



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

July 8, 2002

Harold B. Ray, Executive Vice President
Southern California Edison Co.
San Onofre Nuclear Generating Station
P.O. Box 128
San Clemente, California 92674-0128

SUBJECT: ERRATA FOR SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2
AND 3, NRC INTEGRATED INSPECTION REPORT 50-361/01-14; 50-362/01-14

Dear Mr. Ray:

Please replace NRC Inspection Report 50-361/01-14; 50-362/01-14 conducted from December 30, 2001, through March 23, 2002, with the attached revised report. The changes are marked with revision bars. We had inadvertently failed to include Section 2.0, "Radiation Safety."

In accordance with 10 CFR 2.790 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 (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

/RA/

Claude E. Johnson, Chief
Project Branch C
Division of Reactor Projects

Enclosure:
As stated

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

Southern California Edison Co.

-2-

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 Scott Morris (**SAM1**)
 SONGS Site Secretary (**SFN1**)
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R:_SO23\SO2001-14RP Errata.wpd

RIV:C:DRP/C	SHP:DRS/PSB	C:DRS/PSB	Signature	
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<i>/RA/</i>	<i>/RA/</i>	<i>JBNicholas for</i>	<i>/RA/</i>	
concurrence	7/3/02	7/3/02	7/8/02	

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**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064**

April 22, 2002

Harold B. Ray, Executive Vice President
Southern California Edison Co.
San Onofre Nuclear Generating Station
P.O. Box 128
San Clemente, California 92674-0128

SUBJECT: NRC INTEGRATED INSPECTION REPORT 50-361/01-14; 50-362/01-14

Dear Mr. Ray:

On March 23, 2002, the NRC completed an inspection at your San Onofre Nuclear Generating Station, Units 2 and 3, facility. The enclosed report documents the inspection findings which were discussed on January 4, 11, and 18 and March 25, 2002, with Mr. R. Krieger, Mr. D. Nunn, and other members of your staff.

This inspection 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. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, the NRC has identified two issues that were evaluated under the Significance Determination Process as having very low safety significance (Green). The NRC has also determined that violations are associated with these issues. These violations are being treated as noncited violations (NCVs), consistent with Section VI.A of the Enforcement Policy. These NCVs are described in the subject inspection report. If you contest the violation or significance of these NCVs, 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, DC 20555-0001, with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the San Onofre Nuclear Generating Station, Units 2 and 3, facility.

Immediately following the terrorist attacks on the World Trade Center and the Pentagon, the NRC issued an advisory recommending that nuclear power plant licensees go to the highest level of security, and all promptly did so. With continued uncertainty about the possibility of additional terrorist activities, the Nation's nuclear power plants remain at the highest level of security and the NRC continues to monitor the situation. This advisory was followed by additional advisories and, although the specific actions are not releasable to the public, they generally include increased patrols, augmented security forces and capabilities, additional security posts, heightened coordination with law enforcement and military authorities, and more limited access of personnel and vehicles to the sites. The NRC has conducted various audits of

your responses to these advisories and your ability to respond to terrorist attacks with the capabilities of the current design basis threat. From these audits, the NRC has concluded that your security program is adequate at this time.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response, if any, will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) 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).

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

/RA/

Claude E. Johnson, Chief
Project Branch C
Division of Reactor Projects

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

Enclosure:
NRC Inspection Report
50-361/01-14; 50-362/01-14

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 RITS Coordinator (**NBH**)
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 SONGS Site Secretary (**SFN1**)
 Dale Thatcher (**DFT**)

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concurrency	4/16/02	4/16/02	4/16/02	4/17/02
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GMGood	CEJohnson			
<i>/RA/</i>	<i>/RA/</i>			
4/16/02	4/22/02			

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Dockets: 50-361
50-362

Licenses: NPF-10
NPF-15

Report: 50-361/01-14
50-362/01-14

Licensee: Southern California Edison Co.

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

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

Dates: December 30, 2001, through March 23, 2002

Inspectors: C. C. Osterholtz, Senior Resident Inspector
J. G. Kramer, Resident Inspector
R. V. Azua, Project Engineer
C. A. Clark, Reactor Inspector
P. J. Elkmann, Emergency Preparedness Inspector
L. E. Ellershaw, Senior Reactor Inspector
M. F. Runyan, Senior Reactor Inspector
L. T. Ricketson, P.E., Senior Health Physicist

Approved By: Claude Johnson, Chief, Project Branch C

SUMMARY OF FINDINGS

San Onofre Nuclear Generating Station, Units 2 and 3
NRC Inspection Report 50-361/01-14; 50-362/01-14

IR05000361-01-14, IR05000362-01-14: 12/30/2001-03/23/2002; Southern California Edison; San Onofre Nuclear Generating Station, Units 2 & 3; Integrated Resident and Regional Report; Operability Evaluations; Event Followup

The inspection was conducted by resident, regional reactor, and emergency preparedness inspectors. This inspection identified two Green findings, both of which were noncited violations. The significance of the issues is indicated by their color (Green White, Yellow, Red) using IMC 0609 "Significance Determination Process."

