



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV
612 EAST LAMAR BLVD, SUITE 400
ARLINGTON, TEXAS 76011-4125

November 5, 2009

EA 09-270

Mr. Ross T. Ridenoure
Senior Vice President and
Chief Nuclear Officer
Southern California Edison Company
San Onofre Nuclear Generating Station
P.O. Box 128
San Clemente, CA 92674-0128

SUBJECT: SAN ONOFRE NUCLEAR GENERATING STATION – NRC INTEGRATED
INSPECTION REPORT 05000361/2009004 and 05000362/2009004, AND
NOTICE OF VIOLATION

Dear Mr. Ridenoure:

On September 23, 2009, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your San Onofre Nuclear Generating Station, Units 2 and 3 facility. The enclosed integrated inspection report documents the inspection findings, which were discussed on September 24, 2009, with you, and other members of your staff.

The inspections examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

One violation is cited in the enclosed Notice of Violation and the circumstances surrounding it are described in detail in the subject inspection report. The violation involved the failure of work control and operations personnel to include maintenance activities in or near the electrical switchyard and offsite power components in the on-line risk assessment (EA-09-270). Although determined to be of very low safety significance (Green), this violation is being cited in the Notice because not all of the criteria specified in Section VI.A.1 of the NRC Enforcement Policy for a noncited violation were satisfied. Specifically, San Onofre Nuclear Generating Station failed to restore compliance within a reasonable time after the violation was first identified in NRC Inspection Report 05000361; 05000362/2009003. You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

This report documents four additional NRC identified and/or self-revealing findings of very low safety significance (Green). All of these findings were determined to involve violations of NRC requirements. However, because of the very low safety significance and because they are entered into your corrective action program, the NRC is treating these findings as noncited violations, consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest the violations or the significance of the noncited violations, you should provide a response within

30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001, with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 612 E. Lamar Blvd, Suite 400, Arlington, Texas, 76011-4125; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at the San Onofre Nuclear Generating Station facility. In addition, if you disagree with the characterization of any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region IV, and the NRC Resident Inspector at San Onofre Nuclear Generating Station. The information you provide will be considered in accordance with Inspection Manual Chapter 0305.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, and its enclosure, will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Michael C. Hay, Chief
Project Branch D
Division of Reactor Projects

Dockets: 50-361, 50-362
Licenses: NPF-10, NPF-15

Enclosures: Notice of Violation and
NRC Inspection Report 05000361/2009004 and 05000362/2009004
w/Attachment: Supplemental Information

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See next page

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JReynoso	GWarnick	DAllen	MHaire	RLKellar	NFO'Keefe
/RA MCH for/	/RA MCH for/	/RA MHay for/	/RA RDeese/	/RA/	/RA/
10/23/2009	10/23/2009	10/29/2009	10/26/2009	10/22/2009	10/22/2009
C:DRS/OB	C:DRS/PSB1	C:DRS/PSB2	C:DRP/D		
RELantz	MPShannon	GEWerner	MHay		
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10/22/2009	10/22/2009	10/30/2009	11/05/2009		

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NOTICE OF VIOLATION

Southern California Edison Company
San Onofre Nuclear Generating Station

Docket No: 50-361
License No: NPF-10
EA 09-270

During an NRC inspection conducted on June 24 through September 23, 2009, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

Title 10 CFR 50.65(a)(4), states in part, that before performing maintenance activities (including but not limited to surveillance, postmaintenance testing, and corrective and preventive maintenance), the licensee shall assess and manage the increase in risk that may result from the proposed maintenance activities.

Contrary to the above, on August 25-27, 2009, work control and operations personnel failed to adequately assess and manage the increase in risk associated with maintenance activities. Specifically, maintenance activities in or near the electrical switchyard and offsite power components were not included in the on-line risk assessment.

This violation is associated with a Green Significance Determination Process finding.

Pursuant to the provisions of 10 CFR 2.201, Southern California Edison Company is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001 with a copy to the Regional Administrator, Region IV, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to Notice of Violation EA-09-270," and should include: (1) the reason for the violation, or, if contested, the basis for disputing the violation or severity level, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC website at www.nrc.gov/reading-rm/pdr.html or www.nrc.gov/reading-rm/adams.html, to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a

redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the basis for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated this 5th day of November 2009.

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 50-361, 50-362

License: NPF-10, NPF-15

Report: 05000361/2009004 and 05000362/2009004

Licensee: Southern California Edison Co. (SCE)

Facility: San Onofre Nuclear Generating Station, Units 2 and 3

Location: 5000 S. Pacific Coast Hwy
San Clemente, California

Dates: June 24, 2009, through September 23, 2009

Inspectors: I. Anchondo, Reactor Inspector
T. Buchanan, Project Engineer
A. Fairbanks, Reactor Inspector
S. Makor, Senior Reactor Inspector
C. Osterholtz, Reactor Inspector
J. Reynoso, Resident Inspector
G. Warnick, Senior Resident Inspector
M. Young, Reactor Inspector

Approved By: Michael C. Hay, Chief
Project Branch D
Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000361/2009004, 05000362/2009004; 06/24/2009 – 09/23/2009; San Onofre Nuclear Generating Station, Units 2 and 3, Integrated Resident and Regional Report; Adv. Weather.; Maint. Risk; Postmaint. Test; Event Follow-up.

The report covered a 3-month period of inspection by resident inspectors and an announced base line inspection by regional based inspectors. One cited violation and four Green noncited violations and of significance were identified. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 0609, "Significance Determination Process." Findings for which the significance determination process does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified Findings and Self-Revealing Findings

Cornerstone: Initiating Events

- Green. 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 1×10^{-6} and 1×10^{-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)](Section 1R13).

Cornerstone: Mitigating Systems

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

The failure of licensing personnel to submit revisions to the Updated Final Safety Analysis Report to describe changes to the Unit 2 safety equipment building emergency core cooling pump room piping penetration that were in place for more than 24 months was a performance deficiency. The finding was determined to be applicable to traditional enforcement because the NRC's ability to perform its regulatory function was potentially impacted by the licensee's failure to update the Updated Final Safety Analysis Report in a timely manner. The finding was determined to be a Severity Level IV violation in accordance with Section D.6 of Supplement I of the NRC Enforcement Policy. The finding is more than minor because the degraded flood barrier is associated with the external events attribute of the mitigating systems cornerstone and adversely affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding did not result in a loss of operability or functionality. This finding has a crosscutting aspect in the area of problem identification and resolution because the licensee failed to take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity [P.1(d)](Section 1R01).

- Green. The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to follow corrective action program procedures to address deficiencies associated with postmaintenance testing. Specifically, between April 20 and May 14, 2009, the licensee failed to follow Procedure SO123-XX 1 ISS2, "Notification Initiation and Processing," Revision 23, to report a problem associated with the adequacy of postmaintenance testing until prompted by the inspectors. Emergency chiller ME336 was restored to operable on April 19, following a maintenance evolution, then declared

inoperable on April 20, approximately 8 hours later when operations personnel identified an operability issue associated with the equipment configuration. However, licensee personnel failed to recognize that the postmaintenance testing may have been inadequate, in that, emergency chiller ME336 was returned to service in an inoperable condition, until prompted by the inspectors on several occasions between April 20 and May 13. This finding was entered into the licensee's corrective action program as Nuclear Notification NN 200427700.

The failure to follow corrective action program procedures to identify and correct a condition adverse to quality was a performance deficiency. The finding is greater than minor because the failure to identify and correct deficiencies associated with postmaintenance testing would have the potential to lead to a more significant safety concern if left uncorrected. The finding is associated with the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding did not affect both trains of any single mitigating system or represent an actual loss of a safety function of a single train for greater than its technical specification allowed outage time. The finding has a crosscutting aspect in the area of problem identification and resolution associated with corrective action program because the licensee failed to identify and correct deficiencies associated with inadequate postmaintenance testing at a threshold commensurate with the safety significance [P.1(a)](Section 1R19).

- Green. A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion IV, "Procurement Document Control," was identified for the failure of procurement engineering personnel to include requirements necessary to assure adequate quality in a safety-related component. Specifically, on June 2, 2006, the procurement document did not specify limits on the amount of moisture allowed in the hydraulic fluid used during refurbishment of hydraulic dump valves at an off-site vendor, resulting in a main feedwater isolation valve and a main steam isolation valve being inoperable for greater than their technical specification allowed outage time. These occurrences were documented in Licensee Event Report 2007-004-00 and Unit 2 was shutdown in order to determine the extent of condition. The licensee determined these valve failures were caused by corrosion due to the introduction of moisture-contaminated Fyrquel® hydraulic fluid at the vendor facility. The procurement documents used to contract the replacement and refurbishment services did not include any moisture limits, nor did the vendor documents which were reviewed and approved by the licensee, although these limits were specified in both maintenance and operations procedures at the time. This finding was entered into the licensee's corrective action program as Action Request AR 071000901.

