



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

August 23, 2001

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: SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2 AND 3 - NRC
INSPECTION REPORT 50-361/01-07; 50-362/01-07**

Dear Mr. Ray:

On July 19, 2001, the NRC completed an inspection at your San Onofre Nuclear Generating Station, Units 2 and 3. The enclosed report documents the inspection findings, which were discussed on July 19, 2001, with Mr. R. Krieger and other members of your staff.

This inspection was an examination of activities conducted under your license as they relate to the identification and resolution of problems, and compliance with the Commission's rules and regulations and the conditions of your operating license. Within these areas, the inspection involved selected examination of procedures and representative records, observations of activities, and interviews with personnel.

On the basis of the sample selected for review, there were no findings of significance identified during this inspection. The team concluded that problems were properly identified, evaluated, and resolved within the problem identification and resolution program.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure 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/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Anthony Gody, Chief
Operations Branch
Division of Reactor Safety

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

Enclosure:
NRC Inspection Report
50-361/01-07; 50-362/01-07

cc w/enclosure:
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SOE:OB	SOE:OB	SRI:PBC	SHP:PSB	C:OB	C:PBC	C:OB
SLMcCrary/lmb	TOMcKernon	CCOsterholtz	MPShannon	ATGody	DLoveless	ATGody
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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Dockets: 50-361; 50-362

Licenses: NPF-10; NPF-15

Report No.: 50-361/01-07; 50-362/01-07

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: July 9-19, 2001

Inspectors: S. L. McCrory, Senior Operations Engineer, Operations Branch
T. O. McKernon, Senior Operations Engineer, Operations Branch
C. C. Osterholtz, Senior Resident Inspector, Reactor Project Branch C
M. P. Shannon, Senior Health Physicist, Plant Support Branch

Accompanying Personnel: A. A. Sanchez, Operations Engineer, Operations Branch

Approved By: Anthony Gody, Chief
Operations Branch
Division of Reactor Safety

SUMMARY OF FINDINGS

IR 05000361/01-07; 05000362/01-07 San Onofre Nuclear Generating Station, Units 2 and 3; Identification and Resolution of Problems.

The inspection was conducted by two senior operations engineers, one senior resident inspector, and one senior health physics inspector. No findings of significance was identified.

Identification and Resolution of Problems

The licensee identified, evaluated, prioritized, and corrected problems in a timely and effective manner, consistent with risk and safety significance. Licensee audits and assessments critically assessed the licensee's problem identification and resolution activity and identified needs for improvement in a number of areas including performance of 10 CFR 50.59 evaluations, establishment of realistic due dates, and the probing and evaluative quality of organizational quarterly self-assessments. During inspection interviews, workers at the site expressed no reservations to input safety issues into the problem identification and resolution program.

Report Details

4OA2 Identification and Resolution of Problems

a. Effectiveness of Problem Identification

(1) Inspection Scope

The team reviewed items selected across the seven cornerstones of safety to determine if problems were being properly identified, characterized, and entered into the corrective action program for evaluation and resolution. Specifically, the team's review included a selection of 153 action requests that had been opened or closed or that related to issues of regulatory noncompliance since July 21, 2000. The team also reviewed a total of 14 licensee audit, assessment, surveillance, and trending reports related to the problem identification and resolution program. The team compared the audit and assessment results with self-revealing and NRC-identified issues to determine the effectiveness of the audits and assessments.

The team evaluated the action requests and items, such as work request summaries, engineering request summaries, design change summaries, and operator-work-around lists to assess the licensee's threshold for identifying problems and entering them into the corrective action program. Also, the team evaluated the licensee's efforts in establishing the scope of problems by reviewing pertinent work orders, engineering modification packages, self-assessment results, and action plans.

The team also conducted plant walkdowns and interviewed plant personnel to identify other processes by which problems and issues could be identified.

(2) Issues and Findings

The team determined that the licensee was effective at identifying problems and entering them into the corrective action program. This was evidenced by the relatively few deficiencies identified by external organizations (including the NRC) that had not been previously identified by the licensee during the review period. Licensee audits and biennial self-assessments were of sufficient breadth and depth to identify issues similar to those that were self-revealing or raised during NRC inspections. However, the departmental quarterly self-assessments often lacked any substantial evaluation or analysis of performance. The team identified no instances where conditions adverse to quality were being handled outside the corrective action program.

