



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION IV  
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ARLINGTON, TEXAS 76011-8084

March 31, 2000

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: PLANT PERFORMANCE REVIEW - SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2 AND 3**

Dear Mr. Ray:

The purpose of this letter is to communicate our assessment of your performance and to inform you of our planned inspections at your facility. On March 2, 2000, we completed a Plant Performance Review (PPR) of the San Onofre Nuclear Generating Station (SONGS), Units 2 and 3, facility. We conduct these reviews to develop an integrated overview of the safety performance of each operating nuclear power plant. We use the results of the PPR in planning and allocating inspection resources and as inputs to our senior management meeting (SMM) process. This PPR evaluated inspection results and safety performance information for the period from January 25, 1999, through February 11, 2000, but emphasized the last 6 months to ensure that our assessment reflected your current performance. Our most recent summary of plant performance at SONGS was provided to you in a letter dated September 16, 1999.

The NRC has been developing a revised reactor oversight process that will replace our existing inspection and assessment processes, including the PPR, the SMM, and the Systematic Assessment of Licensee Performance (SALP). We recently completed a pilot program for the revised reactor oversight process at nine participating sites and are making necessary adjustments based on feedback and lessons learned. We are beginning initial implementation of the revised reactor oversight process industry-wide, including your facility, on April 2, 2000.

This PPR reflects continued process improvements as we make the transition into the revised reactor oversight process. You will notice that the following summary of plant performance is organized differently from our previous performance summaries. Instead of characterizing our assessment results by SALP functional area, we are organizing the results into the strategic performance arenas embodied in the revised reactor oversight process. Additionally, in assessing your performance, we have considered the historical performance indicator data that you submitted in January 2000 in conjunction with the inspection results. The results of this PPR were used to establish the inspection plan in accordance with the new risk-informed inspection program (consisting of baseline and supplemental inspections). Although this letter incorporates some terms and concepts associated with the new oversight process, it does not reflect the much broader changes in inspection and assessment that will be evident after we have fully implemented our revised reactor oversight process.

*Template REN-002*

During the last 6 months, Unit 2 continuously operated at or near 100 percent power. Unit 3 also operated at or near 100 percent power, except when your staff reduced power to 65 percent to repair a feedwater pump.

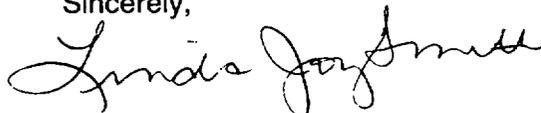
Based on a review of inspection results and the performance indicators, we did not identify any significant performance issues in the reactor safety, radiation safety, or safeguards strategic arenas. Only baseline inspections are planned, with one exception. We will conduct an Operational Safeguards Response Evaluation (OSRE) based on the time since the last OSRE, changes made to your security program, and past performance. We will continue with OSRE inspections until the industry proposed Self-Assessment Program is approved by the NRC staff as an acceptable substitute for the OSRE inspections. In addition, we note that you plan to install a number of intrusion detection system upgrades to address environmental factors, as well as to address the separation of Unit 1 from Units 2 and 3. We plan to focus our baseline inspections on these upgrades.

Enclosure 1 contains a historical listing of plant issues, referred to as the Plant Issues Matrix (PIM), that was used during this PPR process to arrive at our integrated view of your performance trends. The PIM for this assessment is grouped by the prior SALP functional areas of operations, maintenance, engineering, and plant support, although the future PIM will be organized along the cornerstones of safety as described in the revised reactor oversight process. The enclosed PIM includes items summarized from inspection reports or other docketed correspondence regarding SONGS, Units 2 and 3. We did not document all aspects of licensee programs and performance that may be functioning appropriately. Rather, we only documented issues that we believe warrant management attention or represent noteworthy aspects of performance. In addition, the PPR may also have considered some predecisional and draft material that does not appear in the attached PIM, including observations from events and inspections that had occurred since our last inspection report was issued, but had not yet received full review and consideration. We will make this material publically available as part of the normal issuance of our inspection reports and other correspondence.

Enclosure 2 lists our planned inspections for the period April 2000 through March 2001 at SONGS, Units 2 and 3, to allow you to resolve scheduling conflicts and personnel availability in advance of our inspector arrival onsite. The inspection schedule for the latter half of the period is more tentative and may be adjusted in the future because of emerging performance issues at SONGS, Units 2 and 3, or other Region IV facilities. Routine resident inspections are not listed because of their ongoing and continuous nature.

We will inform you of any changes to the inspection plan. If you have any questions, please contact me at (817/860-8137).

Sincerely,



Linda Joy Smith, Chief  
Project Branch E  
Division of Reactor Projects

Docket Nos.: 50-361  
50-362  
License Nos.: NPF-10  
NPF-15

Enclosures:

1. Plant Issues Matrix
2. Inspection Plan

cc w/enclosures:

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## United States Nuclear Regulatory Commission PLANT ISSUE MATRIX

By Primary Functional Area

Region IV  
 SAN ONOFRE

Date	Source	Functional Area	ID	Type	Template Codes	Item Title Item Description
12/15/1999	01013-99242	Pri: Sec:	NRC	VIO III	Pri: Sec: Ter:	<b>Failure to shut down unit with inoperable EDG.</b> EEI 99012-01 was closed by letter 12/15/99 - Level 3 Violation issued in same letter EA#99-242-01013, closed due to no response required. Cited against TS LCOs 3.8.1b; 3.8.4; and 3.0.3.
<b>Dockets Discussed:</b> 05000362 San Onofre 3						
12/03/1999	1999010	Pri: OPS Sec:	NRC	NEG	Pri: 3B Sec: 5A Ter:	<b>Excessive test item re-use</b> The licensee developed written and operating examinations that adequately evaluated licensed operator knowledge and ability. However the excessive re-use of test questions in one instance indicated a performance weakness.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
12/03/1999	1999010	Pri: OPS Sec:	NRC	POS	Pri: 1A Sec: 3A Ter: 3B	<b>Effective licensed operator requalification program</b> The San Onofre Licensed Operator Requalification Program continued to effectively satisfy the regulatory requirements of 10CFR55 for the exercise and renewal of licenses issued to San Onofre operators.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
11/16/1999	1999016	Pri: OPS Sec:	NRC	NEG	Pri: 1A Sec: 4B Ter:	<b>Underestimating planned maintenance risk.</b> Maintenance and Operations personnel responsible for assessing risk and scheduling maintenance did not sufficiently understand the mechanics and status of the online risk monitor. This resulted in underestimating the risk associated with performing a turbine-driven auxiliary feedwater pump outage concurrent with high impact switchyard work. The inspectors subsequently determined that risk remained in the moderate range, which was in the same range as the original licensee assessment.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
10/28/1999	1999016-01	Pri: OPS Sec:	NRC	NCV	Pri: 1C Sec: 5A Ter:	<b>Inadequate valve locking device.</b> Locking devices on two saltwater cooling heat exchanger outlet valves did not prevent removal of the operating chains that were used to restrain the valves and, therefore, were not adequate to prevent valve manipulation or provide evidence of unauthorized valve manipulation. A violation of Technical Specification 5.5.1.1.a resulted from the failure to properly lock a saltwater cooling heat exchanger outlet valve on each unit. This Severity Level IV violation is being treated as a noncited violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy. This violation was in the licensee's corrective action program as Action Request 991200172.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
10/24/1999	1999015-01	Pri: OPS Sec:	Licensee	NCV	Pri: 1A Sec: 3A Ter:	<b>Failure to follow breaker operations procedure - TS 5.5.1.1.a.</b> A violation of Technical Specification 5.5.1.1.a, resulted from the failure of an operator to properly rack out a 4160 V breaker to a seismically qualified position. This Severity Level IV violation is being treated as a noncited violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy. This violation was in the licensee's corrective action program as Action Request 991001107. This example, and another observed during this inspection period, demonstrated that operators continued to have difficulty operating breakers properly (previous occurrences were documented in NRC Inspection Reports 50-361/98-03; 50-362/98-03 and 50-361/98-07; 50-362/98-07).
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						

