



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
612 EAST LAMAR BLVD, SUITE 400  
ARLINGTON, TEXAS 76011-4125

August 1, 2011

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

SUBJECT: SAN ONOFRE NUCLEAR GENERATING STATION – NRC FOCUSED  
PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION  
REPORT 05000361/2011007 and 05000362/2011007

Dear Mr. Dietrich,

On June 17, 2011, the U. S. Nuclear Regulatory Commission (NRC) completed a team inspection at San Onofre Nuclear Generating Station. The enclosed report documents the inspection findings, which were discussed during a June 17, 2011, exit meeting with you and members of your staff.

The inspection examined activities conducted under your license as they relate to identification and resolution of problems, safety and compliance with the Commission's rules and regulations and with the conditions of your operating license. The inspection focused on the station's progress in resolving a substantive cross-cutting issue with multiple themes in the human performance cross-cutting area and on the station's progress in correcting an adverse trend in its safety conscious work environment. The team reviewed selected procedures and records, observed activities, and interviewed personnel.

The team concluded that the station had demonstrated substantial improvement in some areas and required further improvement in others. No findings of significance were identified.

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

Sincerely,

*/RA/*

Ryan Lantz, Chief  
Projects Branch D  
Division of Reactor Projects

Southern California Edison Company

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Dockets: 50-361; 50-362

Licenses: NPF-10; NPF-15

Enclosure: Inspection Report 05000361/2011007; 05000362/2011007

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- Acting DRS Deputy Director (Robert.Caldwell@nrc.gov)
- Senior Resident Inspector (Greg.Warnick@nrc.gov)
- Resident Inspector (John.Reynoso@nrc.gov)
- Branch Chief, DRP/D (Ryan.Lantz@nrc.gov)
- Senior Project Engineer, DRP/D (Don.Allen@nrc.gov)
- SONGS Administrative Assistant (Heather.Hutchinson@nrc.gov)
- Project Engineer, DRP/D (David.You@nrc.gov)
- Project Engineer, DRP/D (Zachary.Hollcraft@nrc.gov)
- Public Affairs Officer (Victor.Dricks@nrc.gov)
- Public Affairs Officer (Lara.Uselding@nrc.gov)
- Project Manager (Randy.Hall@nrc.gov)
- Acting Branch Chief, DRS/TSB (Dale.Powers@nrc.gov)
- RITS Coordinator (Marisa.Herrera@nrc.gov)
- Regional Counsel (Karla.Fuller@nrc.gov)
- Congressional Affairs Officer (Jenny.Weil@nrc.gov)
- OEMail Resource
- ROPreports
- RIV/ETA: OEDO (John.McHale@nrc.gov)
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**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION IV**

Dockets: 50-361; 50-362

Licenses: NPF-10; NPF-15

Report: 05000361/2011007; 05000362/2011007

Licensee: Southern California Edison Company

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

Location: 5000 S Pacific Coast Highway  
San Clemente, CA 92674-0128

Dates: May 23 – June 17, 2011

Inspector: E. Ruesch, Reactor Engineer (Team Lead)  
C. Osterholtz, Senior Operations Engineer  
G. Warnick, Senior Resident Inspector  
Z. Hollcraft, Project Engineer

Approved by: Ryan Lantz, Chief  
Project Branch D  
Division of Reactor Projects

## SUMMARY OF FINDINGS

IR 05000361; 05000362/2011007; 05/23/2011-06/17/2011; San Onofre Nuclear Generating Station, Units 2 and 3, Focused Baseline Inspection of Substantive Cross-Cutting Issues and Safety Conscious Work Environment; Problem Identification and Resolution.

The team inspection was performed by three region-based inspectors and one senior resident inspector. No violations of NRC regulations were identified during this inspection.

A. NRC-Identified and Self-Revealing Findings

None.

B. Licensee-Identified Violations

None.

## REPORT DETAILS

### 4. OTHER ACTIVITIES

#### 4OA2 Problem Identification and Resolution (71152)

The team based the following conclusions on a review of root cause evaluations performed and corrective actions taken by the licensee to evaluate and correct an NRC-identified substantive cross-cutting issue in the area of human performance and to evaluate and correct an NRC-identified chilling effect to the licensee's safety conscious work environment.