The team observed that the departmental quarterly self-assessment reports frequently provided only the status of issues identified in other audit and assessment activities, with no critical analysis or evaluation of performance in the period covered by the report. The licensee had made similar observations over the past year and concluded that the quarterly self-assessments did not meet senior management expectations. The licensee had developed new self-assessment guidelines, which included focused checklists, as a means of improving the assessment quality of the quarterly self-assessments.

The above observation was considered as a part of the overall evaluation of the licensee's performance in problem identification and resolution. The team identified no specific findings relating to effectiveness of problem identification.

b. Prioritization and Evaluation of Issues

(1) Inspection Scope

The team reviewed approximately 153 action requests and supporting documentation, including analyses of the problem causes, to ascertain whether the licensee's evaluation of the problems identified considered the full extent of conditions, generic implications, common causes, and previous occurrences. In addition, the team reviewed the licensee's evaluation of selected industry experience information, including operating event reports and NRC and vendor generic notices, to assess if issues applicable to the San Onofre Nuclear Generating Station were appropriately addressed. In addition, the team also reviewed selected action requests to ascertain satisfaction of the provisions of 10 CFR Part 50, Appendix B, regarding timeliness of corrective action for those action requests applying to degraded or nonconforming structures, systems, and components. The team also interviewed engineering and technical personnel concerning the actions taken on action requests. Specific items reviewed are listed in the attachment to this report.

(2) Issues and Findings

Based on a review of the licensee's records, the team concluded that the licensee effectively prioritized and evaluated issues. For the more risk significant action requests, the team determined that the evaluations were of sufficient depth, the root cause determinations were accurate, and risk aspects of the conditions had been appropriately considered. The team identified no specific findings relating to prioritization and evaluation of issues.

c. Effectiveness of Corrective Actions

(1) Inspection Scope

The team reviewed the action requests, audits, assessments, and trending reports described in Section 4OA2.a.(1) above to verify that corrective actions, related to the issues, were identified and implemented in a timely manner commensurate with safety, including corrective actions to address common cause or generic concerns. The team also conducted plant walkdowns and interviewed plant personnel to independently verify and assess the effectiveness of corrective actions implemented by the licensee. A listing of specific documents reviewed during the inspection is included in the Attachment to this report.

(2) Issues and Findings

Based on a review of the licensee's documents and interviews with licensee personnel, the team concluded that the licensee effectively implemented corrective actions commensurate with safety. The team identified no findings related to the effectiveness of corrective actions.

d. Assessment of Safety-Conscious Work Environment

(1) Inspection Scope

The team interviewed members of the licensee's staff, which represented a cross-section of functional organizations and supervisory and non-supervisory personnel, regarding their willingness to identify safety issues. These interviews assessed whether conditions existed that would challenge the establishment of a safety-conscious work environment.

(2) Issues and Findings

The team concluded, based on information collected from these interviews, that employees were willing to identify issues and accepted the responsibility to pro-actively identify and enter safety issues into the corrective action program. This employee willingness to identify issues was reflected by the fact that over 20,000 action requests had been generated in the 12-month period covered by the inspection.

The above observations were considered as a part of the overall evaluation of the licensee's performance in problem identification and resolution. The team identified no specific findings in the area of assessment of safety-conscious work environment.

4OA6 Exit Meeting

The team discussed these findings with Mr. R. Krieger, Vice President of Nuclear Generation, and other members of the licensee's staff on July 19, 2001. Licensee management provided no further comment on the findings.

Licensee management did not identify any materials examined during the inspection as proprietary.