Cornerstone: Mitigating Systems

A. Inspector Identified Findings

Green. The inspectors identified a noncited violation for the licensee's lack of corrective action to mitigate a water hammer condition in screenwash system piping until prompted by the inspectors. This issue was more than minor because this condition had the potential to affect the operability of the safety-related saltwater cooling pumps. This was a violation of 10 CFR Part 50, Appendix B, Criteria XVI.

The finding was considered to have very low safety significance because the screenwash piping remained within ANSI codes for allowable stress, no actual rupture of screenwash piping occurred, and the operability of the saltwater cooling pumps was not actually affected by the condition. This violation is in the licensee's corrective action program as Assignment 26 to Action Request 010300938 (Section 1R15.2).

B. Licensee Identified Findings

A violation of very low safety significance was identified by the licensee and reviewed by the inspectors. Corrective actions taken or planned by the licensee appear reasonable. This violation is listed in Section 4OA3.1.

Report Details

Summary of Plant Status:

Both units began the inspection period at approximately 100 percent power. On February 27, 2002, Unit 3 automatically tripped from 100 percent power due to a temporary loss of offsite power during maintenance activities in the San Diego Gas and Electric portion of the switchyard. Unit 3 vital power and power for the Unit 3 reactor coolant pumps automatically transferred to Unit 2. Unit 3 emergency diesel generators (EDGs) automatically started and ran unloaded. Switchyard maintenance activities were terminated and a root cause evaluation was initiated. The San Diego Gas and Electric portion of the switchyard was returned to a normal lineup and Unit 3 startup was initiated on March 2, 2002. Unit 3 entered Mode 1 on March 3 and achieved approximately 100 percent power on March 5. Both units remained at 100 percent power throughout the rest of this inspection period.

1. **REACTOR SAFETY**

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness

1R02 Evaluations of Changes, Tests, or Experiments (71111.02)

a. Inspection Scope

The inspectors reviewed a selected sample of 15 licensee-performed 10 CFR 50.59 evaluations to verify that the licensee had appropriately considered the conditions under which the licensee may make changes to the facility or procedures or conduct tests or experiments without prior NRC approval.

The inspectors reviewed an additional 28 licensee-performed 10 CFR 50.59 screenings, in which the licensee had determined that evaluations were not required, to ensure that the licensee's exclusion of a full evaluation was consistent with the requirements of 10 CFR 50.59.

The inspectors evaluated the effectiveness of the licensee's corrective action process to identify and correct problems regarding licensee performance associated with 10 CFR 50.59 requirements. In this effort, the inspectors reviewed 10 action requests (ARs) and the subsequent corrective actions pertaining to licensee-identified problems and errors in the performance of licensing basis impact evaluations. The review was performed to ensure that problems and deficiencies were being identified and that appropriate corrective actions were being taken. In addition, the inspectors reviewed the most recent licensee 10 CFR 50.59 program audit to determine whether the licensee conducted sufficient in-depth analyses to allow for the identification and subsequent resolution of problems or deficiencies. The inspectors also reviewed the 10 CFR 50.59 training curriculum provided by the licensee and the qualification records of a sample of those independent technical reviewers identified in the screening and evaluation forms.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignments (71111.04)

a. Inspection Scope

The inspectors performed partial walkdown of the following trains of equipment during maintenance outages of their redundant trains. The inspectors physically verified critical portions of the trains to identify any discrepancies between the existing and proper alignment as determined by system piping and instrumentation drawings and plant procedures:

- Low pressure safety injection (LPSI) system during maintenance on Valve 2HV9328, LPSI header valve to reactor coolant system Loop 2A, on February 20, 2002 (Unit 2)
- Southern California Edison switchyard alignment during maintenance on the San Diego Gas and Electric portion of the switchyard on February 27, 2002
- LPSI system during maintenance on Valve 3HV9331, LPSI header valve to reactor coolant system Loop 2B, on March 12, 2002 (Unit 3)
- EDG 3G002 during maintenance on EDG 3G003 on March 12, 2002 (Unit 3)

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope

The inspectors performed routine fire inspection tours, and reviewed relevant records, for the following plant areas important to reactor safety:

- Unit 3 Train A safety-related pump room
- Unit 3 Train B safety-related pump room
- Unit 2 auxiliary feedwater (AFW) pump room
- Unit 3 AFW pump room
- Unit 2 2P190 charging pump room
- Unit 2 2P192 charging pump room

The inspectors observed the material condition of plant fire protection equipment, the control of transient combustibles, and the operational status of barriers. The inspectors compared in-plant observations with the commitments in the portions of the Updated Fire Hazards Analysis Report.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

a. Inspection Scope

The inspectors observed licensed operator requalification training activities, including the licensed operators' performance and the evaluators' critique. The inspectors compared performance in the simulator on March 7, 2002, with performance observed in the control room during this inspection period. In addition, the inspectors reviewed ARs 020201525 and 020300055.

The inspectors placed an emphasis on high-risk licensed operator actions, operator activities associated with the emergency plan, and previous lessons learned items. These items were evaluated to ensure that operator performance was consistent with protection of the reactor core during postulated accidents.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12)

.1 Quarterly Review

a. Inspection Scope

The inspectors reviewed the implementation of the requirements of the Maintenance Rule (10 CFR 50.65) to verify that the licensee had conducted appropriate evaluations of equipment functional failures, maintenance preventable functional failures, unplanned capacity loss factor, and system unavailability. The inspectors reviewed root causes and corrective action determinations for equipment failures and reviewed performance goals for ensuring corrective action effectiveness. The inspectors discussed the evaluations with the reliability engineering supervisor and the system engineers. The following systems were reviewed:

- Unit 2 Train B AFW
- Unit 3 Train A AFW
- Unit 2 main steam safety valves
- Unit 3 main steam safety valves

b. Findings

No findings of significance were identified.

.2 Periodic Evaluation Reviews

a. Inspection Scope

The inspectors reviewed the licensee's reports documenting the performance of the last two Maintenance Rule periodic effectiveness assessments. These two periodic evaluations covered the second quarter of 1997 through the second quarter of 2001.

The inspectors verified that the licensee's program had monitored risk-significant functions associated with structures, systems, and components using reliability and unavailability criteria. Additionally, the performance of nonrisk-significant functions were monitored using plant level criteria.

The inspectors reviewed the conclusions reached by the licensee with regard to the balance of reliability and unavailability for specific maintenance rule functions. This review was conducted by examining the licensee's evaluation of all risk-significant functions that had exceeded performance criteria during the evaluation periods.

The inspectors also examined the licensee's evaluation of program activities associated with the placement of Maintenance Rule Program risk-significant functions in Categories (a)(1) and/or (a)(2). Additionally, the inspectors reviewed the periodic evaluation conclusions reached by the licensee for the following systems: AFW, component cooling water, high pressure safety injection, LPSI, and main steam.

b. Findings

No findings of significance were identified.

.3 Identification and Resolution of Problems

a. Inspection Scope

The inspectors evaluated the use of the corrective action system within the Maintenance Rule Program for issues identified in the AFW, component cooling water, high pressure safety injection, LPSI, and main steam systems. This review was accomplished by the examination of a sample of the ARs, maintenance rule evaluations, maintenance work orders, Maintenance Rule Expert Panel meeting minutes, control room logs, and other documents listed in the attachment. The purpose of this review was to establish that the corrective action program was entered at the appropriate threshold for the purposes of:

- Implementation of the corrective action process when a performance criterion was exceeded;
- Correction of performance-related issues or conditions identified during the periodic evaluation; and
- Correction of generic issues or conditions identified during programmatic surveillances, audits, or assessments.

The inspectors verified that the identification of problems and implementation of corrective action were acceptable.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors verified the accuracy and completeness of assessment documents and that the licensee's program was being appropriately implemented. The inspectors also ensured that plant personnel were aware of the appropriate licensee-established risk category, according to the risk assessment results and licensee program procedures.

The inspectors also reviewed selected emergent work items to ensure that overall plant risk was being properly managed and that appropriate corrective actions were being properly implemented.