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Region IV  
 SAN ONOFRE

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10/16/1999	1999015	Pri: OPS Sec:	NRC	POS	Pri: 1B Sec: Ter:	<b>Hector Mine earthquake response.</b> Operator response to the magnitude 7.1 Hector Mine earthquake was good. The applicable procedure was entered, walkdowns of all operators' watch stations were accomplished, and a determination of the maximum plant acceleration was quickly made. The appropriate event classification and notifications were made. No plant damage occurred.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
08/25/1999	1999012	Pri: OPS Sec:	NRC	NEG	Pri: 1A Sec: Ter:	<b>CRS knowledge weakness regarding LCS action statement</b> A control room supervisor's knowledge of why the plant was in a shutdown action statement was weak. The required cooling water makeup from the fire water system to Emergency Diesel Generator 2G002 had been isolated, necessitating entry into the shutdown action statement. The control room supervisor was unable to explain, based on the information in the limiting condition for operation action requirements sheet, the condition that placed the unit in the action statement or the effects on the plant.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
08/07/1999	1999009	Pri: OPS Sec:	NRC	STR	Pri: 5A Sec: 5B Ter: 5C	<b>Effective corrective action program</b> The corrective action program was effectively identifying, resolving, and preventing problems. Specific strengths identified were the low threshold of reporting problems into the corrective action program and the priority of problem resolution.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
05/15/1999	1999006	Pri: OPS Sec:	NRC	POS	Pri: 1B Sec: Ter:	<b>Appropriate operator actions to manually trip Unit 3 reactor after FWRV failed open</b> After the Steam Generator 3E089 feedwater regulating valve failed open because of a faulty pneumatic positioner on May 15, 1999, operator actions to manually trip the Unit 3 reactor from 24 percent power were appropriate. Operator response to the trip was good. Operators followed appropriate procedures and avoided an excessive reactor coolant system cooldown that could have resulted from the nonresponding, open feedwater regulating valve.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
05/13/1999	1999006	Pri: OPS Sec:	NRC	POS	Pri: 1B Sec: Ter:	<b>Satisfactory operator actions to manually trip Unit 3 reactor following FWRV closure</b> After the Steam Generator 3E088 feedwater regulating valve failed closed because of a faulty control card and the subsequent automatic trip of both main feedwater pumps on May 13, 1999, operator actions to manually trip the Unit 3 reactor from 97 percent power were appropriate. Licensee response to the event was characterized by good management oversight and thorough initial event investigation.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
05/03/1999	1999301	Pri: OPS Sec:	NRC	POS	Pri: 3B Sec: Ter:	<b>Initial License for 2 operators and 2 senior operators</b> The two operator and two senior operator license applicants passed the examination. The test material was adequate for administration as submitted, with no postexamination changes identified.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						

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04/29/1999	1999006	Pri: OPS Sec:	NRC	NEG	Pri: 1A Sec: 1C Ter:	<b>Poor communications during draindown to midloop</b> Communication practices among control room reactor operators during the Unit 3 reactor coolant system draindown to midloop were poor and not in accordance with licensee management expectations. Incomplete and general component identifications were frequently verbalized while preparing for, and during, component manipulations. However, the overall performance of the evolution was acceptable.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
04/15/1999	1999006	Pri: OPS Sec:	NRC	POS	Pri: 1A Sec: 3A Ter:	<b>Good licensee performance during DC bus crosstie evolution</b> The licensee's assessment of a vital dc bus cross-tie evolution accurately reflected Operations and Maintenance personnel performance. The overall performance of the evolution (prejob briefing, equipment manipulation, and independent verification of components) was good.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
03/31/1999	1999004	Pri: OPS Sec:	NRC	POS	Pri: 1A Sec: 3C Ter:	<b>Operators carefully conducted midloop operations - Unit 3</b> Operators carefully conducted midloop operations during the Unit 3 refueling outage. Management oversight of the evolutions was excellent.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
02/23/1999	1999004	Pri: OPS Sec:	NRC	POS	Pri: 1A Sec: Ter:	<b>Excellent operator performance during reactor startup - Unit 2</b> Operator performance during the Unit 2 reactor startup was excellent. Operators used formal communications. Appropriate guidance was provided by Operations supervision and Reactor Engineering. Unnecessary distractions were kept to a minimum.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
02/20/1999	1999001	Pri: OPS Sec:	NRC	POS	Pri: 1A Sec: 3A Ter:	<b>Good licensee performance during midloop</b> Operators carefully conducted two midloop operations during the Unit 2 refueling outage. Management oversight of the evolutions was excellent.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
02/20/1999	1999001	Pri: OPS Sec:	NRC	POS	Pri: 1A Sec: 3A Ter: 3C	<b>Good operator performance during refueling and core offload</b> Operators and refueling personnel performance during the core offload was good. Communications were clear and included repeat-backs. Fuel movements were performed in a controlled and deliberate manner.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						

## United States Nuclear Regulatory Commission PLANT ISSUE MATRIX

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Date	Source	Functional Area	ID	Type	Template Codes	Item Title Item Description
02/20/1999	1999001	Pri: OPS Sec:	NRC	POS	Pri: 1A Sec: 3A Ter: 3C	<b>Conservative decisions during core reload</b> Operations management demonstrated conservatism in requiring a more direct backup boric acid flow path than had been planned, and which was not required by Technical Specifications, and in delaying the core reload until satisfied with the flow paths. Additionally, the licensee exercised due precaution in delaying recommencement of the core reload until both trains of the control room emergency air cleanup system were operable. These instances reflected a philosophy of placing safety above production
<p><b>Dockets Discussed:</b>            05000361 San Onofre 2            05000362 San Onofre 3</p>						
02/10/1999	1999001	Pri: OPS Sec:	NRC	NEG	Pri: 1A Sec: 3A Ter:	<b>Weak operator understanding for RCS heatup</b> Operations' procedures and crew understanding of what constituted a reactor coolant system heatup were weak. The procedure incorrectly led operators to believe that a slow planned reactor coolant system heatup did not require formal documentation to verify that temperature, pressure, and heatup rate remained within acceptable limits. However, the actual verification of these parameters was performed as required.
<p><b>Dockets Discussed:</b>            05000361 San Onofre 2            05000362 San Onofre 3</p>						
02/10/1999	1999009-02	Pri: OPS Sec:	Licensee	NCV	Pri: 1A Sec: Ter:	<b>CCW noncritical loop isolation valve inoperable due to previously unrecognized instrument air configuration</b> A violation of Technical Specification 3.7.7 was identified as the result of a design error that rendered the component cooling water noncritical loop isolation valves inoperable under limited conditions. The licensee determined that the increases in the core damage frequency and large early release frequency were both 4.6E-7/year. The low probability of occurrence of both the initiating condition (seismic event) and the specific failures required to create the inoperability rendered the safety significance low. This Severity Level IV violation is being treated as a noncited violation, consistent with Appendix C of the NRC Enforcement Policy. This violation was in the licensee's corrective action program as Action Request 990200839.
<p><b>Dockets Discussed:</b>            05000361 San Onofre 2            05000362 San Onofre 3</p>						
02/01/1999	1999003	Pri: OPS Sec:	NRC	NEG	Pri: 1A Sec: 1B Ter:	<b>Weak shutdown procedure for assessing risk relationship for electrical and dependent systems</b> The shutdown nuclear safety procedure was weak in that it did not fully reflect the interrelationship between the electrical distribution safety function and other safety functions that were dependent on the electrical distribution system. Specifically, the availability of Train B Bus 2A06 was credited for fulfilling the electrical distribution safety function as Method B, but did not contribute to supporting the decay heat removal safety functions because the Train B systems were mechanically unavailable. Additional measures to protect the Train A electrical distribution system would have been appropriate but were not required by the procedure. This weakness was not identified by the licensee's investigation and was not included in the corrective action program.
<p><b>Dockets Discussed:</b>            05000361 San Onofre 2            05000362 San Onofre 3</p>						
02/01/1999	1999003	Pri: OPS Sec:	NRC	POS	Pri: 1B Sec: 2A Ter: 3A	<b>Excellent personnel and system response to the Unit 2 loss of SDC event</b> Personnel and system response to the February 1, 1999, loss of SDC event in Unit 2 were excellent:  Operators correctly and promptly classified a loss of SDC event, and their response to the event was good. Operators' execution of the "Loss of Shutdown Cooling" abnormal operating instruction was excellent.  The local containment evacuation, although directed by procedure, was a precautionary and conservative measure. Nevertheless, it was accomplished expeditiously and without hesitation.  All equipment and systems performed as designed in response to the event. A thorough inspection and testing plan for potentially affected components, including the transformers and breakers, was developed and completed, revealing no equipment damage as a result of the event. The overcurrent protection scheme for the safety-related feeder breakers and Train A Bus 2A04 was acceptable, and the undervoltage protection circuits functioned as designed.
<p><b>Dockets Discussed:</b>            05000361 San Onofre 2            05000362 San Onofre 3</p>						