ATTACHMENT 1

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

T. Adler, Manager, Outage Work Control
D. Alexander, Senior Analyst, Nuclear Design and Testing
C. Anderson, Manager, Site Emergency Preparedness
B. Ashbrook, Senior Analyst, Chemistry
D. Axline, Engineer, Licensing
R. Bockhorst, Manager, STEC/ESE
G. Broussard, Supervisor, Security
R. Clark, Manager, Quality Engineering and Operations
G. Cook, Supervisor, Compliance
M. Cooper, Manager, Operations Equipment Control, Units 2/3
T. Cooper, Supervisor, Health Physics
B. Culverhouse, Program Analyst, Off-site Emergency Planning
D. Frey, Manager, Action Request Program
W. Frick, Manager, Nuclear Safety Concerns
P. Handley, Supervisor, Off-site Emergency Planning
J. Hirsch, Manager, Nuclear Generation Chemistry
M. Hubbard, Security Guard
R. Krieger, Vice President, Nuclear Generation
G. Lewis, Security Guard
M. Love, Supervisor, Maintenance
W. Lyke, Supervisor, Nuclear Training
J. Madigan, Manager, Health Physics
C. McAndrews, Manager, Programs and Assessment
P. Myers, Manager, Nuclear Fuels Management
D. Neibruegge, Manager, Technical Support
D. Nunn, Vice President, Engineering and Technical Services
R. Reiss, Supervisor, Security
D. Rolph, Supervisor, Document Services
A. Scherer, Manager, Nuclear Oversight and Regulatory Affairs
P. Shaffer, Supervisor, Plant Maintenance
M. Short, Manager, Site Technical Support
J. Wallace, Manager, Security
J. Wambold, Vice President, B&FS
B. Welch, Security Guard
M. Wharton, Manager, Engineering Design

NRC

J. Kramer, Resident Inspector

DOCUMENTS REVIEWED

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

Procedures

- SO123-XX-1, Action Request/Maintenance Order Initiation and Processing, Revision 13
- SO123-XII-2.21, Nuclear Safety Group Functions and Responsibilities
- SO123-CA-1, Corrective Action Program
- SO123-XV-5.1, Temporary Modification Control
- SO123-XV-50, Corrective Action Process, Revision 3
- SO123-XV-50.39, Cause Evaluation Standards and Methods
- SO123-XV-52, Operability Assessments and Reportability Evaluations, Revision 1
- SO123-XX-2, Maintenance Order/Construction Work Order Inter-disciplinary Review and Approval
- SO123-XX-5, Work Authorizations
- SO123-V-5.10, Temporary Facility Modification
- SO123-XV-44, 10 CFR 50.59 Program
- SO123-XXIX-2.10, Design Change Process
- SO123-VII-20.9.2, Material Release Surveys, Revision 3
- SO123-VII-20.9.4, Survey and Release of Personnel, Revision 2
- SO23-V-3.5, Inservice testing of valves Program, 1/26/01
- SO23-3-3.60.2, Low Pressure Safety Injection Pump and Valve Testing, TCN 4-3
- SO123-XX-1, Action Request/Maintenance Order Initiation and Processing, Revision 13
- SO123-XV-50.39, Corrective Actions Process, Revision 3
- SO123-XV-52, Operability Assessments and Reportability Evaluations, Revision 1
- SO123 1-9.8, 4.16kV Circuit Breaker Inspection and Repair, Revision 5
- EGG-002, Requalification Exam Bank Maintenance, 6/6/00
- EGG-006, Biennial Written Exam Process, 2/27/01
- EGG-007, Proctoring Requirements for Licensed Operator Biennial Written Exam, 2/27/01
- EGG-008, Annual Walk-through Examination Process, 2/27/01
- EGG-009, Dynamic Examination Process, 5/7/01
- EGG-010, Developing/Revising Written Examination Questions, 2/28/01
- EGG-012, Revising/Modifying Dynamic Scenarios, 2/27/01

Action Requests

961200442	991100485	000801208	001000124	001001696
970101178	000100112	000801403	001000223	001001698
970101634	000100836	000801431	001000250	001100013
970200048	000201149	000900038	001000250	001100048
970200708	000400061	000900039	001000469	001100473
970201154	000401144	000900040	001000469	001101250
970201154	000601485	000900114	001000518	001101366
970600947	000700218	000900675	001000822	001101902
980702451	000700905	000900764	001000876	001200010
990501187	000800580	000901065	001000900	001200058
990901515	000800974	000901378	001001450	001200059