The inspectors reviewed the effectiveness of risk assessment and risk management for the following:

- The San Onofre Core Damage Risk Summary dated April 20, 2000
- Emergent work associated with age-related affects requiring replacement of Potter and Brumfield relays in the Units 2 and 3 emergency feedwater actuation systems reported on January 29, 2002 (AR 010900371 and Licensee Event Report (LER) 361; 362/2002-001-00)
- Emergent work associated with a failure of the Unit 3 Train A component cooling water surge tank backup nitrogen pressure regulator on January 31, 2002 (AR 020101559)
- Emergent work associated with Train A Emergency Chiller ME336 after it failed a surveillance test on February 3, 2002 (AR 020200107)
- Emergent work associated with a body-to-bonnet steam leak on Valve 2MR608, Unit 2 main steam root valve, identified on February 19, 2002 (AR 020200945)
- Risk assessment associated with maintenance activities on the LPSI system during maintenance on Valve 2HV9328, LPSI header valve to reactor coolant system Loop 2A, on February 20, 2002 (Unit 2)
- Emergent work associated with seating Valve 2MU074, Unit 2 LPSI to reactor coolant Loop 2A check valve, to prevent unnecessary leakage from Safety Injection Tank T009 on February 20, 2002 (AR 020200987)

- Emergent work associated with a steam leak identified on Valve 3HV4716, the Unit 3 turbine-driven AFW pump steam supply throttle valve (AR 020300566)

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Nonroutine Plant Evolutions (71111.14)

.1 Operations Response to Automatic Reactor Trip

a. Inspection Scope

The inspectors observed Operations personnel respond to an automatic reactor trip of Unit 3 when a temporary loss of offsite power occurred during switchyard maintenance activities on February 27, 2002. The inspectors observed control room operators successfully manipulate emergency operating instructions to put the plant in a stable shutdown configuration.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

.1 Quarterly Review

a. Inspection Scope

The inspectors reviewed selected operability evaluations to evaluate technical adequacy and to verify that operability was justified. The inspectors considered the impact on compensatory measures for the condition being evaluated, and referenced the Updated Final Safety Analysis Report and Technical Specifications. The inspectors also discussed the evaluations with cognizant licensee personnel.

The inspectors reviewed the operability evaluations and cause assessments documented in the following ARs to ensure operability was properly justified:

- AR 020100733: Saltwater heat exchanger differential pressure rose from 6.5 psid to 12.8 psid while approaching a low tide (Unit 2)
- AR 011001222: Main feed pump turbine speed could not be raised above 3600 rpm during startup (Unit 2)
- AR 020101370: EDG lubricating oil analysis (Units 2 and 3)

b. Findings

No findings of significance were identified.

.2 Water Hammer Operability Assessment

a. Inspection Scope

The inspectors reviewed an operability assessment (OA) associated with AR 010300938, generated on March 19, 2001, to evaluate degradation of piping supports on secondary screen wash piping in the Unit 2 saltwater cooling pump room above the saltwater cooling pumps.

b. Findings

The inspectors reviewed the OA for AR 010300938 (Assignment 3), which indicated that piping support degradation in the Unit 2 screenwash piping was probably due to improper rigging activities. The OA indicated that “there is no evidence of water hammer and excess loading from thermal growth of this seawater line seems unlikely. The support may have been damaged by some past rigging practice. However, as no credit for the support function at the three-way support location appears to be needed, no further degradation is expected.” The OA concluded that the piping support was not necessary and, with no additional degradation expected, the screenwash system was declared operable and the OA was closed on March 21, 2001.

The inspectors reviewed the apparent cause assessment (ACE) for AR 010300938 (Assignment 12) generated in April 2001, which indicated that “An investigation made by Station Technical . . . personnel indicated that there is no possibility that the support was used to rig heavy equipment load that could cause the failure of this support.” The ACE concluded that the damage to the piping support was caused by water hammer incurred in the system when two screenwash pumps were started simultaneously. The ACE further recommended that the water hammer could be prevented by changing procedures to stagger screenwash pump starts or by relocating the screenwash orifice plate to ensure that it would be in a section of piping filled with water prior to a screenwash pump start. This would prevent flow retardation due to an air/water interface at the orifice plate when screenwash pumps are started.

The inspectors had questions regarding cumulative water hammer effects in the screenwash piping, because the piping is located directly above the safety-related saltwater cooling pumps. On December 17, 2001, the inspectors contacted licensee Engineering personnel to ask what corrective action was planned and how the water hammer affected screenwash system operability. An Engineering representative indicated that a water hammer condition did not exist and referenced the OA for AR 010300938 that indicated that the degradation was probably due to improper rigging activities. The inspectors informed the representative that AR 010300938 included an ACE that discussed the water hammer and proposed possible corrective actions to mitigate it. The representative was unaware the evaluation existed.

The licensee immediately generated a new OA for AR 010300938 (Assignment 25) and initiated a new ACE (Assignment 26) to determine why the original OA was not revised to consider the identified water hammer condition. The new OA was completed on December 18, 2001, and determined that screenwash piping had continued to meet the requirements of ANSI B31.1 for allowable piping stresses. The inspectors reviewed the new OA and concluded that it was satisfactory. The new ACE identified multiple examples of previous ARs dating back to 1996 that had been generated as a result of screenwash system piping degradation that could be attributed to water hammer in the screenwash system. The licensee could not determine when the practice of starting screenwash pumps simultaneously started, but determined it was some time prior to 1988. Corrective actions to prevent water hammer by changing plant configuration and procedures to require a staggered screenwash pump start were initiated.