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Date	Source	Functional Area	ID	Type	Template Codes	Item Title Item Description
02/01/1999	1999003	Pri: OPS Sec:	NRC	POS	Pri: 1C Sec: 3A Ter:	<b>Implementation of shutdown nuclear program ensured heat sink maintained during loss of SDC</b> The licensee's shutdown nuclear safety program and its implementation ensured that safety functions were adequately maintained during a loss of SDC event in Unit 2 on February 1, 1999. The defense-in-depth strategy in place for core and spent fuel pool decay heat removal provided reasonable assurance that boiling would not occur before a backup active decay heat removal system could be placed in service. The minimal heatup that occurred during the event demonstrated that the margin provided by the large heat sink adequately maintained the decay heat removal safety function for both the core and spent fuel pool.
<p>Dockets Discussed:            05000361 San Onofre 2            05000362 San Onofre 3</p>						
02/01/1999	1999003-01	Pri: OPS Sec:	Licensee	NCV	Pri: 1A Sec: 2B Ter: 3B	<b>Electrical alignment sequence inappropriate; instructions for racking out stuck breaker inappropriate.</b> One example of a noncited violation (NRC Enforcement Policy, Appendix C) of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified because the procedural controls for ensuring that the reserve auxiliary transformer could not affect operable safety equipment were inadequate and inappropriate for the circumstances. The switching order closed the grounding disconnects before the safety-related low side feeder breakers were racked out. This established an unnecessarily risky configuration that was a substantial contributor to the February 1, 1999, loss of SDC event and the subsequent inability of the emergency diesel generator to perform its design function when it was called upon. This example is in the licensee's corrective action program as Action Request 990200037.  One example of a noncited violation (NRC Enforcement Policy, Appendix C) of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified because the instructions provided to the operators and electricians for freeing Breaker 2A0418, including discharging the closing springs, were inadequate and inappropriate for the circumstances. This inadequacy substantially contributed to causing a loss of SDC in Unit 2 on February 1, 1999. This example is in the licensee's corrective action program as Action Request 990200037:  None of the licensee personnel involved, including outage management personnel and various supervisors and managers, recognized that attempting to rack out the breaker, once it was known to have interference, substantially increased the risk of the activity and warranted more careful planning and control, consistent with the licensee's recently-promulgated "error-likely situations" guidance.  During prejob briefings discussing the plan to discharge the closing springs to prevent inadvertent closure, undue reliance was placed on the knowledge of one individual. The lack of specific knowledge regarding breaker operational details by others involved, especially the cognizant engineer, was not established or considered. While a procedural precaution was discussed, personnel did not confirm that the precaution did not apply, again trusting in one individual's knowledge.  A blanket maintenance order was used that provided no specific direction regarding breaker operations, and the operating instruction for 4160 volt air circuit breakers did not directly address the breaker interlocks.
<p>Dockets Discussed:            05000361 San Onofre 2            05000362 San Onofre 3</p>						
02/09/2000	2000002-01	Pri: MAINT Sec:	NRC	NCV	Pri: 2B Sec: Ter:	<b>Inappropriate acceptance criteria for instrumentation channel operability.</b> A violation of 10 CFR Part 50, Criterion V, occurred because an Operations surveillance procedure used to implement postaccident monitoring instrumentation channel checks contained inappropriate acceptance criteria. Multiple recorders that should have been required for operability were not listed as such. In this respect, the Operations procedure group demonstrated poor attention to the design of the plant. This Severity Level IV violation is being treated as a noncited violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy. This violation was in the licensee's corrective action program as Action Request 000101672.
<p>Dockets Discussed:            05000361 San Onofre 2            05000362 San Onofre 3</p>						