The failure to include moisture limits in the procurement documents in order to maintain the quality of a safety-related component was a performance deficiency. The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences.

The inspectors evaluated the issue using the Significance Determination Process Phase 1 Screening Worksheet for the Initiating Events, Mitigating Systems, and Barriers Cornerstones provided in Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings." The inspectors determined that this finding represented a loss of safety function of a single train for greater than the technical specification allowed outage time. This required that a Phase 2 estimation be completed. Because the Phase 2 risk-informed notebook did not include appropriate targets for the equipment conditions at the time of discovery, the senior reactor analyst determined that a Phase 3 analysis was required. The analyst calculated a total Δ CDF of 1.5×10^{-8} , therefore this finding is of very low safety significance. A crosscutting aspect is not assigned since the cause of the performance deficiency is not indicative of current performance (Section 4OA3).

Cornerstone: Emergency Preparedness

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

The failure to notify the NRC of an event in the time required by 10 CFR 50.72 was a performance deficiency. The finding was determined to be applicable to traditional enforcement because the NRC's ability to perform its regulatory function was potentially impacted by the licensee's failure to report the event. The finding is associated with the emergency preparedness cornerstone. The finding was determined to be a Severity Level IV violation in accordance with Section D of Supplement I of the NRC Enforcement Policy. The finding is not suitable for evaluation using the significance determination process, but has been reviewed by NRC management and is determined to be a finding of very low safety significance. The finding has a crosscutting aspect in the area of problem identification and resolution associated with corrective action program because computer engineering personnel failed implement the corrective action program at an appropriate threshold for identified issues [P.1(a)](Section 4OA3).

B. Licensee-Identified Violations

None

REPORT DETAILS

Summary of Plant Status

Unit 2 operated at essentially full power until July 24, 2009, when power was reduced to 90 percent, and further reduced to 60 percent on July 25, 2009, to maintain condenser vacuum due to heavy intake of seaweed causing restrictions in circulation water cooling flow. The unit returned to essentially full power on July 26. On September 9, 2009, Unit 2 reduced power to 85 percent to perform a scheduled maintenance activity involving heat treatment of the circulating water system. During this activity a circulating water gate failed to reposition properly and the heat treatment was aborted. Unit 2 returned to full power and repairs were made to the circulating water gate. On September 13, 2009, Unit 2 reduced power to 94 percent to perform the rescheduled heat treatment. During the heat treatment, a circulating water gate failed to reposition properly resulting in a loss of condenser vacuum followed by a turbine-reactor trip. Following circulating water gate repairs, Unit 2 returned to essentially full power on September 17, and remained there for the duration of the inspection period.

On July 25, 2009, Unit 3 reduced power to 90 percent to maintain condenser vacuum due to heavy intake of seaweed causing restrictions in circulation water cooling flow. The unit returned to essentially full power on July 26 and remained there for the duration of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.1 Readiness for Impending Adverse Weather Conditions

a. Inspection Scope

On July 25, 2009, an advisory for heavy surf conditions with extreme tidal swings was issued. The inspectors observed the licensee's preparations, planning and response for the expected weather conditions. Severe weather conditions resulted in ingress of seaweed and kelp in the circulating water system. The inspectors reviewed licensee procedures and discussed potential compensatory measures with control room personnel. The inspectors focused on plant management's actions for implementing the station's procedures for ensuring adequate personnel for safe plant operation and emergency response would be available. The inspectors conducted a site walkdown including walkdowns of various plant structures and systems, including portions of the screen and rake intake systems and saltwater cooling system, to check for maintenance or other apparent deficiencies that could affect system operations during the severe weather. The inspectors also reviewed corrective action program items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their corrective action program in accordance with station corrective action procedures. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one readiness for impending adverse weather condition sample as defined in IP 71111.01-05.

b. Findings

No findings of significance were identified.

.2 Readiness to Cope with External Flooding

a. Inspection Scope

Between August 12-20, 2009, the inspectors evaluated the design, material condition, and procedures for coping with the design basis probable maximum flood. The evaluation included a review to check for deviations from the descriptions provided in the Updated Final Safety Analysis Report (UFSAR) for features intended to mitigate the potential for flooding from external factors. As part of this evaluation, the inspectors checked for obstructions that could prevent draining, and determined that barriers required to mitigate the flood were in place and operable. Additionally, the inspectors performed a walkdown of the Unit 2 safety equipment building emergency core cooling pump rooms to identify any evidence of external flooding. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one external flooding sample as defined in IP 71111.01-05.

b. Findings

Introduction. The inspectors identified a Severity Level IV noncited violation of 10 CFR 50.71(e)(4) for the failure of licensing personnel to submit revisions to the UFSAR reflecting changes to the Unit 2 safety equipment building emergency core cooling pump room piping penetration that were in place for more than 24 months.

Description. On August 12, 2009, the inspectors performed a walkdown of the Unit 2 safety equipment building emergency core cooling pump room. During the walkdown, the inspectors noted water leaking from the piping penetration, being collected in a catch basin, and directed through tubing to a nearby floor drain. Action Request AR 031001064 and Maintenance Order MO 04091323000 documented that this configuration had been in place since July 25, 2005. Procedure SO123-XXX-5.2, "Control of Licensing Document Changes," Revision 11, Steps 6.1.3, 6.1.5 and Attachment 3, Steps II and III.G, stated, in part, that the licensee UFSAR updates, which shall not exceed a 24 month interval, shall include all 10 CFR 50.59 evaluations that change the description of any structure, system, or component from the way it is described in the UFSAR that was implemented six or more months prior to the submittal date.

Updated Final Safety Analysis Report Table 3.4-1 stated that the penetration was sealed against flood water by one or more of the following devices: waterstops, boots, conduit pressure rings and sealing grommet, duct terminator, pipes or sleeve poured in concrete. The original design of the plant had a waterstop providing the UFSAR specified floodwater sealing function. In October 1996, the waterstop had degraded, and a change to the licensee's plant flood analysis review stated that, "To satisfy the water barrier requirement, a BISCO® boot seal shall be installed on the safety equipment building side of the wall for each penetration." In October 2003, Action

Request AR 031001064 was written documenting that this BISCO® seal was degraded. In July, 2005, the BISCO® seal (for sealing against flood) and the fire barrier seal were removed to allow installation of a new seal that would perform both the flood sealing and fire barrier functions. This new seal could not be installed because of the continued water leakage through the penetration, and the penetration was left without an installed flood seal in the safety equipment building emergency core cooling system train B pump room. An interim 10 CFR 50.59 evaluation was performed stating that the temporary removal of this seal was allowed. The UFSAR was not updated to reflect this configuration change, which was in place for greater than the 24 month interval for UFSAR updates.

Analysis. The failure of licensing personnel to submit revisions to the UFSAR to describe changes to the Unit 2 safety equipment building emergency core cooling pump room piping penetration that were in place for more than 24 months was a performance deficiency. The finding was determined to be applicable to traditional enforcement because the NRC's ability to perform its regulatory function was potentially impacted by the licensee's failure to update the UFSAR in a timely manner. The finding was determined to be a Severity Level IV violation in accordance with Section D.6 of Supplement I of the NRC Enforcement Policy. The finding is more than minor because the degraded flood barrier is associated with the external events attribute of the mitigating systems cornerstone and adversely affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding did not result in a loss of operability or functionality. This finding has a crosscutting aspect in the area of problem identification and resolution because the licensee failed to take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity [P.1(d)].

Enforcement. As required, in part, by 10 CFR 50.71(e)(4) UFSAR revisions must be filed annually or six months after each refueling outage provided the interval between successive updates does not exceed 24 months. By letter dated April 27, 1999, the licensee obtained an exemption by the NRC from certain requirements of 10 CFR 50.71(e)(4) and is required to update the UFSAR six months after each Unit 3 refueling outage and reflect all changes up to a maximum of six months prior to the date of filing. The Unit 3 outages ended in December 2006 and December 2008. Procedure SO123-XXX-5.2 stated, in part, that the licensee UFSAR updates shall include all 10 CFR 50.59 evaluations that change the description of any structure, system, or component from the way it is described in the UFSAR that was implemented six or more months prior to the submittal date.

Contrary to the above, for the reporting periods between (1) July 2005 and June 2007; and (2) July 2007 and June 2009, licensing personnel failed to submit complete revisions to the UFSAR reflecting the removal of the boot seal from the Unit 2 emergency core cooling system train B pump room penetration. Specifically, this seal was removed in July 2005 and was left in this condition as discovered by the inspectors in August 2009. Because the finding is of very low safety significance and has been entered into the corrective action program as Nuclear Notification NN 200550985, this

violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy: NCV 0500361/2009004-01, "Failure to Submit Complete Revisions to UFSAR for Penetration Seal Changes."