The new ACE also concluded that lack of overall ownership of the issue directly contributed to the water hammer analysis being missed for overall operability evaluation and corrective action determination. The licensee initiated a program to establish ownership for critical activities, such as ARs which require cause assessments. The program assigns a single point of contact to ensure that appropriate corrective actions are implemented, requires followup on corrective actions for effectiveness once taken, and provides for periodic reporting of such issues to licensee management. The licensee was performing a pilot of the program during this inspection period and planned to fully implement the program on March 25, 2002.

The inspectors evaluated the significance of the issue using the Significance Determination Process. The inspectors determined that the issue had a credible impact on safety due to the potential for water hammer to cause a rupture in screenwash system piping which could result in causing inoperability of safety-related saltwater cooling pumps located directly below the piping (Group 1 question answered yes). The issue could therefore affect the operability of a mitigating system (Group 2 question answered yes). However, the finding was considered to have very low safety significance because the screenwash piping remained within ANSI codes for allowable stress, no actual rupture of screenwash piping occurred, and the operability of the saltwater cooling pumps was not actually affected by the condition.

10 CFR Part 50, Appendix B, Criterion XVI, requires, in part, that measures shall be established to assure that conditions adverse to quality are promptly identified and corrected. Contrary to the above, the licensee did not implement corrective actions to correct a water hammer condition in screenwash piping that had existed since 1996 until prompted by the inspectors. This violation of 10 CFR Part 50 is being treated as a noncited violation (NCV 361; 362/2001014-01) consistent with section VI.A of the Enforcement Policy. This violation is in the licensee's corrective action program as Assignment 26 to AR 010300938.

1R16 Operator Workarounds (71111.16)

a. Inspection Scope

The inspectors reviewed operator workarounds to evaluate their cumulative effect on the operators' ability to implement abnormal or emergency procedures. The inspection included a review of criteria and processes used for identifying and tracking deficiencies as operator workarounds. The review also focused on the length of time the identified workarounds had been in existence and efforts initiated to resolve them.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications (71111.17)

a. Inspection Scope

On January 2, 2002, the inspectors observed a modification to component cooling water Pump 3P024 that deleted the low pressure automatic start function and added a safety injection actuation signal indicating light. The inspectors reviewed Work Order 01091099000 and Field Change Notices F26055E, F26056E, and F26710E. In addition, the inspectors reviewed AR 000900187 and its associated 10 CFR 50.59 evaluation.

b. Findings

No findings of significance were identified.

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

The inspectors observed and/or reviewed postmaintenance testing for the following activities to verify that the test procedures and activities adequately demonstrated system operability:

- Unit 3 EDG 3G002 postmaintenance test per Procedure SO23-3-3.23, "Diesel Generator Monthly and Semi-annual Testing," Revision 20, performed on February 2, 2002, following routine scheduled maintenance
- Train A Emergency Chiller ME336 postmaintenance test per Procedure SO23-3-3.20, "Monthly Creacus Test, Control Room Cooler Exercise Run and ECWS Minimum Operability Verification," Revision 15, performed on February 7, 2002, following replacement of a failed control circuit card

- Unit 2 AFW pump discharge isolation valve to Steam Generator 2E088 Valve HV4714 postmaintenance test per Procedure SO23-3-3.60.6, "Auxiliary Feedwater Pump and Valve Testing," Revision 7, performed on March 5, 2002, following routine scheduled maintenance
- Unit 2 AFW Pump 2MP504 postmaintenance test per Procedure SO23-2-4, "Auxiliary Feedwater System Operation," Revision 18, performed on March 5, 2002, following routine scheduled maintenance
- Unit 3 EDG 3G003 postmaintenance tests per Maintenance Orders 01090770000, "Centrifugal Governor and Shutdown Solenoid Test," and 01090858000, "Perform Overspeed Test . . . Inspect/Lubricate Linkages. Perform Operability Test of the Overspeed Solenoid," performed on March 15, 2002, following routine scheduled maintenance

The inspectors determined that the effect of testing on the plant had been adequately addressed, the tests were adequate for the scope of the maintenance work performed, and the acceptance criteria were clear and consistent with design and licensing basis documents.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed and/or reviewed performance and documentation for the following surveillance tests to verify that the structures, systems, and components were capable of performing their intended safety functions and to assess their operational readiness:

- Train A Emergency Chiller ME336 monthly surveillance test per Procedure SO23-3- 3.20, "Monthly CREACUS [control room emergency air cleanup system] Test, Control Room Cooler Exercise Run, and ECWS Minimum Operability Verification," Revision 15, performed on January 1, 2002
- Unit 3 EDG 3G002 monthly surveillance test per Procedure SO23-3-3.23, "Diesel Generator Monthly and Semi-Annual Testing," Revision 20, performed on January 26, 2002
- Unit 2 EDG 2G003 monthly surveillance test per Procedure SO23-3-3.23, "Diesel Generator Monthly and Semi-Annual Testing," Revision 20, performed on February 3, 2002

- LPSI header to reactor coolant system Loop 2A 2HV9328 inservice surveillance test per SO23-3-3.30.1, "ECCS Online Valve Test," Revision 5, performed on February 20, 2002

The inspectors also reviewed the licensee's evaluation of the periodicity requirements for surveillance testing of control element drive mechanism backup circuit breakers. The inspectors referenced Licensee Controlled Specification 3.8.100, "Containment Penetration Conductor Overcurrent Protective Devices," and AR 010100470 as part of the review.

The inspectors discussed the adequacy of the current methodology used to implement the requirements of Technical Specification 5.5.2.12, "Ventilation Filter Testing Program," with licensee personnel. The inspectors reviewed Regulatory Guide 1.52, ASME N510-1989, ANSI N510-1975, and surveillance test data.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed the following temporary plant modifications to verify that the safety functions of safety systems were not affected:

- Temporary Facility Modification 3-02-GNJ-001, Revision 0, "Disable CEDM Cooling Unit (3ME404) Fan Motor 3ME404B so that the cooling unit can operate with a single fan (3ME404A)."
- Temporary Facility Modification C-02-KAA-001, Revision 0, "Temporary configuration of the Respiratory and Service Air System while Respiratory and Service Air System Air Compressor SA2423MC445 is out of Service."

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The inspectors performed an in-office review of Revision 16 to Emergency Plan Implementing Procedure SO123-VIII-1, "Recognition and Classification of Emergencies," submitted December 5, 2001, against 10 CFR 50.54(q) to determine if the revision decreased the effectiveness of the emergency plan.

b. Findings

No findings of significance were identified.

2. **RADIATION SAFETY**

Cornerstone: Occupational Radiation Safety

2OS2 ALARA Planning and Controls (71121.02)

a. Inspection Scope

To determine the adequacy of the ALARA program, the inspector interviewed radiation workers and radiation protection personnel. Independent radiation surveys of selected work areas within the radiologically controlled area were conducted. Although, no high exposure jobs or work in high radiation areas was performed during the inspection, the following items were reviewed and compared with regulatory requirements:

- ALARA program procedures
- Processes used to estimate and track exposures
- Plant collective exposure history for the past 3 years, current exposure trends, and 3-year rolling average dose information
- Use of engineering controls to achieve dose reductions
- Hot spot tracking and reduction program
- Plant-related source term data, including source term control strategy
- Radiological work planning for work conducted during the moisture separator reheater forced outage (Maintenance Orders 00120074000, 01061443000, 01100343000, 01010120000, and 01011339000)
- Selected action requests initiated since the last inspection in this area (010800167, 010801026, 010900270, 011000797, and 011100087)
- ALARA Committee meeting minutes and presentations for the third and fourth quarters of 2001
- NORAD Audit Report SCES-009-01
- Third and fourth quarter 2001 Health Physics Division self-assessment reports
- Unit 2 Moisture Separator Reheater Forced Outage ALARA Report
- Declared pregnant worker dose monitoring controls

b. Findings

No findings of significance were identified.

4. **OTHER ACTIVITIES**

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

The inspectors verified the accuracy of data reported by the licensee for the following performance indicator to ensure that the performance indicator color was correct for both Units 2 and 3:

- IE2 Scram with Loss of Normal Heat Removal

The inspectors reviewed the performance indicator data for all four quarters of 2001. The inspectors reviewed NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," and licensee operating logs. The inspectors discussed the status of the performance indicator and compilation of data with Engineering personnel.

b. Findings

No findings of significance were identified.

4OA3 Event Followup (71153)

- .1 (Closed) LER 361; 362/2001-003-00: one train of control room emergency air cleanup system (CREACUS) inoperable due to unlatched circuit board.

On October 4, 2001, operators did not properly change the recorder paper and therefore unknowingly left a circuit board unlatched, which caused the flow-indicating controller and one train of the CREACUS to be inoperable. This was a violation of Technical Specifications 3.0.4 and 3.0.3 for Units 2 and 3, respectively. This issue was characterized as a noncited violation and as Green using the Significance Determination Process.