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01/04/2000	1999019	Pri: MAINT Sec:	NRC	NEG	Pri: 1C Sec: 3A Ter:	<b>Weak knowledge of barrier analysis.</b> Machinists and Operations Work Control personnel had a weak understanding of the scope of the barrier analysis performed for planned maintenance. This resulted in using an ocean intake water level work window restriction that had no technical basis.
Dockets Discussed: 05000361 San Onofre 2 05000362 San Onofre 3						
11/29/1999	1999016	Pri: MAINT Sec:	NRC	POS	Pri: 1A Sec: 1C Ter:	<b>Good compensatory measures during diesel outage.</b> Operations and Maintenance planning personnel were conservative by instituting work control measures in excess of programmatic and Technical Specification requirements during an 8-day scheduled emergency diesel generator outage. With the emergency diesel generator unavailable, Unit 2 risk remained in the normal range. The controls included restricting access to high risk components, restricting emergency diesel generator allowed outage time to less than Technical Specification-allowed outage time, and restricting switchyard work.
Dockets Discussed: 05000361 San Onofre 2 05000362 San Onofre 3						
11/06/1999	1999016	Pri: MAINT Sec:	NRC	NEG	Pri: 3A Sec: 4B Ter:	<b>Erroneous information during surveillance tailboard.</b> A prejob briefing conducted by a licensed operator in preparation for a semiannual emergency diesel generator fast start contained erroneous information. The crew was told to expect turbocharger exhaust leaks that had already been evaluated as acceptable, when in fact, these leaks had already been repaired. Further, direction was given to complete inservice testing of air-start system valves, which was neither required nor workable during an emergency diesel generator fast start.
Dockets Discussed: 05000361 San Onofre 2 05000362 San Onofre 3						
11/02/1999	1999019-01	Pri: MAINT Sec:	Licensee	NCV	Pri: 2B Sec: Ter:	<b>Failure to perform TS surveillance.</b> A violation of Technical Specification Surveillance Requirement 3.7.5.2 occurred because the licensee failed to perform a surveillance of an auxiliary feedwater pump every 31 days on a staggered basis four times since 1998. In each case, the pump subsequently developed the required head and passed the surveillance. This Severity Level IV violation is being treated as a noncited violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy. This violation was in the licensee's corrective action program as Action Request 991100156.
Dockets Discussed: 05000361 San Onofre 2 05000362 San Onofre 3						
10/13/1999	1999015	Pri: MAINT Sec:	NRC	NEG	Pri: 2A Sec: 2B Ter: 5A	<b>Diesel air-start motor monitoring.</b> An equipment operator demonstrated poor attention to detail by not observing an apparent deficiency in a train of air-start motors during an emergency diesel generator fast start surveillance, until the deficiency was pointed out by the inspectors. The licensee's actions to enhance the maintenance program for the air-start motor oilers was good.
Dockets Discussed: 05000361 San Onofre 2 05000362 San Onofre 3						
10/12/1999	1999015	Pri: MAINT Sec:	NRC	NEG	Pri: 2B Sec: Ter:	<b>Incomplete draining of equipment for maintenance because of blocked vent path.</b> Operator performance in draining the piping associated with swing high pressure safety injection Pump 2P018 was weak in that the vent and drain path was not verified to function as expected. When maintenance activities commenced, a large volume of potentially contaminated water unexpectedly gushed from the pump casing drain and flooded a large portion of the pump room floor. Operations' communications regarding the occurrence were weak in that control room personnel were not notified in a timely manner.
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09/11/1999	1999015-02	Pri: MAINT Sec:	Licensee	NCV	Pri: 2A Sec: 2B Ter:	<b>Inadequate instructions for linestarter maintenance - 10 CFR 50.</b> A violation of 10 CFR Part 50, Appendix B, Criterion V, resulted from the failure of the licensee to provide appropriate documented instructions to maintenance personnel during the replacement of a linestarter that ultimately caused a breaker malfunction. In addition to the malfunctioned breaker, 38 of 172 breakers had misaligned linestarter coils as a result of the inadequate instructions. This Severity Level IV violation is being treated as a noncited violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy. This violation was in the licensee's corrective action program as Action Request 990900647.
Dockets Discussed: 05000361 San Onofre 2						
08/31/1999	1999016-02	Pri: MAINT Sec:	Licensee	NCV	Pri: 2B Sec: 3A Ter:	<b>Failure to maintain cable train separation.</b> A violation of 10 CFR Part 50, Appendix B, Criterion III, resulted from the failure of the licensee to ensure that cable train separation criteria were maintained during a radiation monitor design change. This Severity Level IV violation is being treated as a noncited violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy. This violation was in the licensee's corrective action program as Action Request 990900002. Although train separation was not maintained, this condition itself would not have prevented systems from performing their required emergency safety features function.
Dockets Discussed: 05000361 San Onofre 2 05000362 San Onofre 3						
08/07/1999	1999009	Pri: MAINT Sec:	NRC	POS	Pri: 1A Sec: 4C Ter:	<b>Unit 3 emergency diesel generator cooling water systems material condition good.</b> The material condition of the Unit 3 emergency diesel generator cooling water systems was generally good, except for components located under deck plate grating, which were externally corroded. Cooling water system drawings and valve alignments were generally accurate, except that startup strainers were not installed in the plant and one valve was incorrectly identified in the valve alignment procedure.
Dockets Discussed: 05000361 San Onofre 2 05000362 San Onofre 3						
07/22/1999	1999012-02	Pri: MAINT Sec:	NRC	NCV	Pri: Sec: Ter:	<b>Design element not considered during maintenance activity.</b> Planning for control room boundary damper maintenance was poor. Design limits on the amount of time the control room envelope could be breached, in the event of a high radiation condition, were not incorporated into work plans, or known by Maintenance or Operations personnel involved. Personnel generally thought that they had 1 hour to restore the system integrity, whereas the design assumed only 2 minutes for system restoration and actuation after radiation reached the sensors. This was a violation of 10 CFR Part 50, Appendix B, Criterion III, for failing to translate system design requirements into the work control instructions and procedures. This Severity Level IV violation is being treated as a noncited violation, consistent with Appendix C of the NRC Enforcement Policy. This violation was in the licensee's corrective action program as Action Request 990402380
Dockets Discussed: 05000361 San Onofre 2 05000362 San Onofre 3						
07/06/1999	1999009	Pri: MAINT Sec:	NRC	NEG	Pri: 2B Sec: 5C Ter:	<b>Maintenance personnel did not proactively initiate a procedure change for an inconsistency.</b> Maintenance personnel did not proactively initiate a procedure change for an inconsistency identified during a containment hydrogen monitor calibration. A lower-tier calibration procedure did not agree with a higher-tier work control procedure. The lower-tier procedure did not allow personnel to adjust as-found amplifier gain to within center of acceptance limits, when the as-found amplifier gain was within acceptance limits but not centered. Maintenance personnel adjusted the amplifier gain, as allowed by the higher-tier procedure; however, they took no action to change the lower-tier procedure to avoid confusion in the future.
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06/26/1999	1999008-01	Pri: MAINT Sec:	Licensee	NCV	Pri: 2B Sec: 4A Ter:	<b>Exceeding Control Room Emergency Air Cleanup allowed outage times</b> A noncited violation (Enforcement Policy, Appendix C) of Technical Specifications 3.7.5 (pre-1996) and 3.7.11 (post-1996) occurred when the allowed outage times for the control room emergency air cleanup system boundary were intermittently exceeded during maintenance activities because of a drawing error. However, the safety consequence of these boundary breaches was minimal since the positive control room pressure could have been maintained with the breach. This violation is in the corrective action program as Action Request 981100593.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
05/15/1999	1999006	Pri: MAINT Sec:	NRC	NEG	Pri: 2A Sec: 3A Ter:	<b>Incore debris not promptly removed</b> Loose incore debris inspections conducted during the Unit 3 refueling outage were thorough. Foreign objects identified were removed; however, a time delay between object identification and removal, with no restrictions on level and flow changes in the reactor vessel, had the potential to cause identified objects to change position and become unretrievable. This delay was a poor practice
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
05/15/1999	1999006	Pri: MAINT Sec:	NRC	POS	Pri: 2A Sec: Ter:	<b>Aggressive Licensee performance after inconclusive IST check valve test on SDC check valves.</b> The licensee aggressively pursued inconclusive results of an inservice test and identified that the check valve disc nuts in the shutdown cooling return line to the suction of the low pressure safety injection pumps had corroded away, rendering the check valves degraded but operable. The licensee determined the nuts were carbon steel instead of stainless steel as designed. The licensee effected prompt repairs in both units and implemented appropriate compensatory measures to reduce the risks associated with the repairs in the operating unit.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
05/15/1999	1999006-01	Pri: MAINT Sec:	NRC	NCV	Pri: 2A Sec: Ter:	<b>failure to install stainless steel SDC valve disc nuts</b> A noncited violation (Enforcement Policy, Appendix C) of 10 CFR Part 50, Appendix B, Criterion V, was identified because the licensee installed shutdown cooling system check valves with carbon steel disc nuts instead of stainless steel nuts, and the nuts corroded away. This occurred in 1984 and 1982 in Units 2 and 3, respectively. This violation is in the corrective action program as Action Request 990400907.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
05/15/1999	1999006-02	Pri: MAINT Sec:	Licensee	NCV	Pri: 2B Sec: Ter:	<b>missed surveillance of fire detector circuit supervision inside containment</b> A noncited violation (Enforcement Policy, Appendix C) of Technical Specifications 4.3.3.7.2 (pre-1996) and 5.5.1.1.a (post-1996) was identified because a procedure error had caused the surveillance of fire detector supervisory circuits in containment not to be performed at the required frequency since 1986. This violation is in the corrective action program as Action Request 981001241.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
05/05/1999	1999006	Pri: MAINT Sec:	NRC	NEG	Pri: 2A Sec: Ter:	<b>Unit 3 containment walkdown inspection</b> Containment loose debris inspections in Unit 3, conducted by the licensee prior to Mode 4 entry, were generally effective. However, the inspectors identified several items that the licensee missed, including a pair of pliers in a steam generator keyway and a fan screen that was partially unsecured from the fan base because of corrosion.
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04/27/1999	1999006	Pri: MAINT Sec:	NRC	NEG	Pri: 3A	<b>Poor maintenance work ALARA planning</b> Operations and Maintenance personnel, aware that the planned vent path might not provide for effectively draining the contaminated water from shutdown cooling system piping in preparation for check valve repairs, were not proactive in preventing workers from being sprayed by the water. However, the workers were wearing appropriate protective clothing, which prevented personal contamination. The radiological response to the occurrence was good
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
03/09/1999	1999004	Pri: MAINT Sec:	NRC	POS	Pri: 3A Sec: 3B	<b>Excellent implementation during EDG cylinder replacement</b> Maintenance personnel performance during the removal of an emergency diesel generator cylinder power assembly was excellent. The personnel used excellent foreign material exclusion practices. The personnel were very knowledgeable about the equipment and maintenance activities.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
02/20/1999	1999001-01	Pri: MAINT Sec:	Licensee	NCV	Pri: 4B	<b>TS 3.7.14 Charcoal Filter Surveillance Testing not Current</b> A noncited violation (Enforcement Policy, Appendix C) of Technical Specifications 3.7.14 was identified as the result of charcoal filter surveillance testing not having been performed as required by current standards, affecting both the post-accident cleanup units and the control room emergency air cleanup units. SEE 1999001-002
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
02/20/1999	1999001-02	Pri: MAINT Sec:	NRC	NCV	Pri: 4B	<b>TS 3.7.11 Charcoal Filter Surveillance Testing not Current</b> A noncited violation (Enforcement Policy, Appendix C) of Technical Specifications 3.7.11 was identified as the result of charcoal filter surveillance testing not having been performed as required by current standards, affecting both the post-accident cleanup units and the control room emergency air cleanup units. SEE 1999001-01
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
02/20/1999	1999001-03	Pri: MAINT Sec:	Licensee	NCV	Pri: 4B	<b>Post accident cleanup system inoperable due to flow calibration error</b> A noncited violation (Enforcement Policy, Appendix C) of Technical Specification 3.7.14 was identified as the result of the Unit 3 Train B post-accident cleanup system being inoperable because of having inadequate flow. This had not been detected during surveillance testing because of a flow calibration error.
<b>Dockets Discussed:</b> 05000362 San Onofre 3						
02/19/1999	1999004	Pri: MAINT Sec:	NRC	POS	Pri: 2A Sec: 5C	<b>Acceptable conditions identified during containment walkdown - Unit 2</b> Although Unit 2 containment material condition was acceptable for Mode 4 entry, minor material condition deficiencies were identified by the inspectors and properly addressed by the licensee.
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01/27/2000	2000002-02	Pri: ENG Sec:	Licensee	NCV	Pri: 4A Sec: Ter:	<b>Loss of electrical separation</b> A violation of 10 CFR Part 50, Appendix B, Criterion III, resulted from the failure to electrically separate Class 1E circuits from non-Class 1E circuits. Six components were affected, none of which were required for safe shutdown in the event of a fire. Although electrical separation was not maintained, the components remained operable and capable of performing their intended function. This Severity Level IV violation is being treated as a noncited violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy. This violation was in the licensee's corrective action program as Action Request 000101584.
<p><b>Dockets Discussed:</b>            05000361 San Onofre 2            05000362 San Onofre 3</p>						
12/10/1999	1999018-01	Pri: ENG Sec: MAINT	NRC	URI	Pri: 4A Sec: Ter:	<b>Adequacy of design basis assumptions for safety-related MOVs.</b> An unresolved item was identified concerning the possibility that some accident sequences may not have been properly considered during the development of motor-operated valve design-basis calculations. The concern was based on the inspectors' discovery that the design-basis calculation of one Generic Letter 96-05 motor-operated valve failed to consider an accident mitigation function assumed in the Updated Final Safety Analysis Report.
<p><b>Dockets Discussed:</b>            05000361 San Onofre 2            05000362 San Onofre 3</p>						
10/30/1999	1999015-03	Pri: ENG Sec:	NRC	NCV	Pri: 4A Sec: Ter:	<b>Inadequate RCP motor oil collection system during abnormal operation - 10 CFR 50.</b> A violation of 10 CFR Part 50, Appendix R, Section III.O, occurred because the oil collection system for a Unit 2 reactor coolant pump was not collecting oil that occasionally leaked from the pump motor when the lower motor oil bearing reservoir was overfilled. The oil collection system was only determined to be deficient while the system was being operated without sufficient controls to prevent overfilling. Fire loading limits were not exceeded. This Severity Level IV violation is being treated as a noncited violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy. This violation was in the licensee's corrective action program as Action Request 990300146.
<p><b>Dockets Discussed:</b>            05000361 San Onofre 2</p>						
09/18/1999	1999012-04	Pri: ENG Sec:	NRC	NCV	Pri: 2A Sec: 4B Ter:	<b>Failure to promptly identify and correct containment emergency sump cover plate deficiencies.</b> A violation of 10 CFR Part 50, Appendix B, Criterion XVI, resulted from a failure of the licensee to promptly identify and repair all gaps in containment emergency sump cover plates. This Severity Level IV violation is being treated as a noncited violation, consistent with Appendix C of the NRC Enforcement Policy. In 1993 the licensee repaired some of the gaps but failed to correct two additional gaps. This violation was in the licensee's corrective action program as Action Request 990201682. Additionally, the inspectors determined that newly-discovered gaps between the side screens and the sump cover plate were also inconsistent with design commitments for the sumps and were required to be corrected. The licensee determined that the sumps were operable in their degraded condition.
<p><b>Dockets Discussed:</b>            05000361 San Onofre 2            05000362 San Onofre 3</p>						
08/27/1999	1999009-01	Pri: ENG Sec:	Licensee	NCV	Pri: 4C Sec: Ter:	<b>Oxygen monitor setpoint limits did not ensure limit would not be exceeded</b> A violation of Technical Specification 3.3.3.9 (pre-1996) and Technical Specification 5.5.1.1.a (post-1996) resulted from incorrect waste gas system oxygen monitor setpoints. This Severity Level IV violation is being treated as a noncited violation, consistent with Appendix C of the NRC Enforcement Policy. The instrument total loop uncertainty had not been calculated until 1994, and the calculation misapplied the total loop uncertainty such that the setpoints were not adjusted to account for the uncertainty. The licensee determined that the analytical (safe) limit for oxygen concentration was 5 percent and that at no time could this value have been reached without an alarm. This violation was in the licensee's corrective action program as Action Requests 980900715 and 990700022.
<p><b>Dockets Discussed:</b>            05000361 San Onofre 2            05000362 San Onofre 3</p>						