1R04 Equipment Alignments (71111.04)

Partial Walkdowns

a. Inspection Scope

The inspectors performed partial system walkdowns of the following risk-significant systems:

- July 21, 2009, Unit 3, component cooling water system train A while train B was out of service for maintenance
- August 24, 2009, Units 2 and 3, emergency chilled water system train B
- September 15, 2009, Unit 3, containment spray system train A

The inspectors selected these systems based on their risk significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could affect the function of the system, and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, UFSAR, technical specification requirements, administrative technical specifications, outstanding work orders, nuclear notifications, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also walked down accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program with the appropriate significance characterization. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of three partial system walkdown samples as defined by IP 71111.04-05.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

.1 Quarterly Fire Inspection Tours

a. Inspection Scope

The inspectors conducted fire protection walkdowns that were focused on availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- June 30, 2009, Unit 2, penetration and fuel handling rooms 107 through 112
- July 14, 2009, Units 2 and 3, auxiliary control building elevation 50 foot
- July 17, 2009, Unit 2, fuel handling building elevation 63 foot
- August 24, 2009, Unit 3, saltwater cooling pump room and pipe tunnel
- August 31, 2009, Unit 2, safety equipment building elevations (-)15 foot 6 inches to 8 foot
- September 16, 2009, Unit 3, auxiliary feedwater pump room
- September 22, 2009, Unit 2, safety equipment building rooms 6 through 14 and 16 through 26

The inspectors reviewed areas to assess if licensee personnel had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant; effectively maintained fire detection and suppression capability; maintained passive fire protection features in good material condition; and had implemented adequate compensatory measures for out of service, degraded or inoperable fire protection equipment, systems, or features, in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to affect equipment that could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. Using the documents listed in the attachment, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed, that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during this inspection were entered into the licensee's corrective action program. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of seven quarterly fire-protection inspection samples as defined by IP 71111.05-05.

b. Findings

No findings of significance were identified.

.2 Annual Fire Protection Drill Observation

a. Inspection Scope

On September 2, 2009, the inspectors observed a fire brigade activation in which the licensee simulated a fire in Unit 3 saltwater cooling pump room. The observation evaluated the readiness of the plant fire brigade to fight fires. The inspectors verified that the licensee staff identified deficiencies; openly discussed them in a self-critical manner at the drill debrief, and took appropriate corrective actions. Specific attributes evaluated were: (1) proper wearing of turnout gear and self-contained breathing apparatus; (2) proper use and layout of fire hoses; (3) employment of appropriate fire fighting techniques; (4) sufficient firefighting equipment brought to the scene; (5) effectiveness of fire brigade leader communications, command, and control; (6) search for victims and propagation of the fire into other plant areas; (7) smoke removal operations; (8) utilization of preplanned strategies; (9) adherence to the pre planned drill scenario; and (10) drill objectives.

These activities constitute completion of one annual fire-protection inspection sample as defined by IP 71111.05-05.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (71111.07A)

a. Inspection Scope

The inspectors reviewed licensee programs, verified performance against industry standards, and reviewed critical operating parameters and maintenance records for the Unit 2 shutdown cooling heat exchanger. The inspectors verified that performance tests were satisfactorily conducted for heat exchangers/heat sinks and reviewed for problems or errors; the licensee utilized the periodic maintenance method outlined in Electric Power Research Institute Report NP 7552, "Heat Exchanger Performance Monitoring Guidelines;" the licensee properly utilized biofouling controls; the licensee's heat exchanger inspections adequately assessed the state of cleanliness of their tubes; and the heat exchanger was correctly categorized under 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one heat sink inspection sample as defined by IP 71111.07-05.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

a. Inspection Scope

On September 21, 2009, the inspectors observed licensed operator requalification training in the plant's simulator involved in training activities related to the Unit 2 refueling preparations, to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems, and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

- Licensed operator performance
- Crew's clarity and formality of communications
- Crew's ability to take timely actions in the conservative direction
- Crew's prioritization, interpretation, and verification of annunciator alarms
- Crew's correct use and implementation of abnormal and emergency procedures
- Control board manipulations
- Oversight and direction from supervisors
- Crew's ability to identify and implement appropriate technical specification actions

The inspectors compared the crew's performance in these areas to pre-established operator action expectations and successful critical task completion requirements. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one quarterly licensed-operator requalification program sample as defined in IP 71111.11.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors evaluated degraded performance issues involving the following risk significant systems:

- July 30, 2009, Unit 3, atmospheric dump valve 3HV8421 failed to pass surveillance stroke test
- August 11, 2009, Unit 3, piping plugged around steam to auxiliary feedwater pump turbine strainer 3F-904 drain valve S31301MU691

The inspectors reviewed events such as where ineffective equipment maintenance has resulted in valid or invalid automatic actuations of engineered safeguards systems and independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- Implementing appropriate work practices
- Identifying and addressing common cause failures
- Scoping of systems in accordance with 10 CFR 50.65(b)
- Characterizing system reliability issues for performance
- Charging unavailability for performance
- Trending key parameters for condition monitoring
- Ensuring proper classification in accordance with 10 CFR 50.65(a)(1) or (a)(2)
- Verifying appropriate performance criteria for structures, systems, and components classified as having an adequate demonstration of performance through preventive maintenance, as described in 10 CFR 50.65(a)(2), or as requiring the establishment of appropriate and adequate goals and corrective actions for systems classified as not having adequate performance, as described in 10 CFR 50.65(a)(1)

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were entered into the corrective action program with the appropriate significance characterization. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of two quarterly maintenance effectiveness samples as defined in IP 71111.12-05.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

a. Inspection Scope

The inspectors reviewed licensee personnel's evaluation and management of plant risk for the maintenance and emergent work activities affecting risk-significant and safety-related equipment listed below to verify that the appropriate risk assessments were performed prior to removing equipment for work:

- July 7, 2009, Units 2 and 3, emergency chilled water system train A compression tank level anomalies described in Nuclear Notification NN 200488993

- July 14, 2009, Unit 2, maintenance per Maintenance Order MO 800310673 in distribution panel 2Q0612 for non-class IE instrument bus 2
- July 29, 2009, Unit 2, emergency diesel generator train A inoperability due to load spikes observed during surveillance testing
- August 13-14, 2009, Unit 2, lifting and rigging preparations for heavy lifting associated with the steam generator replacement outage
- August 24, 2009, Units 2 and 3, emergency chiller ME335 maintenance outage
- August 25, 2009, Unit 2, steam generator replacement pre-outage activities near safety-related reserve auxiliary transformers
- August 26, 2009, Unit 2, tendon cable pull and spool work activities near 220 kilovolt reserve auxiliary transformers

The inspectors selected these activities based on potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that licensee personnel performed risk assessments as required by 10 CFR 50.65(a)(4) and that the assessments were accurate and complete. When licensee personnel performed emergent work, the inspectors verified that the licensee personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed the technical specification requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of seven maintenance risk assessments and emergent work control inspection samples as defined by IP 71111.13-05.

b. Findings

Introduction. The inspectors identified a Green cited violation of 10 CFR 50.65(a)(4) for the failure of work control and operations personnel to include maintenance activities in or near the electrical switchyard and offsite power components in the on-line risk assessment.

Description. August 25-27, 2009, the inspectors observed contract personnel performing steam generator replacement preparation activities, which involved man-lift and crane operations in the vicinity of the Unit 2 reserve auxiliary transformers and overhead transmission lines. The reserve auxiliary transformers are components associated with the offsite power supply to safety-related electrical buses. The inspectors questioned whether these maintenance activities that could increase the likelihood of initiating events were considered in the Unit 2 on-line risk assessment. The inspectors determined that the risk impacting maintenance activities were not specifically included in the overall on-line plant risk assessment in accordance with Procedures SO123-XX-10, "Maintenance Rule Risk Management Program

Implementation," Revision 4, and SO23-XX-8, "Critical Activities Work Process Manual," Revision 2.

The inspectors identified NCV 05000361; 05000362/2009003-04, for a similar performance deficiency that occurred between March 26 and April 16, 2009. The inspectors reviewed corrective actions associated with the apparent cause evaluation for Nuclear Notification NN 200402733 to determine why the licensee failed to restore compliance within a reasonable time following identification of NCV 05000361; 05000362/2009003-04. The inspectors observed that the immediate action to restore compliance only included the use of required reading and work week meetings to instruct work management personnel of the lessons learned from the apparent cause evaluation, and the expectation to use Procedures SO123-XX-10 and SO23-XX-8 for performing qualitative risk assessment of work activities. The immediate action was completed on June 9, 2009. The inspectors concluded that the immediate action to restore compliance was inadequate since steam generator replacement preparation activities in the vicinity of the Unit 2 reserve auxiliary transformers continued without a means to ensure that operations personnel were aware of the risk impacting maintenance activities for incorporation into the daily on-line plant risk assessment.