On October 22, 2001, a control room operator discovered that the CREACUS Train B flow control system was inoperable. During investigation of the issue, the licensee determined that the flow-indicating controller had been inoperable from the last time the Train B recorder paper was changed (October 4, 2001). Since that time Unit 2 had changed modes of operation and, for approximately 24 hours on October 11, 2001, the Train A CREACUS unit was also inoperable.

The inspectors evaluated the significance of the issue. The inspectors determined that the issue had a credible impact on safety because the issue affected the operability of a

safety-related train of CREACUS (Group 1 question answered yes). The inspectors also determined that the issue could affect the integrity of the control room envelope (Group 2 question answered yes). However, since the issue only represented a degradation of the radiological barrier function of the control room, the issue screened as Green using the Significance Determination Process.

Technical Specification 3.0.4 requires, in part, that, when a limiting condition for operation is not met, entry into a mode or other specified condition of the applicability shall not be made. Technical Specification 3.0.3 requires, in part, that, when a limiting condition for operation and the associated actions are not met, the unit shall be placed in a mode in which the limiting condition for operation is not applicable. Contrary to the above, on October 22, 2001, the licensee changed modes on Unit 2 and entered Mode 1 with an inoperable CREACUS unit and, on October 11, 2001, the licensee did not follow the actions of Technical Specification 3.0.3 on Unit 3 when both CREACUS trains were inoperable. This violation of Technical Specifications is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy (NCV 361; 362/2001014-02). This violation is in the licensee's corrective action program as AR 011001218.

- .2 (Closed) LER 361; 362/2002-001-00: aging phenomenon affects certain Potter and Brumfield relays

The inspectors reviewed this LER and determined that the licensee's root cause determination and proposed corrective actions were appropriate. This LER is closed.

4OA5 Other

(Closed) Inspection Followup Item 361-362/1998014-002: re-evaluate quality standards for non-Class 1e components for seismic qualifications

Regional inspectors reviewed this issue and determined that the licensee had taken appropriate actions in its evaluations. This item is closed.

4OA6 Meetings

Exit Meeting Summary

The inspectors presented the inspection results to Mr. R. Krieger, Mr. D. Nunn, and other members of licensee management at exit meetings on January 4, 11, and 18, February 14, and March 25, 2002. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

ATTACHMENT

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

- R. Krieger, Vice President, Nuclear Generation
- R. Allen, Supervisor, Reliability Engineering
- C. Anderson, Manager, Site Emergency Preparedness
- J. Austin, Planner, Health Physics
- D. Axline, Licensing Engineer
- J. Barrow, Supervisor, Health Physics and Acting Manager
- D. Brieg, Manager, Maintenance Engineering
- R. Clark, Manager, Quality Engineering and Programs
- G. Cook, Supervisor, Compliance
- M. Farmer, Supervisor, Health Physics
- J. Fee, Manager, Maintenance
- G. Ferrigno, Planner, Health Physics
- M. Hug, Supervisor, Emergency Planning
- M. Lewis, Technical Support, Health Physics
- C. McAndrews, Project Manager, Corrective Action Program
- M. McBrearty, Compliance Engineer, Regulatory Affairs
- J. McGaw, Senior Engineer, Strategic Issues
- M. McKinley, Manager, Nuclear Training Department
- M. Goettel, Manager, Business Planning and Financial Services
- J. Hirsch, Manager, Chemistry
- J. Madigan, Manager, Health Physics
- D. Nunn, Vice President, Engineering and Technical Services
- R. Osborne, Supervisor, Design Engineering
- J. Ramsdell, Maintenance Rule Coordinator, Engineering Program, Systems Engineering
- R. Richter, Supervisor, Fire Protection Engineering
- A. Scherer, Manager, Nuclear Oversight and Regulatory Affairs
- P. Shaffer, Superintendent, Plant Maintenance
- M. Short, Manager, Systems Engineering
- T. Vogt, Plant Superintendent, Units 2 and 3 Operations
- R. Waldo, Manager, Operations

NRC

- C. Osterholtz, Senior Resident Inspector
- J. Kramer, Resident Inspector

ITEMS OPENED, CLOSED, OR DISCUSSED

Opened and Closed

361; 362/2001014-01	NCV	Lack of corrective actions for screenwash system water hammer (Section 1R15.2)
361; 362/2001014-02	NCV	Inoperable train of the CREACUS system (Section 4OA3.1)