001200572	010301402	010700733	010700753	010700772
001200713	010301553	010700734	010700754	010700773
001200958	010400277	010700735	010700755	010700774
001201139	010400340	010700736	010700756	010700775
001201281	010400541	010700737	010700757	010700776
010100770	010400570	010700738	010700758	010700777
010102312	010400625	010700739	010700759	010700778
010102746	010400810	010700740	010700760	010700779
010200103	010500112	010700741	010700761	010700780
010200212	010500254	010700742	010700762	010700781
010200572	010500590	010700743	010700763	010700782
010200657	010501240	010700744	010700764	010700783
010200662	010501241	010700745	010700765	010700784
010201213	010600719	010700746	010700766	010700785
010201245	010700727	010700747	010700767	010700786
010201704	010700728	010700748	010700768	010700787
010300151	010700729	010700749	010700769	010700788
010300419	010700730	010700750	010700770	010700789
010300455	010700731	010700751	010700771	010700805
010301232	010700732	010700752		

Assessments and Audits

Biennial Directed Assessment of the Corrective Action Program, March 1, 2001

Emergency Planning Directed Self-Assessment, 9/11/00

Integrated Self Assessment of Human Performance Improvement at SONGS Security Division, 7/24/00

Security Division Self-Assessment Report First Quarter, 2001, May 1, 2001

Security Division Self-Assessment Report Third Quarter, 2000, November 9, 2000

Security Division Self-Assessment Report Fourth Quarter, 2000, February 1, 2001

Health Physics Division Self-Assessment Report for the Third Quarter 2000

Health Physics Division Self-Assessment Report for the Fourth Quarter 2000

Health Physics Division Self-Assessment Report for the First Quarter 2001

Radiation Protection Site Assessment May 8-12, 2000

Audit Report SCES-007-00, "Radiological Effluent Control Program

SEA 97-001, "Self-Assessment Implementation of SONGS2/3 Tech. Spec. Surveillance Requirements"

Nuclear Training Division Self Assessment - Fourth Quarter 2000

Operations Self Assessment Report - First Quarter 2001

Field Change Notices

F25483E, Electrical Consolidated Database (ECDB), 5/8/01

F25511E, Electrical Consolidated Database (ECDB), 5/11/01

F22023M, Normal AC Unit E-422 System 1510 to Condensate Collection Header Line 076 System 2419, 4/14/00

Maintenance Orders

01041381000 Install new breaker into 3D603, Unit 3, 5/19/01

01041382000 Install new breaker into 3D604, Unit 3, 5/19/01

Miscellaneous

Directed Assessment Guidelines, Revision 3

Directed Assessment Checklist

Quarterly Report Review Checklist (Quarterly self-assessments)

Failure Analysis Report 01-02: Main Turbine DC Lube Oil Breaker 3D603 Failure Analysis

Calculation M-0011-064, CCN-2, 10/26/00, "SONGS2 Beltline P-t Limits"

Calculation No. M-DSC-375, CCN-2; 6/19/01, "Emergency Chilled Water System Steady State Flow Distribution Analysis"

Calculation M-0011-064, 5/20/94, "SONGS2 Beltline P-T Limits"

CCN-1, Calc. 0011-64, 4-5-00, "Songs 2 Beltline P-T Limits"

CCN-25 to Calc. E4C-098, 12/2/99, "4Kv Switchgear Protective Relay Setting Calculation"

CCN-27 to Calc. E4C-098, 12/2/99, "4Kv Switchgear Protective Relay Setting Calculation"

EAR 9701035, 12/01/97, "Related to LER,2-96-009-01, 1/31/97

RCTS 9701035 "Process for TS Revision Enhancement"

Performance Indicator - Scrams with Loss of Normal Heat Removal, First Quarter, 2001

Information Request 1

San Onofre PIR Inspection (IP 71152) 01-07

The inspection will cover the period of July 21, 2000 to July 9, 2001. All requested information should be limited to this period unless otherwise specified. The information may be provided in either electronic or paper media or a combination of these. Information provided in electronic media may be in the form of e-mail attachment(s), CDs, or 3 ½ floppy disks. The agency's text editing software is Corel WordPerfect 8, Presentations, and Quattro Pro; however, we have document viewing capability for MS Word, Excel, Power Point, Access, and Adobe Acrobat (.pdf) text files.

Please provide the following information to Stephen McCrory in the Region IV Arlington office by June 25, 2001. If you have questions or comments, please contact Mr. McCrory at (817) 860-8265 or e-mail at slm@nrc.gov.