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08/07/1999	1999009	Pri: ENG Sec:	NRC	NEG	Pri: 5B Sec: Ter:	<b>Personnel demonstrated weaknesses in documenting evaluation results in action requests</b>  Although appropriately addressing the technical issues associated with equipment deficiencies, personnel demonstrated weaknesses in documenting evaluation results in action requests or following procedural guidance for the content of evaluations for cause in all five action requests randomly sampled out of a population of approximately 400.
Dockets Discussed: 05000361 San Onofre 2 05000362 San Onofre 3						
07/15/1999	1999009	Pri: ENG Sec:	NRC	POS	Pri: 5A Sec: 5B Ter:	<b>Identification of abnormal accumulator air pressure good attention to saltwater cooling system.</b>  A Station Technical engineer demonstrated good attention to the saltwater cooling system in identifying abnormal accumulator air pressure during a routine system walkdown. The operability assessment and the initial declaration of Technical Specification 3.0.3 entry were conservative, and the immediate corrective actions were prompt and thorough.
Dockets Discussed: 05000361 San Onofre 2 05000362 San Onofre 3						
05/15/1999	1999006	Pri: ENG Sec:	Licensee	NEG	Pri: 2A Sec: Ter:	<b>RCS Inconel nozzle inspection and replacement.</b>  During the 1998 Unit 2 midcycle outage, the licensee identified that seven Inconel-600 instrument nozzles in the reactor coolant system had indications of potential pressure boundary leakage. The licensee repaired the nozzles and accelerated its planned replacement of the remaining Inconel-600 nozzles on the reactor coolant system loops. Because the corrective actions from a 1996 violation were still in the process of being implemented, the leaking nozzles reported by the licensee were considered to be additional examples of the previous violation and additional enforcement was not warranted. The licensee completed the replacement of the Inconel-600 nozzles on the reactor coolant loops during the Cycle 10 refueling outages, leaving Inconel-600 only in the instrument nozzles on the pressurizer, steam generators, and reactor vessel head in both units
Dockets Discussed: 05000361 San Onofre 2 05000362 San Onofre 3						
05/15/1999	1999006	Pri: ENG Sec:	NRC	NEG	Pri: 4B Sec: Ter:	<b>Poor engineering performance during nozzle seal design implementation</b>  Engineering performance deficiencies resulted in mechanical nozzle seal assembly mounting holes in the Unit 3 pressurizer being misaligned such that the assembly had to be redesigned before installation.
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05/15/1999	1999006	Pri: ENG Sec:	NRC	POS	Pri: 4B Sec: Ter:	<b>Appropriate performance during unit 2 RCP 2P004 oil fill.</b>  The use of the remote fill station for adding oil to the lower oil reservoir for Reactor Coolant Pump 2P004 was acceptable. The compensatory measures to verify the condition and integrity of the remote oil fill lines before and during use, including additional administrative measures to track the oil usage, were appropriate. Based on a pump walkdown, the licensee concluded that the leaking pump oil was being captured by the oil collection system.
Dockets Discussed: 05000361 San Onofre 2 05000362 San Onofre 3						
05/15/1999	1999006-03	Pri: ENG Sec:	Licensee	NCV	Pri: 4A Sec: Ter:	<b>failure to ensure EDG storage tank design and procedures correctly reflect diesel fuel volume required by de</b>  A noncited violation (Enforcement Policy, Appendix C) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified because the emergency diesel generator fuel storage tank design and procedures failed to provide the diesel fuel volume required by the design basis. This violation is in the corrective action program as Action Request 980700697
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04/03/1999	1999004	Pri: ENG Sec:	NRC	POS	Pri: 5A Sec: 5B Ter: 5C	<b>Excellence demonstrated in actions for CCW non-critical loop isolation valves</b> The licensee's identification, determination of cause, and planned and completed corrective actions, related to a design flaw in the component cooling water noncritical loop isolation valve actuators demonstrated excellence in the support of the system by the current engineering organization.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
04/03/1999	1999004-05	Pri: ENG Sec:	NRC	NCV	Pri: 5A Sec: 5B Ter:	<b>failure to ensure design basis was correctly translated into specifications</b> A noncited violation (NRC Enforcement Policy, Appendix C) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," resulted from the licensee's identification that the feeder cables from the Unit 3 unit auxiliary transformer to the Class 1E 4.16 kV busses could exceed the maximum allowable conductor temperature during backfeeding conditions. This was in the licensee's corrective action program as Action Request 980300480.
<b>Dockets Discussed:</b> 05000362 San Onofre 3						
02/20/1999	1999001	Pri: ENG Sec:	Licensee	NEG	Pri: 5A Sec: 5B Ter: 5C	<b>Poor past FME control in steam generator</b> A large foreign object (a foreign material exclusion cover for a moisture separator can) had been left in Steam Generator 2E089 since the midcycle outage in early 1998. The licensee's evaluation of the source and effects of the object was thorough and the planned corrective actions were adequate.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
02/20/1999	1999001	Pri: ENG Sec:	Licensee	POS	Pri: 4B Sec: 5A Ter: 5C	<b>Thorough licensee response to new identified sources of aluminum</b> Maintenance and Station Technical responded aggressively to quantify undocumented aluminum found in the Unit 2 containment normal air cooler prefilters, and to determine that Unit 3 was not affected. The licensee's investigation was thorough in identifying causes and corrective actions, and the operability assessment was adequate.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
02/20/1999	1999001-05	Pri: ENG Sec:	Licensee	NCV	Pri: 5A Sec: Ter:	<b>Vital Bus Aligned to Inoperable Line Regulator for Longer Than 2 Hours</b> A noncited violation (Enforcement Policy, Appendix C) of Technical Specification 3.8.3.1.a (in the pre-1996 Technical Specifications) was identified as the result of the licensee's discovery that the line voltage regulator voltage setpoints were incorrect, and that, in 1986, 120-volt ac buses had been aligned to the inoperable line voltage regulator longer than allowed.
<b>Dockets Discussed:</b> 05000361 San Onofre 2						