The inspectors observed that other corrective actions were identified and planned as documented in the apparent cause evaluation. The additional corrective actions included revisions to Procedures SO123-XX-10, SO23-XX-8, and SO123-XX-11, "Switchyard Work Performance," to improve the ability of work management personnel to recognize work activities that have the potential to adversely affect structures, systems, and components and increase plant risk; and revamp the risk assessment and management program for control of maintenance activities to achieve performance consistent with industry best practices for complying with 10 CFR 50.65(a)(4). However, these additional corrective actions had not been completed at the time of the inspectors' observations on August 25-27, 2009.

Noncited Violation NCV 05000361; 05000362/2009003-04 had a crosscutting aspect in the area of human performance associated with resources because the licensee did not ensure that procedures and processes were adequate to properly assess and manage the risk associated with on-line maintenance [H.2(c)]. The inspectors observed that the additional, longer-term, corrective actions that were still in development at the time of the inspectors' observations on August 25-27, 2009, addressed the crosscutting aspect to correct the inadequate procedures and processes. However, no immediate or interim actions were implemented to compensate for the inadequate resources to ensure compliance with 10 CFR 50.65(a)(4) while risk impacting steam generator replacement preparation activities continued.

Nuclear Notification NN 200556120 was initiated to document the inspectors' observations on August 25-27, 2009. A white paper was included in the nuclear notification to delineate interim and long-term actions to restore compliance with 10 CFR 50.65(a)(4) for the continuation of steam generator replacement preparation activities. The interim actions included improved communications and coordination between steam generator replacement project, operations, and work management personnel to ensure that operations personnel were aware of the risk impacting maintenance activities for incorporation into the daily on-line plant risk assessment.

Analysis. 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. This finding is associated with the initiating events cornerstone. In accordance with Inspection Manual Chapter 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," Step 4.1.1, the inspectors had the licensee 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 1×10^{-6} and 1×10^{-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)].

Enforcement. Title 10 CFR 50.65(a)(4), states in part, that before performing maintenance activities (including but not limited to surveillance, postmaintenance testing, and corrective and preventive maintenance), the licensee shall assess and manage the increase in risk that may result from the proposed maintenance activities. Contrary to the above, on August 25-27, 2009, work control and operations personnel failed to adequately assess and manage the increase in risk associated with maintenance activities. Specifically, maintenance activities in or near the electrical switchyard and offsite power components were not included in the on-line risk assessment. This finding was of very low safety significance and was entered into the licensee's corrective action program as Nuclear Notifications NNs 200556120 and 200559128. 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: VIO 05000361/2009004-02, "Failure to Assess and Manage Risk for Maintenance That Could Impact Offsite Power Components."

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the following issues:

- June 25, 2009, Unit 2, excore channel D log power out of tolerance data
- July 10, 2009, Units 2 and 3, operability impact of a potential gas bubble in the emergency chilled water system train A
- August 3, 2009, Units 2 and 3, control room intake air trains A and B radiation instrumentation RIC7824 digital control power supply operability

- August 5, 2009, Unit 2, emergency diesel generator train A load spike while synchronized to the grid
- August 11, 2009, Unit 2, safety injection tank T009 inventory loss due to check valve leakage results in gas accumulation in the safety injection header
- August 20, 2009, Unit 2, ground water leaking into safety equipment building room 002 evaluation of impact to safety-related equipment

The inspectors selected these potential operability issues based on the risk-significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that technical specification operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the technical specifications and UFSAR to the licensee's evaluations, to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors also reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of six operability evaluations inspection samples as defined in IP 71111.15-05.

b. Findings

No findings of significance were identified.

1R17 Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications (71111.17)

a. Inspection Scope

The inspectors reviewed the effectiveness of the licensee's implementation of evaluations performed in accordance with 10 CFR 50.59, "Changes, Tests, and Experiments," and changes, tests, experiments, or methodology changes that the licensee determined did not require 10 CFR 50.59 evaluations. The inspection procedure requires the review of 6 to 12 licensee evaluations required by 10 CFR 50.59, 12 to 25 changes, tests, or experiments that were screened out by the licensee and 5 to 15 permanent plant modifications.

The inspectors reviewed 8 evaluations required by 10 CFR 50.59; 15 changes, tests, and experiments that were screened out by licensee personnel; and 12 permanent plant modifications. Document numbers of the evaluations, changes, and modifications reviewed are listed in the attachment.

The inspectors verified that when changes, tests, or experiments were made, that evaluations were performed in accordance with 10 CFR 50.59 and that licensee personnel had appropriately concluded that the change, test or experiment can be accomplished without obtaining a license amendment. The inspectors also verified that safety issues related to the changes, tests, or experiments were resolved. The inspectors reviewed changes, tests, and experiments that licensee personnel determined did not require evaluations and verified that the licensee personnel's conclusions were correct and consistent with 10 CFR 50.59. The inspectors also verified that procedures, design, and licensing basis documentation used to support the changes were accurate after the changes had been made.

In the inspection of modifications the inspectors verified that supporting design and license basis documentation had been updated accordingly and was still consistent with the new design. The inspectors verified that procedures, training plans and other design basis features had been adequately accounted for and updated. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one sample as defined in Inspection Procedure 71111.17-05. Credit for these activities may be taken for part of NRC inspection Procedure 50001, "Steam Generator Replacement."

b. Findings

No findings of significance were identified.

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed the following postmaintenance activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- April 19, 2009, Units 2 and 3, return to service testing for emergency chiller ME336 following planned maintenance
- July 28, 2009, Unit 2, replace annunciator power supplies PS1 and PS2 for emergency diesel generator train A per Maintenance Order MO 800321529
- August 14, 2009, Unit 2, high pressure safety injection pump train B test following replacement of leaking oil sight glass and safety valve along with routine maintenance on pump shaft coupling
- August 14, 2009, Unit 2, low pressure safety injection pump train B test following repair of leaking fitting downstream of flow orifice 2F06365 and breaker 2A0607 preventive maintenance
- August 25, 2009, Units 2 and 3, emergency chiller ME335 return to service testing following maintenance outage

- September 8, 2009, Unit 3, charging pump 3P190 return to service following shaft replacement

The inspectors selected these activities based upon the structure, system, or component's ability to affect risk. The inspectors evaluated these activities for the following (as applicable):

- The effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed
- Acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate

The inspectors evaluated the activities against the technical specifications, the UFSAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with postmaintenance tests to determine whether the licensee was identifying problems and entering them in the corrective action program and that the problems were being corrected commensurate with their importance to safety. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of six postmaintenance testing inspection samples as defined in IP 71111.19-05.

b. Findings

Introduction. The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to follow corrective action program procedures to address deficiencies associated with postmaintenance testing.

Description. On April 20, 2009, the inspectors reviewed the control room logs and operations shift manager turnover log and noted that emergency chiller ME336 had been returned to service, following a 7 day maintenance outage, on April 19 at 7:20 p.m. The inspectors also noted that an equipment operator found the compression tank level out of specification, which impacted the operability of emergency chiller ME336, approximately 8 hours later. Following identification of the equipment configuration deficiency, Nuclear Notification NN 200396895 was initiated to document the equipment condition. Subsequently, emergency chiller ME336 was declared inoperable, the sensing line for the compression tank was filled and vented, and the chiller was restored to operable 2 hours later at 5:35 a.m. Nuclear Notification NN 200396895 documented the equipment condition, but did not address any issues with potential postmaintenance testing inadequacies that may have failed to identify the configuration issue.

The inspectors reviewed the timeline of events for the restoration of emergency chiller ME336 and the associated maintenance orders to identify whether the postmaintenance testing was inadequate, such that, the equipment was returned to service in an inoperable condition. During the review, the inspectors noted that make-up relief valve

PSV9887A was replaced during the maintenance outage, but leaked during chiller restoration on April 19, at the completion of the maintenance outage. As a result of the leak, the equipment was re-drained to establish the necessary conditions for maintenance, and valve PSV9887A was reworked on an emergent basis by the fix-it-now team. Following the rework, emergency chiller ME336 was restored, tested, and declared operable on April 19 at 7:20 p.m.

The inspectors were concerned, based on their review, that the emergent rework on valve PSV9887A may have altered the planned restoration and testing sequence. Additionally, the inspectors were concerned that the postmaintenance testing may have failed to verify the equipment properly aligned, such that, the equipment was returned to service in an inoperable condition. The inspectors communicated their concerns regarding potential inadequacies associated with the emergent work plan and postmaintenance testing to licensee personnel on April 20, April 29, and again on May 13, however, no licensee review of the return to service sequence was performed and no nuclear notification was written. On May 14, 2009, in response to the inspectors' concerns, maintenance personnel performed a preliminary investigation and determined that emergency chiller ME336 was inappropriately returned to service in an inoperable condition, requiring additional evaluation in the corrective action program. Consequently, the licensee initiated Nuclear Notification NN 200427700 to evaluate the issues to identify and correct any human performance errors that may have contributed to the equipment configuration deficiencies that were not identified when restoring emergency Chiller ME336 to operable.