1. Summary list of all currently open/active items for:
 - action requests of significant conditions adverse to quality
 - operator work-arounds
 - engineering review requests
 - maintenance requests
 - temporary modifications
 - procedure change requests
 - training needs request/evaluation
 - control room and safety system deficiencies

2. Summary list of all items completed/resolved/closed since July 21, 2000 for:
 - action requests of significant conditions adverse to quality
 - operator work-arounds
 - engineering review requests
 - maintenance requests
 - temporary modifications
 - procedure change requests
 - training needs request/evaluation
 - control room and safety system deficiencies

2. Summary list of all action requests generated during the specified period and sorted by:
 - chronology
 - initiating organization
 - responsible organization

3. All quality assurance audits and surveillances of corrective action activities since July 21, 2000.

4. All corrective action activity and functional area self-assessments and Non-NRC third party assessments since July 21, 2000.

5. Corrective action performance trending/tracking information generated since July 21, 2000 and broken down by functional organization.

6. Current revision of the following procedures:

SO123-XX-1	Action Request/Maintenance Order Initiation and Processing
SO123-XII-2.21	Nuclear Safety Group Functions and Responsibilities
SO123-CA-1	Corrective Action Program
SO123-XV-5.1	Temporary Modification Control
SO123-XV-50	Corrective Action Process

SO123-XV-50.39	Cause Evaluation Standards and Methods
SO123-XV-52	Operability Assessments and Reportability Evaluations
SO123-XX-2	Maintenance Order/Construction Work Order Inter-disciplinary Review and Approval
SO123-XX-5	Work Authorizations
SO123-V-5.10	Temporary Facility Modification
SO123-XV-44	10 CFR 50.59 Program
SO123-XXIX-2.10	Design Change Process

7. Any additional governing procedures/policies/guidelines for:

Condition Reporting
Corrective Action Program
Root Cause Evaluation/Determination
Operator Work-Arounds
Work Requests
Engineering Requests
Temporary Modifications
Procedure Change Requests
Deficiency Reporting and Resolution
Training Needs Request/Evaluation

8. For each of the items (applicable to San Onofre) listed below please provide the following:

- Full text of the action request (please indicate any findings that did not result in a action request or corrective actions)
 - Any "Roll-up" or "Aggregating" Conditions Reports related to the generic communication or action request.
 - Root Cause analysis report (if applicable)
 - Risk significance assessments
 - Probable Cause evaluation (if applicable)
 - Approved corrective actions
 - Basis for extending originally approved due dates
 - Evidence of corrective action completion (work packages, design change documentation, temporary modifications, training lesson plans/material, training attendance records, procedure revisions, etc.)
- a. Part 21 Reports 2000-18 through 2001-18
- b. NRC Information Notices 2000-10 through 2001-07
- c. All LERs issued since July 21, 2000, **except** 361; 362/2000-008-00, 361/2000-011-00, and 361; 362/2000-012-00
4. All NCVs and Violations issued since July 21, 2000.

Information Request 2
San Onofre PIR Inspection (IP 71152) 01-07

Please provide the following information to the designated inspectors as soon as practical during the on-site inspection period (7/9-20/01).

Tom McKernon

AR 000800580 Related
-CCN #25 to E4C-098
-PCN-488
-AR970200708-01

AR001000518
-Calc No. M-0011-064 Rev 1 "SONG2 Beltline P-T limits"
-SO23-V-3.5, Inservice Testing of Valves, Rev 22 issued to CDM on 1/26/2001
-SO23-3-3, TCN 6-1, 12/27/2000

-TCN 4-4, to Proc. SO23-V-3.4.5

-Examples of Maintenance Backlog which are past due (12 examples) related to pg 18 of 1st Qtr 2001 Maint. Self-Assessment.

-FCN #F22023M

AR961200442 RPS Shunt Trip Testing

Steve McCrory

AR 010201213 - full text and all corrective actions

CSP 001101902-07 with relevant supporting documentation

AR 000100836-03, and 48 with relevant supporting documentation

Arrange interviews with: (NOTE: Please schedule interviews start after 8 AM on 7/10 and to be completed by noon on 7/13. Please allow at least ½ hour between interviews.)

Individual knowledgeable of the negative Performance Indicator trend in EP Alert & Notification system (allow up to 1 hour)

3 non-supervisory security guards (30 minutes each)

Quarterly self-assessment coordinator (?Caroline McAndrew) (allow up to 1 hour)