned or Immovable Control Element Assembly," did not contain guidance to address an immovable control element assembly. This issue was entered into the licensee's corrective action program as Nuclear Notification NN 201497724.

The performance deficiency is more than minor and therefore a finding, because it was associated with the procedure quality attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the inspectors determined the finding 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 inspectors reviewed this finding for cross-cutting aspects and none were identified since the deficiency has existed since initial licensing and is not reflective of current performance (Section 1R22).

Inspection Report# : [2011003](#) (*pdf*)

Significance:  Feb 23, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedures to Establish Compensatory Measures

The Inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instruction, Procedures, and Drawing," for the failure of operations personnel to follow the requirements of station procedure to perform an adequate operability determination and establish compensatory measures associated with an emergency diesel generator. Specifically, on February 23, 2011, operations personnel failed to follow procedures to establish compensatory measures associated with an emergency diesel generator when an immersion heater was removed from service. On March 18, interim corrective actions were taken that included operator required reading (priority 2 reading) to ensure that on-shift licensed operators use conservative decision making regarding compensatory measures. Planned corrective actions will be part of a root cause evaluation. These issues have been entered into the licensee's corrective action program as Nuclear Notifications NNs 201365616, 201348283 and 201378245.

The performance deficiency was determined to be more than minor and is therefore a finding because it was associated with the Mitigating Systems Cornerstone attribute of procedure quality and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the NRC Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding is determined to have very low safety significance because it did not result in the loss of safety function of any technical specification required equipment. The finding was determined to have a crosscutting aspect in the area of human performance associated with the decision-making component because the licensee failed to verify the validity of underlying assumptions for operability decision-making.

Inspection Report# : [2011002](#) (*pdf*)

Significance:  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Appropriately Classify Conditions Adverse to Quality for Significance

Between September 23 and November 15, 2010, the inspectors identified two examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of licensee personnel to follow the requirements of corrective action program procedures for nuclear notification significance screening. Specifically, licensee personnel failed to follow Procedure SO123-XV-50.CAP-2, "SONGS Nuclear Notification Screening," Revision 7, to properly screen for significance, conditions that result in non-routine reporting to the NRC and Critical A component failures. In response to the inspectors' question, the licensee initiated Nuclear Notifications NNs 201122165 and 201203374 to perform appropriate evaluations of the corrective action programmatic issues.

The performance deficiency is more than minor because, if left uncorrected, it would have the potential to lead to a

more significant safety concern by not evaluating problems commensurate with their safety significance, such that the resolutions address the causes and extent of conditions, and is therefore a finding. The finding is associated with 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) 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 problem identification and resolution, associated with the corrective action program, in that the licensee failed to thoroughly evaluate problems such that the resolutions address causes and extent of conditions, and failed to properly classify, prioritize, and evaluate for operability and reportability conditions adverse to quality.

Inspection Report# : [2010005](#) (*pdf*)

Significance:  Dec 21, 2010

Identified By: NRC

Item Type: FIN Finding

Failure to Follow Station Procedures for Seasonal Readiness

The inspectors identified a finding for the failure of license personnel to follow procedure SO23-XX-29.1, "Seasonal Readiness." Specifically, licensee personnel failed to implement, as seasonal weather conditions dictated, the appropriate preventative maintenance program for roof drains associated with the emergency diesel generator buildings. As a result of the recurring degraded and clogged roof drains, rainwater was allowed to accumulate on the roof which resulted in water intrusion into the Unit 2 building and over energized electrical equipment. A plastic tent was installed by maintenance personnel to protect the electrical equipment. Based on the inspectors' concerns, licensee personnel completed a walkdown of the other emergency diesel building to identify whether similar rainwater intrusion was occurring. Maintenance personnel corrected the condition by removing debris which had clogged the Unit 2 roof drains. This issue was entered into the licensee's corrective action program as Nuclear Notifications NN 201393414 and NN 201174566.

The performance deficiency is more than minor and is therefore a finding because it is associated with the protection against external events 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 NRC Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance because it did not represent a loss of system safety function, nor actual loss of safety function of a single train, and it did not screen as potentially risk significant due to flooding or severe weather because the potentially degraded equipment was not specifically designed to mitigate flooding or severe weather nor would it contribute to external event initiated accident sequences. The finding was determined to have a crosscutting aspect in the area of human performance associated with the component of work control because the licensee did not plan and coordinate work activities consistent with nuclear safety. Specifically, the licensee did not plan or implement preventative maintenance for roof drains to support long-term equipment reliability by limiting reliance on manual actions, such as plastic tents to protect plant equipment during the winter rainy season. Maintenance scheduling was more reactive than preventative.