Closed

361; 362/2001-003-00	LER	One train of CREACUS inoperable due to unlatched circuit board (Section 4OA3.1)
361; 362/2002-001-00	LER	Aging phenomenon affects certain Potter and Brumfield relays (Section 4OA3.2)
361; 362/1998014-02	IFI	Re-evaluate quality standards for non-Class 1E components for seismic qualifications (Section 4OA5)

LIST OF ACRONYMS USED

ACE	apparent cause assessment
AFW	auxiliary feedwater
AR	action request
CFR	Code of Federal Regulations
CREACUS	control room emergency air cleanup system
EDG	emergency diesel generator
IFI	inspection followup item
LER	licensee event report
LPSI	low pressure safety injection
NCV	noncited violation
NRC	Nuclear Regulatory Commission
OA	operability assessment

DOCUMENTS REVIEWED

The following documents were selected and reviewed by the inspectors to accomplish the objectives and scope of the inspection and to support any findings:

PROCEDURES

NUMBER	DESCRIPTION	REVISION
SO123-XV-5.3	Maintenance Rule Program	3
SO123-XV-50	Corrective Action Process	3
SO123-XV-44	10 CFR 50.59 Program	4
SO123-XV-44.1	10 CFR 50.59 Program Resource Manual	0
SO123-XV-50	Corrective Action Process	3, EC 3
SO123-XX-1	Action Request/Maintenance Order Initiation and Processing	13, TCN 2
S0123-XV-5.10	Temporary Facility Modification	0

10 CFR 50.59 SCREENINGS

010701278-2	010800553-2	010901320-1	011001416-2
010800105-1	010800694-6	011000054-1	011100612-1
010800164-2	010501745-2	011000263-1	011100472-2
010800185-1	010101990-46	010900460-2	011101242-1
010800390-1	010801123-1	011001564-1	010900537-6
010800472-1	010900152-1	011001242-3	011200624-1
010800321-3	010501150-6	011100186-1	011200729-1

ARs

991200682	990700036	010801307	010500189
010301442	000400390	011000765	001101113
010400670	000501153	010700635	010801632
990501611	000701407	011101300	010901320
990501011	010401054		

10 CFR 50.59 EVALUATIONS

010800825-2	010301442-4	010600258-2	010800321-4
010100068-2	010501009-3	010600270-1	010900537-2
010200212-2	010501433-4	010601031-4	011000765-4
010200708-1		010501350-3	
010400217-1			

MISCELLANEOUS DOCUMENTS

TITLE/NUMBER	REVISION DATE
SCES-018-01:10CFR50.59 Program Audit	12/12/2001
SONGS Maintenance Rule Program Periodic (a)(3) Assessment	11/16/01
SONGS Maintenance Rule Program Periodic (a)(3) Assessment	11/23/99
Maintenance Rule Evaluation Guideline	11/17/97
Independent Assessment of Maintenance Rule Implementation	09/05/01
Surveillance Report SOS-045-01, Maintenance Rule Program	05/09/01
Site Technical Service Audit SCES-924-99	11/05/99
Maintenance Rule Quarterly Performance Summary Report - 3Q01	10/31/01
Maintenance Rule Quarterly Performance Summary Report - 4Q00	01/31/01
SONGS State of The System Report for Auxiliary Feed Water System	01/17/02
SONGS State of The System Report for Component Cooling Water System	01/17/02

SONGS State of The System Report for High Pressure Safety Injection System	01/17/02
SONGS State of The System Report for High Pressure Safety Injection & Shutdown Cooling System	01/17/02
SONGS State of The System Report for Main Steam System	01/17/02
Control Room Logs	10/10-17/01
ACE 010801543-2	
Work Authorization Record 3-0101538	
Work Authorization Record 2-0100168	
RSAS Operating Instruction SO23-1-2, Sections 6.2 and 6.3	
Updated Final Safety Analysis Report, Section 9.3.1, "RSAS/IAS"	

Maintenance Rule Evaluations (listed per applicable AR numbers)

980100940	000801364	001102003	010201709
980701447	000801366	001102004	010301123
000101639	001001494	010102354	011001024
000201542			

Maintenance Work Orders

00317200	00505820	96080638	99060581
00502840	00505860	96121091	99070119
00502880	00506940	97061197	99121969
00505284	00507000	99051426	99970110

MEETING MINUTES - Maintenance Rule Expert Panel (listed per date of meeting)

02/24/00	08/17/00	01/25/01	06/21/01
03/23/00	08/24/00	02/28/01	07/19/01
04/20/00	09/21/00	03/22/01	08/23/01
05/18/00	10/18/00	04/19/00	09/20/01
06/29/00	11/30/00	05/24/01	10/18/01
07/20/00	12/21/00		