Analysis. The failure to follow corrective action program procedures to identify and correct a condition adverse to quality was a performance deficiency. The finding is greater than minor because the failure to identify and correct deficiencies associated with postmaintenance testing would have the potential to lead to a more significant safety concern if left uncorrected. The finding is associated with the mitigating systems cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding did not affect both trains of any single mitigating system or represent an actual loss of a safety function of a single train for greater than its technical specification allowed outage time. The finding has a crosscutting aspect in the area of problem identification and resolution associated with corrective action program because the licensee failed to identify and correct deficiencies associated with inadequate postmaintenance testing at a threshold commensurate with the safety significance [P.1(a)].

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that 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. Procedure SO123-XX-1 ISS2, "Notification Initiation and Processing," Revision 23, describes the requirements for reporting problems affecting plant equipment, programs, processes, procedures, and events to ensure that timely corrective actions are taken commensurate with the safety significance of the reported problem. Procedure SO123-XX-1 ISS2, Step 6.2.1, requires that, "An NN Notification **SHALL** be generated for all problems (events, failures, inappropriate actions,

deficiencies, or trends involving equipment, human performance, or programs contrary to safety, compliance or production) identified." Contrary to the above, between April 20 and May 14, 2009, the licensee failed to follow Procedure SO123-XX-1 ISS2, to report a problem associated with the adequacy of postmaintenance testing until prompted by the inspectors. Specifically, emergency chiller ME336 was restored to operable on April 19, following a maintenance evolution, then declared inoperable on April 20, approximately 8 hours later when operations personnel identified an operability issue associated with the equipment configuration. However, licensee personnel failed to recognize that the postmaintenance testing may have been inadequate, in that, emergency chiller ME336 was returned to service in an inoperable condition, until prompted by the inspectors on several occasions between April 20 and May 13. Because this finding is of very low safety significance and has been entered into the licensee's corrective action program as Nuclear Notification NN 200427700, this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000361; 05000362/2009004-03, "Failure to Follow Corrective Action Process for an Inadequate Postmaintenance Test."

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the UFSAR, procedure requirements, and technical specifications to ensure that the seven surveillance activities listed below demonstrated that the systems, structures, and/or components tested were capable of performing their intended safety functions. The inspectors either witnessed or reviewed test data to verify that the significant surveillance test attributes were adequate to address the following:

- Preconditioning
- Evaluation of testing impact on the plant
- Acceptance criteria
- Test equipment
- Procedures
- Jumper/lifted lead controls
- Test data
- Testing frequency and method demonstrated technical specification operability
- Test equipment removal
- Restoration of plant systems
- Fulfillment of ASME Code requirements
- Updating of performance indicator data

- Engineering evaluations, root causes, and bases for returning tested systems, structures, and components not meeting the test acceptance criteria were correct
- Reference setting data
- Annunciators and alarms setpoints.

The inspectors also verified that licensee personnel identified and implemented any needed corrective actions associated with the surveillance testing.

- July 2, 2009, Unit 3, component cooling water pump 3P026 comprehensive inservice test
- July 4, 2009, Units 2 reactor coolant system water inventory balance and leak detection surveillance
- July 4, 2009, Units 3, reactor coolant system water inventory balance and leak detection surveillance
- July 7, 2009, Unit 3, engineered safeguards feature test per Procedure SO23-3.43.30, "ESF Subgroup Relays K-112A, K-625A, and K-725A Semiannual Test," Revision 5
- July 21, 2009, Unit 3, emergency diesel generator train B surveillance per Procedure SO23-3-3.23, "Diesel Generator Monthly and Semi-Annual Testing," Revision 38
- August 13, 2009, Unit 2, containment spray pump 2P013 inservice testing
- September 8, 2009, Unit 2, emergency diesel generator train B semiannual surveillance test

Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of seven surveillance testing inspection samples as defined in IP 71111.22-05.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06)

Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine licensee emergency and simulator based drill on August 19, 2009, to identify any weaknesses and deficiencies in

classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the Emergency Operations Facility, Operations Support Center, and Technical Support Center to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the licensee drill critique to compare any inspector-observed weakness with those identified by the licensee staff in order to evaluate the critique and to verify whether the licensee staff was properly identifying weaknesses and entering them into the corrective action program. As part of the inspection, the inspectors reviewed the drill package and other documents listed in the attachment.

These activities constitute completion of one sample as defined in IP 71114.06-05.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

40A1 Performance Indicator Verification (71151)

.1 Data Submission Issue

a. Inspection Scope

The inspectors performed a review of the data submitted by the licensee for the 2nd Quarter 2009 performance indicators for any obvious inconsistencies prior to its public release in accordance with Inspection Manual Chapter 0608, "Performance Indicator Program."

This review was performed as part of the inspectors' normal plant status activities and, as such, did not constitute a separate inspection sample.

b. Findings

No findings of significance were identified.

.2 Mitigating Systems Performance Index - Residual Heat Removal System

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index - Residual Heat Removal System performance indicator for Units 2 and 3, for the period from the 3rd quarter 2008 through the 2nd quarter 2009. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, was used. The inspectors reviewed the licensee's operator narrative logs, issue reports, mitigating systems performance index derivation reports, event reports and NRC Integrated inspection reports for the period of July 2008 through June 2009, to validate the accuracy of the submittals. The inspectors reviewed the mitigating systems performance index

component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of two mitigating systems performance index residual heat removal system samples as defined by IP 71151-05.

b. Findings

No findings of significance were identified.

.3 Mitigating Systems Performance Index - Cooling Water Systems

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index - Cooling Water Systems performance indicator for Units 2 and 3, for the period from the 3rd quarter 2008 through the 2nd quarter 2009. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, was used. The inspectors reviewed the licensee's operator narrative logs, issue reports, mitigating systems performance index derivation reports, event reports and NRC integrated inspection reports for the period of July 2008 through June 2009, to validate the accuracy of the submittals. The inspectors reviewed the mitigating systems performance index component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of two mitigating systems performance index cooling water system samples as defined by IP 71151-05.

b. Findings

No findings of significance were identified.

.4 Reactor Coolant System Leakage

a. Inspection Scope

The inspectors sampled licensee submittals for the Reactor Coolant System Leakage performance indicator for Units 2 and 3, for the period from the 4th quarter 2008 through the 2nd quarter 2009. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained

in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, was used. The inspectors reviewed the licensee's operator logs, reactor coolant system leakage tracking data, issue reports, event reports and NRC integrated inspection reports for the period of October 2008 through June 2009, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of two reactor coolant system leakage samples as defined by IP 71151-05.

b. Findings

No findings of significance were identified.

40A2 Identification and Resolution of Problems (71152)

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Physical Protection

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

As part of the various base line inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during base line inspection activities and plant status reviews to verify that they were being entered into the licensee's corrective action program at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. The inspectors reviewed attributes that included: the complete and accurate identification of the problem; the timely correction, commensurate with the safety significance; the evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent of condition reviews, and previous occurrences reviews; and the classification, prioritization, focus, and timeliness of corrective. Minor issues entered into the licensee's corrective action program because of the inspectors' observations are included in the attached list of documents reviewed.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure, they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

b. Findings

No findings of significance were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's corrective action program. The inspectors accomplished this through review of the station's daily corrective action documents.

The inspectors performed these daily reviews as part of their daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

No findings of significance were identified.

.3 Selected Issue Follow-up Inspection

a. Inspection Scope

During a review of items entered in the licensee's corrective action program, the inspectors recognized a corrective action item documenting the issue listed below. The inspectors considered the following during the review of the licensee's actions: (1) complete and accurate identification of the problem in a timely manner; (2) evaluation and disposition of operability/reportability issues; (3) consideration of extent of condition, generic implications, common cause, and previous occurrences; (4) classification and prioritization of the resolution of the problem; (5) identification of root and contributing causes of the problem; (6) identification of corrective actions; and (7) completion of corrective actions in a timely manner.

- July 13 through July 21, 2009, Unit 2, source handling tool damaged during pre-operational testing as documented in Nuclear Notification NN 200494723

These activities constitute completion of one in-depth problem identification and resolution sample as defined in IP 71152-05.

b. Findings

No findings of significance were identified.

.4 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's corrective action program and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors focused their review on repetitive equipment issues, but also considered the results of daily corrective action item screening discussed in Section 4OA2.2, above, licensee trending efforts, and licensee human performance results. The inspectors nominally considered the period of June 2009

through September 2009, although some examples expanded beyond those dates where the scope of the trend warranted.