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02/01/1999	1999003	Pri: ENG Sec:	NRC	POS	Pri: 5B Sec: 5C Ter:	<b>Good licensee assessments and corrective actions related to the loss of SDC</b> The licensee's assessment and corrective program implementation, in response to the loss of SDC in Unit 2 on February 1, 1999, was good:  The root cause assessment of the stuck breaker was good. The incorrect configuration affected only the ability to rack the breaker out, which was not a safety function. The licensee's conclusion that the configuration error was the result of a vendor performance deficiency was rigorously supported, and the licensee event report correctly identified the applicability of 10 CFR Part 21. The licensee's corrective actions, including enhancing the appropriate circuit breaker inspection procedure, were appropriate.  The licensee's corrective action program appropriately focused on causal factors, which were clearly discussed in the Level 1 event report. Corrective actions, including several programmatic enhancements, were clearly identified and were entered into the corrective action tracking system. However, the event report investigation and report did not identify or address the safety function interrelationship weakness discussed above.  The licensee's assessment of the safety significance of the event considered all relevant factors. The conclusion that the core damage risk increase was "very small" was correct.
Dockets Discussed: 05000361 San Onofre 2 05000362 San Onofre 3						
01/20/2000	2000002-05	Pri: PLTSUP Sec:	Licensee	NCV	Pri: 4A Sec: Ter:	<b>Circuits do not meet fire protection design basis.</b>
Dockets Discussed: 05000361 San Onofre 2 05000362 San Onofre 3						
11/17/1999	1999017	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	<b>Access control - vehicles.</b> Vehicle access control to the protected area was effectively controlled. Recently installed portions of the licensee's protected area detection system were inspected and determined to be very effective.
Dockets Discussed: 05000361 San Onofre 2 05000362 San Onofre 3						
11/16/1999	1999017	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	<b>Lock and key control.</b> The licensee's lock and key control program effectively met all program requirements.
Dockets Discussed: 05000361 San Onofre 2 05000362 San Onofre 3						
11/03/1999	1999016-03	Pri: PLTSUP Sec:	NRC	NCV	Pri: 3A Sec: Ter:	<b>Failure to perform escort duties.</b> A violation of Section 5.2.2 of the Physical Security Plan occurred when the inspectors identified that an escort failed to maintain visual observation of a visitor in a Unit 2 vital area. The presence of other badged personnel near the visitor, and the short duration of the occurrence, mitigated the significance of the violation; however, the violation was more than minor since it occurred in a vital area. This Severity Level IV violation is being treated as a noncited violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy. This violation was in the licensee's corrective action program as Action Requests 991100185 and 991100195.
Dockets Discussed: 05000361 San Onofre 2 05000362 San Onofre 3						

**United States Nuclear Regulatory Commission**  
**PLANT ISSUE MATRIX**  
 By Primary Functional Area

Region IV  
 SAN ONOFRE

Date	Source	Functional Area	ID	Type	Template Codes	Item Title Item Description
10/29/1999	1999014	Pri: PLTSUP Sec:	NRC	NEG	Pri: 1B Sec: 1C Ter: 3A	<b>Failure to quickly inform emergency management of radioactive release during exercise.</b> Communication within the emergency operations facility and with other facilities was generally effective; however, poor communication to the senior response manager of the existence of a low-level radioactive release caused an hour delay in notifying the offsite agencies.
Dockets Discussed: 05000361 San Onofre 2 05000362 San Onofre 3						
10/29/1999	1999014	Pri: PLTSUP Sec:	NRC	NEG	Pri: 1C Sec: Ter:	<b>Conservative dose assessment modeling resulted in unreasonable extended protective action recommendat</b> Dose assessment activities were generally accurate, but conservative dose assessment modeling of a source term back-calculation, conservative modeling of a resulting dose projection, and a large scenario source term yielded an unreasonably extended protective action recommendation. The licensee entered this problem into its corrective action system for further investigation.
Dockets Discussed: 05000361 San Onofre 2 05000362 San Onofre 3						
10/29/1999	1999014	Pri: PLTSUP Sec:	NRC	NEG	Pri: 1C Sec: Ter:	<b>Critique process failed to identify untimely notification of radiological release.</b> The licensee's critique process did not identify the untimely radiological release notification to the offsite agencies.
Dockets Discussed: 05000361 San Onofre 2 05000362 San Onofre 3						
10/29/1999	1999014	Pri: PLTSUP Sec:	Licensee	NEG	Pri: 1C Sec: 3A Ter: 3B	<b>One untimely offsite notification occurred during the 1999 biennial exercise.</b> One offsite notification to the State of California was made 7 minutes after the 15 minute time requirement following the declaration of the site area emergency. This performance issue was identified by the licensee and entered into the corrective action system.
Dockets Discussed: 05000361 San Onofre 2 05000362 San Onofre 3						
10/29/1999	1999014	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	<b>Extremely challenging scenario developed for 1999 biennial exercise.</b> The scenario was extremely challenging to all members of the onsite response organization. Its complexity forced consideration of extensive protective action recommendations as well as implementation of severe accident management guidelines and administration of thyroid blocking agent to some responders. Scenario control was effective in ensuring that the objectives were demonstrated.
Dockets Discussed: 05000361 San Onofre 2 05000362 San Onofre 3						
09/08/1999	1999017-01	Pri: PLTSUP Sec:	NRC	NCV	Pri: 1A Sec: Ter:	<b>Performance assessment of site security.</b> A violation was identified for ordering armed response officers to attend a meeting outside the protected area contrary to paragraph 3.4.5 of the safeguards contingency plan. This Severity Level IV violation is being treated as a noncited violation, consistent with Section VII.B.1 of the NRC Enforcement policy. The violation was entered into the licensee's corrective action program as Action Request 990900487.
Dockets Discussed: 05000361 San Onofre 2 05000362 San Onofre 3						