Inspection Report# : [2011002](#) (*pdf*)

Significance:  Oct 08, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Comply with Technical Specifications

The inspectors identified a noncited violation of Technical Specification 3.5.4, "Refueling Water Storage Tank," for the failure of licensee personnel to enter the technical specification or complete the associated required action prior to the appropriate completion time when the refueling water storage tank (RWST) was inoperable. Specifically, the licensee did not enter the appropriate technical specification for an inoperable RWST when it was potentially not capable of performing its specified safety function while aligned to non-seismic spent fuel pool cooling and

purification system for cleanup. On October 8, 2010, operations personnel placed administrative controls on system isolation valves to prevent the RWST from being aligned to non-seismic systems. This issue was entered into the licensee's corrective action program as Nuclear Notifications NNs 201133936 and NN 201135761.

The performance deficiency was determined to be more than minor and is therefore a finding because it is associated with the design control attribute of the Mitigating Systems Cornerstone and affects the associated cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the NRC Inspection Manual 0609, Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the inspectors determined that a Phase 2 evaluation was required because the finding involved the potential loss of safety function. A Phase 2 significance determination was performed using the pre-solved worksheet from the "Risk Informed Inspection Notebook for the San Onofre Nuclear Generating Station," Revision 2.01a. Assuming both trains of high pressure injection were inoperable, the finding was Yellow, which warranted further review. Therefore, the analyst performed a bounding Phase 3 significance determination. Based on the licensee's PRA calculation, consultation with licensee PRA personnel, and an understanding of the bounding and conservative assumptions incorporated in the analysis, the analyst determined that the licensee's delta-CDF result of $7.6E-7/\text{yr}$ was clearly bounding, that the large early release frequency was negligible, and that the significance of the issue was very low. Since the apparent root cause determined the cause was due to weaknesses in the design change processes early in plant operations (between 1982 and 1995), and the licensee's program has improved with respect to performing design changes, the inspectors determined that this finding was not reflective of current performance and therefore did not have a crosscutting aspect associated with it.

Inspection Report# : [2011002](#) (pdf)

Significance:  Sep 23, 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)].

Inspection Report# : [2010004](#) (pdf)

Significance:  Sep 23, 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.

Inspection Report# : [2010004](#) (pdf)

Significance:  Aug 16, 2010

Identified By: NRC

Item Type: VIO Violation

Failure to Ensure At Least One Train of Equipment Necessary to Achieve Hot Shutdown Conditions Is Free of Fire Damage

The team identified a cited violation of License Condition 2.C(14), "Fire Protection," for failure to correct a noncompliance. Specifically, Inspection Report 05000361;362/2007008 documented a noncompliance involving the failure to ensure that at least one train of safe shutdown equipment would remain free from fire damage in each fire area. The NRC exercised discretion not to cite this violation at that time because the licensee met the criteria described in Enforcement Guidance Memorandum 98-002, Revision 2, and Supplement 2 to that revision. Enforcement Guidance Memorandum 07-004 superseded Enforcement Guidance Memorandum 98-002 and required licensees to complete corrective actions for noncompliances related to post-fire operator manual actions by March 6, 2009. This violation is being cited due to the failure to complete corrective actions and restore compliance within the required time. This finding was entered into the licensee's corrective action program as Notification NN 200940265.

The failure to promptly restore adequate fire protection and/or separation of required safe shutdown systems was a performance deficiency. This performance deficiency was more than minor because it was associated with the protection against external factors (fire) attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events in order to prevent undesirable consequences. Because the violation involved multiple fire areas, the team could not evaluate this issue using Phase 2 of Inspection Manual Chapter 0609, Appendix F, and a Phase 3 significance determination process risk assessment was performed by a senior reactor analyst. The finding was determined to have very low risk significance (Green), with a delta-CDF of 3.2E-8/yr, because of a combination of the availability of long recovery times for feasible operator manual actions and low-probability fire damage scenarios in the nine fire areas with fire sources which could potentially damage cables of required safe shutdown components. This finding involved a cross-cutting aspect in the decision-making component in the human performance area because the licensee failed to make a risk-significant decision using a systematic process when considering the scheduling of corrective actions.

Inspection Report# : [2010007](#) (pdf)

Significance:  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.

Inspection Report# : [2010004](#) (*pdf*)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : October 14, 2011