The inspectors also included issues documented outside the normal corrective action program in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self-assessment reports, and Maintenance Rule assessments. The inspectors compared and contrasted their results with the results contained in the licensee's corrective action program trending reports. Corrective actions associated with a sample of the issues identified in the licensee's trending reports were reviewed for adequacy.

- July 20 through July 31, 2009, Units 2 and 3, observed pre-job briefing activities associated with semi-annual surveillance testing of Unit 3 emergency diesel generator train B and Unit 2 new reactor fuel movement into the spent fuel pool to review adequacy of corrective actions for inspector identified weaknesses with pre-job briefings

These activities constitute completion of one single semi-annual trend inspection sample as defined in IP 71152-05.

b. Findings

No findings of significance were identified.

4OA3 Event Follow-up (71153)

.1 Event Follow Up

a. Inspection Scope

The inspectors reviewed the below listed events for plant status and mitigating actions to: (1) provide input in determining the appropriate agency response in accordance with Management Directive 8.3, "NRC Incident Investigation Program"; (2) evaluate performance of mitigating systems and licensee actions; and (3) confirm that the licensee properly classified the event in accordance with emergency action level procedures and made timely notifications to NRC and state/governments, as required.

- July 14, 2009, Units 2 and 3, loss of the ability to activate 10 community alert sirens
- September 14, 2009, Unit 3, emergency diesel generator train B failure to come up to operating speed due to relay failure

Documents reviewed by the inspectors are listed in the attachment.

These activities constitute completion of two inspection samples as defined in IP 71153-05.

b. Findings

Introduction. A self-revealing Severity Level IV noncited violation of 10 CFR 50.72 was identified for the failure to notify the NRC in the time required after computer engineering personnel discovered an event requiring an 8 hour notification.

Description. On July 13, 2009, at approximately 11 a.m., computer engineering personnel discovered a loss of the ability to activate 10 Community Alert Sirens located on the Camp Pendleton Marine Corp Base. Upon investigation, computer engineering personnel identified that the power strip to the siren cabinet at Camp Pendleton was tripped which caused the loss of the ability to activate the sirens. Following the discovery, computer engineering personnel re-energized the Camp Pendleton siren cabinet equipment and successfully ran a silent test on one of the 10 Camp Pendleton sirens. A review of the silent test log by computer engineering personnel identified that the 10 sirens may have been without power for approximately 72 hours. An Offsite Emergency Planning representative and a Telecommunications technician were notified of the identified condition and equipment restoration; however, no nuclear notification was written to document the condition in the corrective action program. On July 14, over 24 hours after computer engineering personnel discovered that 10 Camp Pendleton sirens may have been without power for approximately 72 hours, the Offsite Emergency Planning Manager and Nuclear Regulatory Affairs personnel became aware of the potentially reportable condition. On July 14, at approximately 7:12 p.m., Nuclear Notification NN 200501125 was initiated, followed by verbal notification to the NRC as required by 10 CFR 50.72. Followup investigation identified that the loss of sirens occurred on July 10, 2009, at approximately 6 p.m.

Analysis. The failure to notify the NRC of an event in the time required by 10 CFR 50.72 was a performance deficiency. The finding was determined to be applicable to traditional enforcement because the NRC's ability to perform its regulatory function was potentially impacted by the licensee's failure to report the event. The finding is associated with the emergency preparedness cornerstone. The finding was determined to be a Severity Level IV violation in accordance with Section D of Supplement I of the NRC Enforcement Policy. The finding is not suitable for evaluation using the significance determination process, but has been reviewed by NRC management and is determined to be a finding of very low safety significance. The finding has a crosscutting aspect in the area of problem identification and resolution associated with corrective action program because computer engineering personnel failed to implement the corrective action program at an appropriate threshold for identified issues [P.1(a)].

Enforcement. Title 10 CFR 50.72(b)(3)(xiii) requires, that the licensee shall notify the NRC, within eight hours of "Any event that results in a major loss of emergency assessment capability, offsite response capability, or offsite communications capability." Contrary to this requirement, on July 13, 2009, the licensee failed to notify the NRC, within 8 hours after the discovery of a loss of the ability to activate 10 Community Alert Sirens located on the Camp Pendleton Marine Corp Base. The NRC was notified of the loss of the ability to activate the Community Alert Sirens, approximately 24 hours late, on July 14, 2009. Because this finding is of very low safety significance and has been entered in the licensee's corrective action program as Nuclear Notification NN 200501125, this violation is being treated as a noncited violation, consistent with

Section VI.A of the NRC Enforcement Policy: NCV 05000361; 05000362/2009004-04, "Failure to Notify the NRC within Required Timeframe."

.2 Event Report Review

a. Inspection Scope

The inspectors reviewed the two below listed Licensee Event Reports and related documents to assess: (1) the accuracy of the Licensee Event Report; (2) the appropriateness of corrective actions; (3) violations of requirements; and (4) generic issues.

b. Observations and Findings

1. (Closed) Licensee Event Report 05000362/2008-001-00, "TS Required Shutdown due to EDG Repair Beyond Allowed Outage Time"

On September 1, 2008, plant operators manually initiated a plant shutdown to complete repairs on emergency diesel generator 3G003. During planned maintenance, an inspection of the generator revealed cracks in the shorting ring which required replacement of the generator. Following replacement postmaintenance testing, anomalous readings could not be resolved within the allowed outage time, necessitating the shutdown. These readings were later determined to be due to improper fit of a newly replaced bearing. The bearing was replaced and the generator restored to operable. The unit returned to Mode 1 on September 11, 2008. The inspectors considered licensee response to the initial event appropriate. The inspectors also considered licensee response to the postmaintenance test results to be appropriate. The licensee has documented this occurrence for tracking in their corrective action program. This licensee event report is closed.

2. (Closed) Licensee Event Report 05000361; 05000362/2007-004-00, "Technical Specification Violation Caused by Moisture Contamination in Hydraulic Dump Valve Solenoids"

On October 9, 2007, Unit 3 was shutdown for a maintenance outage. During the shutdown the main feedwater isolation valve to steam generator E-088 and the main feedwater block valve to steam generator E-089 failed to close. Additionally, during surveillance testing on October 18, 2007, the main steam isolation valve on steam generator E-089 failed to stroke closed when the train B hydraulic dump valve solenoids were de-energized. The valve closed satisfactorily on train A. The licensee determined the failure mechanism for all three failures, was corrosion caused by moisture-contaminated Fyrquel® hydraulic fluid introduced during refurbishment at a vendor facility. All affected hydraulic dump valves were replaced. The licensee evaluated various programmatic improvements to prevent procurement problems from recurring in Action Request AR 071000901. This licensee event report is closed.

Introduction. A Green self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion IV, "Procurement Document Control," was identified for the failure of procurement engineering personnel to include, in the procurement documents, limits on the amount of moisture allowed in the hydraulic fluid used during refurbishment of

hydraulic dump valves at an off-site vendor. This failure resulted in equipment being inoperable for greater than the technical specification allowed outage time.

Description. On October 9, 2007, the licensee initiated a shutdown of Unit 3 for a maintenance outage. During the shutdown, Unit 3 main feedwater isolation valve to steam generator E-088 and main feedwater block valve to steam generator E-089 failed to close in the expected time on a close signal. On October 18, 2007, the main steam isolation valve on steam generator E-089 failed to stroke closed when the train B hydraulic dump valve solenoids were de-energized. These events revealed the licensee was in violation of Technical Specification 3.7.2 for a main steam isolation valve being inoperable longer than the allowed outage time and Technical Specification 3.7.3 for a main feedwater isolation valve being inoperable for longer than the allowed outage time. The main feedwater block valve was also inoperable and the actions required by Licensee Controlled Specification 3.3.100 to close the valve within 7 days and verify valve closure were not taken. These occurrences were documented in Licensee Event Report 2007-004-00 and Unit 2 was shutdown in order to determine the extent of condition. No other valve failures were noted.

The licensee's investigation determined that the isolation and block valve failures were caused by failures of the solenoid valves used to operate hydraulic dump valves which in turn operate the isolation/block valve. The solenoid valves failed due to corrosion, which the licensee determined was caused by moisture-contaminated Fyrquel® hydraulic fluid used at the vendor's facility during previous replacement of the solenoid valves and refurbishment of the hydraulic dump valves. All affected hydraulic dump valves were replaced. The adverse effect of moisture-contaminated Fyrquel® hydraulic fluid was known by the licensee when these services were procured, as both maintenance and operation procedures specified moisture limits. The procurement documents used to contract the replacement and refurbishment services did not include any moisture limits, nor did the vendor documents which had been reviewed and approved by the licensee.