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Date	Source	Functional Area	ID	Type	Template Codes	Item Title Item Description
09/08/1999	1999017-02	Pri: PLTSUP Sec:	Licensee	NCV	Pri: 3A Sec: Ter:	<b>Failure to maintain adequate number of armed responders - inattentive security officer.</b>  A violation was identified because an inattentive security officer was not immediately available to respond. The failure to maintain the adequate numbers of security officers immediately available to respond is a violation of Paragraph 9.1 of the physical security plan. This Severity Level IV violation is being treated as a noncited violation, consistent with Section VII.B.1 of the NRC Enforcement Policy. The violation was entered into the licensee's corrective action program as Action Request 990800394.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
07/28/1999	1999009	Pri: PLTSUP Sec:	NRC	POS	Pri: 1B Sec: 1C Ter:	<b>Simulator operators effectively used emergency operating procedures during drill</b>  Operators in the simulator effectively used the emergency operating procedures to mitigate plant damage and radioactive release during an emergency preparedness drill. In one instance, control board awareness of a partially stuck open steam generator atmospheric dump valve was not timely; however, the licensee adequately addressed this untimely response during a postdrill critique.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
04/30/1999	1999005	Pri: PLTSUP Sec:	NRC	NEG	Pri: 3C Sec: Ter:	<b>ALARA committee not fully supported by other organizations</b>  The ALARA committee was not fully supported by all station divisions. The ALARA committee meeting held on March 3, 1998, did not have a quorum
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
04/30/1999	1999005	Pri: PLTSUP Sec:	NRC	POS	Pri: 3B Sec: 3C Ter:	<b>Good radiological work planning</b>  Radiological outage work planning was good. Radiological work tasks were well planned, and ALARA personnel were appropriately involved during the outage planning stage. The ALARA plans and radiation exposure permits used for Unit 3's upper reactor cavity decontamination and steam generator nozzle dam removal properly incorporated site and industry lessons learned and appropriate radiological controls
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
04/30/1999	1999005	Pri: PLTSUP Sec:	NRC	POS	Pri: 5A Sec: 5C Ter:	<b>Effective nuclear oversight of RP program</b>  An effective nuclear oversight program was implemented. The auditors assigned to provide oversight of the radiation protection program were well qualified to perform radiation protection audits/surveillances. Audit SCES-808-98 was comprehensive and provided management with a good assessment of the radiation protection program performance. The station identified radiological concerns and issues at the proper threshold which provided management with a good perspective to assess the radiation protection program
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
04/30/1999	1999005	Pri: PLTSUP Sec:	NRC	STR	Pri: 3B Sec: 3C Ter:	<b>Overall external exposure program</b>  Overall, an effective external exposure control program was implemented. High radiation areas were properly controlled and posted in accordance with station procedures. Radiation workers were knowledgeable of the radiological conditions in assigned work areas, knew the proper response to electronic dosimeter alarms, and wore dosimetry properly. Excellent radiation exposure permit required pre-job ALARA briefings were provided to the workers involved with Unit 3's reactor cavity decontamination and steam generator nozzle dam removal
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						

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### PLANT ISSUE MATRIX

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Date	Source	Functional Area	ID	Type	Template Codes	Item Title Item Description
04/30/1999	1999005	Pri: PLTSUP Sec:	NRC	STR	Pri: 3B Sec: 3C Ter:	<b>Overall, good internal exposure program</b> A good internal exposure control program was in place. In general, continuous air monitors, portable air samplers, and high efficiency particulate air filter ventilation units were appropriately used to monitor and evaluate radiological conditions and limit airborne exposures during work evolutions
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
04/30/1999	1999005	Pri: PLTSUP Sec:	NRC	STR	Pri: 3B Sec: 3C Ter:	<b>Overall ALARA program and outage goals</b> Overall, a good ALARA program was implemented. The 1999 Unit 3 refueling outage dose goal of 177 person-rem was established using past best performance and industry experience for similar work. ALARA personnel properly tracked, trended, and distributed outage exposure status to maintain station awareness. A strong hot spot reduction program was implemented. An excellent temporary shielding program effectively reduced outage exposure by approximately 100 person-rem
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
04/30/1999	1999005-01	Pri: PLTSUP Sec:	Licensee	URI	Pri: 3A Sec: 3B Ter:	<b>Contaminated cell phone case removed from protected area.</b> The failure to survey radioactive material prior to the removal from the restricted area was identified as an unresolved item pending review of the licensee's investigation. This item was placed in the licensee's corrective action program as Action Request 990401474
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
04/29/1999	1999007	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	<b>Compensatory Measures</b> The compensatory measures program complied with physical security plan requirements.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
03/15/1999	1999004	Pri: PLTSUP Sec:	NRC	POS	Pri: 1B Sec: Ter:	<b>Conservative licensee response to potential pipe bomb</b> The licensee's response to, and declaration of, an Alert due to a potential explosive device (pipe bomb) was conservative. Licensee performance in the technical support center was good and included appropriate personnel, communications, and briefings. The licensee's assessment of the event was self-critical.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						
03/07/1999	2000002-04	Pri: PLTSUP Sec:	Licensee	NCV	Pri: 1C Sec: 3A Ter:	<b>Willful violation of Security Plan requirements-failure to follow security procedure.</b> A violation of paragraph 3.2.4 of the Physical Security Plan occurred when two licensee security officers willfully failed to follow the requirements of Section 6.6.4 of Security Procedure SO123-IV-5.3.3, "Security Processing Facility Search and Inspection," Revision 6. Specifically, one security officer did not step back and wait for an health physics technician to evaluate the cause of a radiation portal monitor alarm and the second officer did not direct the first officer to step back and wait for health physics personnel. This Severity Level IV violation is being treated as a noncited violation, consistent with Section VII.B.1.a.4 of the NRC Enforcement Policy. The violation was in the licensee's corrective action program as AR 990401474.
<b>Dockets Discussed:</b> 05000361 San Onofre 2 05000362 San Onofre 3						

**United States Nuclear Regulatory Commission**  
**PLANT ISSUE MATRIX**  
 By Primary Functional Area

Region IV  
 SAN ONOFRE

Date	Source	Functional Area	ID	Type	Template Codes	Item Title Item Description
02/20/1999	1999001	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: 4B Ter:	<b>Health Physics effectively reduced by using barriers</b> Health Physics demonstrated continued effectiveness in radiological dose reduction through implementation of engineered features, including specially designed shielding for pressurizer heater nozzles and expanded use of the Comprehensive Application for Reduced Exposure System.