Analysis. The failure to include moisture limits in the procurement documents in order to maintain the quality of a safety-related component was a performance deficiency. The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the issue using the Significance Determination Process Phase 1 Screening Worksheet for the Initiating Events, Mitigating Systems, and Barriers Cornerstones provided in Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings." The inspectors determined that this finding represented a loss of safety function of a single train for greater than the technical specification allowed outage time. This required that a Phase 2 estimation be completed. Because the Phase 2 risk-informed notebook did not include appropriate targets for the equipment conditions at the time of discovery, the senior reactor analyst determined that a Phase 3 analysis was required. The dominant core damage events included a loss of offsite power, loss of instrument air, steam line break upstream of the main steam isolation valves, and a steam generator tube rupture. Risk important basic events included timely makeup to the condensate storage tank, restoration of offsite power within 2 hours following an event, and a plant induced conditional loss of offsite power following a reactor trip. The main steam isolation valves

remained capable of performing their safety functions, but the reliability of one valve was degraded by the inoperable solenoid. Based on this information, the analyst calculated a total Δ CDF of 6.3×10^{-7} , therefore this finding is of very low safety significance. A crosscutting aspect is not assigned since the cause of the performance deficiency is not indicative of current performance.

Enforcement. 10 CFR Part 50, Appendix B, Criterion IV, "Procurement Document Control," states, in part, that measures shall be established to assure that requirements which are necessary to assure adequate quality are included in documents for procurement of equipment and services. Contrary to the above, on June 2, 2006, appropriate requirements regarding moisture limits on Fyrquel® hydraulic fluid were not included in the procurement documents for the replacement of solenoid valves and refurbishment of the hydraulic dump valves, although these limits were specified in both maintenance and operations procedures at the time. Because the finding is of very low safety significance, and has been entered into the licensee's corrective action program as Action Request AR 071000901, this violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000362/2009004-05, "Failure to Specify Appropriate Requirements in Procurement Documents."

40A5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During this inspection period, the inspectors performed observations of security force personnel and activities to ensure that the activities were consistent with San Onofre Nuclear Generating Station security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours.

These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status review and inspection activities.

b. Findings

No findings of significance were identified.

40A6 Meetings

Exit Meeting Summary

On September 2, 2009, the inspectors presented the results of the Permanent Plant Modifications Inspection to Mr. Ed Scherer, Director, Nuclear Regulatory Affairs, and other members of the licensee's staff. The licensee acknowledged the issues presented.

On September 24, 2009, the inspectors presented the inspection results to Mr. Ross Ridenoure, Senior Vice President and Chief Nuclear Officer, and other members of the licensee staff. The licensee acknowledged the issues and findings presented.

The inspectors asked the licensee whether any materials examined during these inspections should be considered proprietary. The licensee confirmed that all proprietary information was returned or destroyed during these inspections.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

D. Axline, Technical Specialist, Nuclear Regulatory Affairs
D. Bauder, Plant Manager
B. Corbett, Manger, Performance Improvement
G. Cook, Manager, Nuclear Regulatory Affairs
J. Fee, Manager, Site Emergency Preparedness
S. Gardner, Senior Nuclear Engineer, Maintenance/System Engineering
S. Genschaw, Manager, Maintenance & Construction Services
M. Graham, Manager, Plant Operations
A. Hochevar, Station Manager
E. Hubley, Director, Maintenance & Construction Services
G. Johnson, Jr., Senior Nuclear Engineer, Maintenance/System Engineering
L. Kelly, Engineer, Nuclear Regulatory Affairs
G. Kline, Senior Director, Engineering
A. Martinez, Manager, Performance Improvement
B. MacKissock, Director, Plant Operations
N. Quigley, Manager, Maintenance/System Engineering
B. Rausch, Manager, Design Engineering
R. Richter, Supervisor, Maintenance/System Engineering
C. Ryan, Manager, Maintenance & Construction Services
A. Scherer, Director, Nuclear Regulatory Affairs
A. Shean, Manager, Nuclear Oversight and Assessment
R. St. Onge, Director, Maintenance/Systems Engineering
J. Todd, Manager, Security
D. Wilcockson, Manager, Operations Training

NRC Personnel

D. Loveless, Senior Reactor Analyst
G. Replogle, Senior Reactor Analyst

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000361/2009004-02 VIO Failure to Assess and Manage Risk for Maintenance That Could Impact Offsite Power Components (Section 1R13)

Opened and Closed

05000361/2009004-01 NCV Failure to Submit Complete Revisions to Updated Final Safety Analysis Report for Penetration Seal Changes (Section 1R01)

05000361/2009004-03 NCV Failure to Follow Corrective Action Process for an
05000362/2009004-03 Inadequate Postmaintenance Test (Section 1R19)

05000361/2009004-04 NCV Failure to Notify the NRC within Required Timeframe
05000362/2009004-04 (Section 4OA3)

05000362/2009004-05 NCV Failure to Specify Appropriate Requirements in Procurement Documents (Section 4OA3)

Closed

05000362/2008-001-00 LER TS Required Shutdown due to EDG Repair Beyond Allowed Outage Time (Section 4OA3)

05000361/2007-004-00 LER Technical Specification Violation Caused by Moisture
05000362/2007-004-00 Contamination in Hydraulic Dump Valve Solenoids (Section 4OA3)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
SO123-XV-5.1	Temporary Modification Control	10
SO123-XIII-4.600	Fire Protection Impairment	9
SO123-XXX-5.2	Control of Licensing Document Changes	11
SO123-XV-44	10 CFR 50.59 and 72.48 Program	10

Nuclear Notifications

NUMBER

200545500 200000306

Action Requests

NUMBER

040601014 031001064

Maintenance Orders

NUMBER

04091323000

Calculations

NUMBER

M-0120-15

Miscellaneous

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
	Updated Final Safety Analysis Report	April 2009
04120043-01	Fire Protection Impairment	January 19, 2007
Barrier-50.59-10564	Interim 50.59 Barrier Evaluation	01
Barrier-50.59-10565	Interim 50.59 Barrier Evaluation	01
Order: NECP 800071504	Replacement of Penetration Seal	

Section 1RO4: Equipment Alignment

Procedures

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
SO23-2-17.1	Component Cooling Water System Alignments	16
SO23-1-3.1	Emergency Chilled Water Operation	22
SO23-1-3.3	Emergency Chilled Water System Alignment and Outage Evolution	3
SO23-3-2.9	Containment Spray System Operation	25

Maintenance Orders

NUMBER

30004167

Drawings

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
40127ASO3	Component Cooling Water System (Pumps)	26
40127BSO3	Component Cooling Water System (Tanks)	28
40127CSO3	Component Cooling Water System (Heat Exchangers)	33
40127DSO3	Component Cooling Water System (Supply Headers)	18
40127ESO3	Component Cooling Water System (Return Headers)	26
40112A	P&I Diagram Safety Injection System	33
40114A	P&I Diagram Containment Spray System	15

Section 1RO5: Fire Protection

Procedures

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
SO23-1-5	Auxiliary Building Normal HVAC System Operation	21
SO123-XIII-4.600	Fire Protection Impairment	9
SO23-13-21	Fire, Abnormal Operating Instruction	17
SO123-I-1.20	Seismic Controls	9
SO123-XV-1.41	Control of Ignition Sources	13
SO23-XIII-4.13	Inspection for Control of Combustibles and Transient Fire Loads	1
SO23-XV-4.13	Control of Work and Storage Areas Within the Protected Area	5
SO123-I-1.34	Scaffolding Erection	26

Nuclear Notifications

NUMBER

200290045 200106625

Maintenance Orders

NUMBER

800077695 800076816 800295994 800131287

Drawings

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
40275	Area 2C13 Equipment Floor drains	7
2PE02.DWG	Unit 2 Pre-Fire Plans, Penetration and fuel Handling Elevation (-)18'-3" to 23'-6"	4
2PE05.DWG	Unit 2 Pre-Fire Plans, Penetration and Fuel Handling Elevation 63-6"	7
2/3-019	Pre-fire plans Saltwater Pipe Tunnel Elevcation (-)9'	6
2-006	Pre-Fire Plan Safety Equipment (-)15'-6" to 8'0"	6
2-006	Pre-Fire Plans Safety Equipment Building rooms 6 through 14 and 16 through 26	6
3-043	Pre-Fire Plans Auxiliary Feedwater Pump Room	5

Miscellaneous

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
SOFD 2009-09	Unit 3, 9' Saltwater Cooling Pump Room Fire Drill	September 2, 2009

Section 1RO7: Heat Sink Performance

Procedures

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
S023-V-3.26	Shutdown Cooling Heat Exchanger Testing	4

Nuclear Notifications

<u>NUMBER</u>
200003416

Maintenance Orders

NUMBER

800075419

Miscellaneous

NUMBER

TITLE

REVISION

AR 071101246

UFSAR Sections 5.4.7 and 7.4.1

DBD-SO23-740 Safety Injection, Containment Spray, and Shutdown Cooling Systems 9

Section 1R11: Licensed Operator Requalification Program

Procedures

NUMBER

TITLE

REVISION

SO23-5-1.5 Plant Shutdown from Hot Standby to Cold Shutdown 30

SO23123-XXI-8.6 Conducting Training in the Simulator 7

SO23-3-2.6 Shutdown Cooling Operation 26

Miscellaneous

NUMBER

TITLE

REVISION

RS09J01- TPG 2009 Shutdown Just in Time Training 0

Section 1R12: Maintenance Effectiveness

Procedures

NUMBER

TITLE

REVISION

SO23-3-3.16 Auxiliary Feedwater System Monthly Tests 13

Nuclear Notifications

NUMBER

200450694 200219184 200254634 200369847

Maintenance Orders

NUMBER

800275858

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

Procedures

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
SO23-XV-2	Troubleshooting Plant Equipment and Systems	3
SO23-1-3.3	Emergency Chilled Water System Alignments and Outage Evolutions	2
SO23-XX-28	On-Line Work Management Process	1
SO123-XX-10	Maintenance Rule Risk Management Program Implementation	4
SO123-I-1.13	NUREG 0612 Cranes, Rigging and Lifting Controls	17
SO123-I-7.22	Maintenance Procedure on Mobile Crane operations	14
SO23-1-3.1	Emergency Chilled Water System Operation	22
SO23-XX-8	Integrated Risk Management	2

Nuclear Notifications

NUMBER

200403904 200500374 200402733 200489790 200502477
200196248 200519198 200394201 200559128 200226120
200550174 200402733 200561603 200556120

Maintenance Orders

<u>NUMBER</u>				
800331733	800331984	800333121	800337219	800332922
800332921				

Drawings

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
30114	One-Line Diagram - Regulated Non-IE 208/120 AC System	57

Miscellaneous

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
OSM-1	Operations Dictionary	
SD-SO23-800	System Description	4
060800698-11	Engineering Change Package on reroute the 220Kv Lines to U2 RAT	0

Section 1R15: Operability Evaluations

Procedures

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
SO23-II-5.8	Surveillance Requirement N.I. Safety Channel D Drawer Test	16
SO23-3-2.7.1	Safety Injection Tank Operations	17
SO123-XV-52	Functionality Assessments and Operability Determinations	13

Nuclear Notifications

<u>NUMBER</u>				
200478458	200488993	200525663	200519198	200357717
200220985	200545500	200228242		

Section 1R17: Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications

Procedures

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
SO23-XXIV-3.8	Containment Structural Integrity Surveillance	2
SO123-I-1.34	Scaffolding Erection	25
SO123-XV-51	Identifying and Assessing Impact to Site Programs and Procedures	12

Nuclear Notifications

<u>NUMBER</u>				
200550560	071101426-2-ACE	200198842	200566804	200564201

Calculations

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
M-0050-021	Heat loss from T-121 Condensate Storage Tank(s) – Unit 2 & 3	24, 25
C-257-11	Containment in Service Tendon Surveillance Program	1
C-257-02.07	Containment Shell Design Post Tensioning	1
M-0012-039	ESF Pump Suction With Entrained Air After RAS	0

Drawings

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
40112B	P&ID Safety Injection System	35
SD-SO23-400	Component Cooling Water System	18
SO23-901-74	Closure Head Lifting Rig Details San Onofre II 172' PWR	2
SO23-901-98	Closure Head Lifting Rig Details San Onofre III 172' PWR	0

SO23-2-14	Snubber	0
40116ASO3	P&ID Diesel Fuel Storage System	11
400112C	P&ID Safety Injection System	16
30708	Elementary Diagram Reactor Auxiliaries Component Cooling Water Pump P025 Discharge Valve HV6226A	7
31992	Wiring Diagram Safety Equipment Building Motor Operated Valves	16
40127ES03	Component Cooling Water System (Return Headers)	27
40191DS03	Compressed Air System (Instrument Air)	21
FGD-J-916	Safety Equipment Building Instrument Air Distribution	5
S2-1301-ML-016	Isometric Drawing S2-1301-ML-016 – 6" -C-HK1	12
S2-1301-ML-018	Isometric Drawing S2-1301-ML-018 – 3/4" -C-HK1	15
S2-1301-ML-015	Isometric Drawing S2-1301-ML-015 – 3" -C-HK1	14
23626	Safety Equipment Building Structural Steel Sections & Details	9
45457	Flow Diagram Instrument Air Distribution (Safety Equipment Building)	3

Screens

NUMBER

800075087	800126250	800129800	800206854	800188758
800263472	800311619	800204690	800072607	800072611
060102018	061000859	080201226	050101066	80072713

Evaluations

NUMBER

040301925-07	031101385-46	800187778	800071702	060700747-18
060800698-44	800072713-0130	800072713-0100		

Miscellaneous

NUMBER

TITLE

REVISION / DATE

ECP020600345-09	ECP800223970	ECP070201274-10	ECP800072665
ECP800130487	ECP031101156-14	ECP051100104-12	ECP070700267-13
ECP800071702-0050	ECP800071722	ECP800204690	ECP060200284-4
06-0045	Vogt 1 S.S. Gate Valve P/N 214605 – NUC Substituted by P/N B-48480 R6.		1
	Engineering Material Evaluation, Check Valves (HPSI & LSPI discharge)		April 21, 2009
SEE 990022	EQ Target Rock Model 75G-002-2 Valves		2
AR 080301395	Action Request		

Section 1R19: Postmaintenance Testing

Procedures

NUMBER

TITLE

REVISION / DATE

SO23-3-3.60.1 attachment 5	High Pressure Safety Injection Pump 2MP019 Testing	9
SO23-3-3.60	Inservice Pump Testing Program	9
SO23-3-2.7.2	Filling and Venting Train B LPSI Pump After Maintenance	Rev. 19, Data Collected August 13, 2009
SO23-3-2.29	Toxic Gas Analyzer Operation	8

SO23-I-3.1	Refueling Activity Guidelines and Minor Refueling Procedures	13
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Nuclear Notifications

NUMBER

200001097 200427700 200396895 200396755 200596759
200554611

Maintenance Orders

NUMBER

30004166 200544096 800047680 30004512 800054472
70002106 800052665 800138004

Miscellaneous

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WCD 30004245 Work Control Document
Operator Logs April 19-20, 2009

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SO23-3-3.603	Component Cooling Water and Seismic Makeup Pump Test	9
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Nuclear Notifications

<u>NUMBER</u>			
200485848	200485850	200536274	200573969

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33764	Wiring Diagram Control Building Elec Aux 4160v SWGR 3A06	17
33094	Elementary Drawing Fire Actuation and Detection Control Distribution Panel 3L414	12
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800275655	800283349

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10CFR 50.72(b)(2)(xi) Notification	Inadvertent Offsite Siren Actuation	August 19, 2009

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<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
	Unit 2 MSPI Derivation Report for Cooling Water System (Unavailability Index)	September 21, 2009
	Unit 2 MSPI Cooling Water System	July 14, 2009
	Failure Report	September 22, 2009
	Unit 3 MSPI Cooling Water System	July 14, 2009
	Unit 3 MSPI Derivation Report for Cooling Water System (Unavailability Index)	September 21, 2009

	Unit 3 MSPI Derivation Report for Cooling Water System (Unreliability Index)	September 21, 2009
	Unit 2 MSPI Derivation Report for Cooling Water System (Unreliability Index)	September 21, 2009
	Unit 2 MSPI Derivation Report for Residual Heat Removal System (Unavailability Index)	September 21, 2009
	Unit 2 MSPI Residual Heat Removal System	July 14, 2009
	Failure Report	September 22, 2009
	Unit 3 MSPI Residual Heat Removal System	July 14, 2009
	Unit 3 MSPI Derivation Report for Residual Heat Removal System (Unavailability Index)	September 21, 2009
	Unit 3 MSPI Derivation Report for Residual Heat Removal System (Unreliability Index)	September 21, 2009
	Unit 2 MSPI Derivation Report for Residual Heat Removal System (Unreliability Index)	September 21, 2009
Performance Indicator Data BI02	Reactor Coolant System Identified leak Rate	0
	Control Room Logs	

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Nuclear Notifications

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200494723	200519141	200510941	200509404	200507992

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800141049	800336300	800283349

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E-STD-165-203	Source Handling Tool	3

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OPS 3-3.23 A10 G003	Semi-Annual Canned Pre-Job Brief	July 20, 2009

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Nuclear Notifications

<u>NUMBER</u>		
200501125	200107113	200581670

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800164226 800143392

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32343 Diesel Generator 3G003 Governor Control 11

Maintenance Orders

800373798

Action Requests

071000901 071000418 071000447