Dockets Discussed:  
 05000361 San Onofre 2  
 05000362 San Onofre 3

**United States Nuclear Regulatory Commission**  
**PLANT ISSUE MATRIX**  
By Primary Functional Area

**Legend**

**Type Codes:**

BU	Bulletin
CDR	Construction
DEV	Deviation
EEI	Escalated Enforcement Item
IFI	Inspector follow-up item
LER	Licensee Event Report
LIC	Licensing Issue
MISC	Miscellaneous
MV	Minor Violation
NCV	NonCited Violation
NEG	Negative
NOED	Notice of Enforcement Discretion
NON	Notice of Non-Conformance
OTHR	Other
P21	Part 21
POS	Positive
SGI	Safeguard Event Report
STR	Strength
URI	Unresolved item
VIO	Violation
WK	Weakness

**Template Codes:**

1A	Normal Operations
1B	Operations During Transients
1C	Programs and Processes
2A	Equipment Condition
2B	Programs and Processes
3A	Work Performance
3B	KSA
3C	Work Environment
4A	Design
4B	Engineering Support
4C	Programs and Processes
5A	Identification
5B	Analysis
5C	Resolution

**ID Codes:**

NRC	NRC
Self	Self-Revealed
Licensee	Licensee

**Functional Areas:**

OPS	Operations
MAINT	Maintenance
ENG	Engineering
PLTSUP	Plant Support
OTHER	Other

EEIs are apparent violations of NRC Requirements that are being considered for escalated enforcement action in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Action" (Enforcement Policy), NUREG-1600. However, the NRC has not reached its final enforcement decision on the issues identified by the EEIs and the PIM entries may be modified when the final decisions are made.

URIs are unresolved items about which more information is required to determine whether the issue in question is an acceptable item, a deviation, a nonconformance, or a violation. A URI may also be a potential violation that is not likely to be considered for escalated enforcement action. However, the NRC has not reached its final conclusions on the issues, and the PIM entries may be modified when the final conclusions are made.

**SAN ONOFRE**  
**Inspection / Activity Plan**  
**04/02/2000 - 03/31/2001**

Units	Inspection Activity	Title	No. of Staff on Site	No. assigned to Procedure	Planned Dates		Inspection Type
					Start	End	
	<b>EMB</b>	<b>- SAFETY SYS DESIGN &amp; PERF CAPABILITY</b>	<b>7</b>				
2,3	IP 7111121	Safety System Design and Performance Capability		5	04/03/2000	04/07/2000	Baseline Inspections
2,3	IP 7111121	Safety System Design and Performance Capability		5	04/17/2000	04/21/2000	Baseline Inspections
	<b>PBC-TI</b>	<b>- TI-144, PI DATA REVIEW</b>	<b>1</b>				
2,3	IP 2515/144	Performance Indicator Data Collecting and Reporting Process Review		1	05/14/2000	08/05/2000	Safety Issues
	<b>PBC-10</b>	<b>- EQUIPMENT ALIGNMENT SEMIANNUAL</b>	<b>2</b>				
2,3	IP 7111104	Equipment Alignment		2	05/14/2000	07/01/2000	Baseline Inspections
2,3	IP 7111104	Equipment Alignment		2	11/12/2000	12/30/2000	Baseline Inspections
	<b>PBC#20</b>	<b>- DRILL EVALUATION</b>	<b>2</b>				
2,3	IP 7111406	Drill Evaluation		2	07/02/2000	08/19/2000	Baseline Inspections
	<b>OB-PIR</b>	<b>- PIR INSPECT</b>	<b>5</b>				
2,3	IP 71152	Identification and Resolution of Problems		2	07/17/2000	07/21/2000	Baseline Inspections
	<b>EMB</b>	<b>- PERM PLANT MODS</b>	<b>2</b>				
2,3	IP 7111117A	Permanent Plant Modifications		2	08/07/2000	08/11/2000	Baseline Inspections
	<b>PBC#19</b>	<b>- TEMPORARY PLANT MODIFICATIONS</b>	<b>2</b>				
2,3	IP 7111123	Temporary Plant Modifications		2	08/20/2000	09/30/2000	Baseline Inspections
2,3	IP 7111123	Temporary Plant Modifications		2	02/18/2001	03/31/2001	Baseline Inspections
	<b>OB-EXAMS</b>	<b>- RO/SRO EXAMS</b>	<b>3</b>				
2	X02036	SNG2/INITAL EXAMS		1	08/28/2000	09/01/2000	Not Applicable
2	X02036	SNG2/INITAL EXAMS		3	09/25/2000	09/29/2000	Not Applicable
3	X02037	SNG3/INITIAL EXAMS		3	09/25/2000	09/29/2000	Not Applicable
	<b>PSB-EP1</b>	<b>- A&amp;N, ERO, PI&amp;R, EAL/EP, AND PIV</b>	<b>2</b>				
2,3	IP 7111402	Alert and Notification System Testing		2	09/25/2000	09/29/2000	Baseline Inspections
2,3	IP 7111403	Emergency Response Organization Augmentation Testing		2	09/25/2000	09/29/2000	Baseline Inspections
2,3	IP 7111404	Emergency Action Level and Emergency Plan Changes		2	09/25/2000	09/29/2000	Baseline Inspections
2,3	IP 7111405	Correction of Emergency Preparedness Weaknesses and Deficiencies		2	09/25/2000	09/29/2000	Baseline Inspections
2,3	IP 71151	Performance Indicator Verification		2	09/25/2000	09/29/2000	Baseline Inspections
	<b>PSB-S1</b>	<b>- ACCESS AUTH/CONTROL</b>	<b>1</b>				
2,3	IP 7113001	Access Authorization Program (Behavior Observation Only)		1	10/02/2000	10/06/2000	Baseline Inspections
2,3	IP 7113002	Access Control (Search of Personnel, Packages, and Vehicles: Identification ar		1	10/02/2000	10/06/2000	Baseline Inspections
	<b>PBC#9</b>	<b>- ADVERSE WEATHER</b>	<b>2</b>				
2,3	IP 7111101	Adverse Weather Protection		2	11/12/2000	12/30/2000	Baseline Inspections
	<b>PSB-S2</b>	<b>- OSRE,RESP TO CONT EVNTS, SEC PLAN, &amp; PIV</b>	<b>5</b>				
2,3	IP 7113003	Response to Contingency Events (Protective Strategy and Implementation of P		2	11/27/2000	12/01/2000	Baseline Inspections
2,3	IP 7113004	Security Plan Changes		2	11/27/2000	12/01/2000	Baseline Inspections

This report does not include INPO and OUTAGE activities.  
This report shows only on-site and announced inspection procedures.

**SAN ONOFRE**  
**Inspection / Activity Plan**  
**04/02/2000 - 03/31/2001**

Units	Inspection Activity	Title	No. of Staff on Site	No. assigned to Procedure	Planned Dates		Inspection Type
					Start	End	
2,3	IP 71151	Performance Indicator Verification		2	11/27/2000	12/01/2000	Baseline Inspections
2,3	IP 81110	Operational Safeguards Response Evaluation (OSRE)		2	11/27/2000	12/01/2000	Regional Initiative
	<b>EMB</b>	<b>- 50.59</b>	<b>1</b>				
2,3	IP 7111102	Evaluation of Changes, Tests, or Experiments		1	12/04/2000	12/08/2000	Baseline Inspections
	<b>PSB-RP1</b>	<b>- ACCESS TO RAD SIGN AREAS AND PIV</b>	<b>1</b>				
2,3	IP 7112101	Access Control to Radiologically Significant Areas		1	12/04/2000	12/08/2000	Baseline Inspections
2,3	IP 71151	Performance Indicator Verification		1	12/04/2000	12/08/2000	Baseline Inspections
	<b>PSB-RP2</b>	<b>- ALARA PLANNING/CONTROL 1</b>	<b>2</b>				
2,3	IP 7112102	ALARA Planning and Controls		2	12/04/2000	12/08/2000	Baseline Inspections
	<b>EMB</b>	<b>- ISI</b>	<b>1</b>				
2,3	IP 7111108	Inservice Inspection Activities		1	01/22/2001	01/26/2001	Baseline Inspections
	<b>PSB-RP3</b>	<b>- RAD MONITORING INSTR</b>	<b>1</b>				
2,3	IP 7112103	Radiation Monitoring Instrumentation		1	02/26/2001	03/02/2001	Baseline Inspections
	<b>EMB</b>	<b>- HEAT SINK PERFORMANCE</b>	<b>1</b>				
2,3	IP 7111107A	Heat Sink Performance		1	03/05/2001	03/09/2001	Baseline Inspections
	<b>PSB-RP4</b>	<b>- ALARA PLANNING/CONTROL 2</b>	<b>1</b>				
2,3	IP 7112102	ALARA Planning and Controls		1	03/19/2001	03/23/2001	Baseline Inspections