##### .1 Substantive Cross-Cutting Issue in Human Performance

In the 2007 annual assessment letter for San Onofre Nuclear Generating Station, dated March 3, 2008 (ML080630244), the NRC identified a substantive cross-cutting issue in the resources component of the human performance cross-cutting area, associated with ensuring adequate design documentation, procedures, and work instructions (H.2(c)). In subsequent annual and mid-cycle assessment letters, the NRC identified the following additional four themes that contributed to the substantive cross-cutting issue in human performance:

- In the 2008 annual assessment letter, dated March 4, 2009, ML090640307, the NRC identified a cross-cutting theme in work practices associated with the use of human error prevention techniques (H.4(a))
- In the 2009 mid-cycle assessment letter, dated September 1, 2009, ML092450392, the NRC identified a cross-cutting theme in decision making associated with the use of conservative assumptions (H.1(b))
- In the 2009 annual assessment letter, dated March 3, 2010, ML100621410, the NRC identified a cross-cutting theme in work practices associated with the supervision and management of work activities (H.4(c))
- In the 2010 mid-cycle assessment letter, dated September 1, 2010, ML102430568, the NRC identified a cross-cutting theme in work practices associated with the communication of expectations regarding procedural compliance (H.4(b))

All of these themes remained open through issuance of the 2010 annual assessment letter, dated March 4, 2011, ML110630145. The 2010 annual assessment was the seventh consecutive assessment period in which the human performance substantive cross-cutting issue was open; five themes supported the substantive cross-cutting issue during this assessment. Additionally, in its 2010 annual assessment, the NRC identified a new cross-cutting theme in decision making associated with the use of a systematic process in decision making (H.1(a)). However, the NRC did not consider this new theme as a contributor to the human performance substantive cross-cutting issue at San

Onofre Nuclear Generating Station (SONGS) because the licensee had self-identified the theme and had taken prompt action to identify and correct the cause.

Also in the March 4, 2011, assessment letter, the NRC requested that SCE notify the NRC when SONGS was ready for NRC inspection of the human performance substantive cross-cutting issue. By letter dated April 28, 2011, ML111220061, Southern California Edison Company informed the NRC that it had completed reviews of the effectiveness of improvement efforts related to the human performance substantive cross-cutting issue at SONGS and that it was ready for NRC inspection of the effectiveness of the actions taken to address the five themes that contributed to the substantive cross-cutting issue.

a. Inspection Scope

The team reviewed the effectiveness of actions taken to address deficiencies in the licensee's human performance, including those actions taken to address the five themes that contributed to the human performance substantive cross-cutting issue. The team's reviews included root cause and apparent cause evaluations, corrective action program items, station human performance tools and expectations for their use, and programs and processes in place to ensure compliance with these expectations. The team performed field observations of tasks that required use of human performance tools and interviewed personnel in the field. The team reviewed the licensee's metrics related to human performance as well as the programs, processes, and procedures that described how these metrics were developed and maintained. The team assessed closure review board packages documenting completion of corrective actions associated with human performance weaknesses to determine whether the licensee took sufficient steps to ensure these corrective actions were sustainable. Finally, the team reviewed and inspected the results of the corrective actions taken in response to a Notice of Violation issued by the NRC in 2010 for the licensee's repeated failure to properly control changes to procedures (VIO 05000361; 362/2010006-08).

b. Observations and Findings

The team concluded that in some human performance components with identified themes, the licensee's corrective actions and its progress in implementing these corrective actions indicated an improving trend in performance. However, the team identified that challenges remain in correcting deficiencies noted in the decision making component of human performance. Each component is discussed individually below.

Additionally, the team observed a potential gap in the licensee's process for ensuring sustainability of corrective actions to prevent recurrence (CAPR). In implementing CAPR for a significant condition adverse to quality, the licensee appropriately uses an effectiveness review process to ensure the CAPR achieves the intended result. When an effectiveness review indicates that CAPR have not been fully successful or when it identifies gaps in CAPR implementation, the licensee uses its direct cause evaluation tool to adjust actions to close these gaps. However, while corrective actions resulting from a direct cause evaluation do not have the same sustainability requirements as

CAPR initiated through root cause evaluations, these direct cause evaluation corrective actions are intended to prevent recurrences that the original CAPR were determined to be less-than-fully effective at preventing. Further, procedure or other documentation changes that are associated with the CAPR remain “anchored” to the original CAPR for sustainability; they are not linked to the new direct cause evaluation corrective actions. The team determined that this check-and-adjust process for CAPR could be enhanced to ensure sustainability of actions. The licensee documented this concern in Nuclear Notifications 201026761 and 201577272.

## WORK PRACTICES

The human performance substantive cross-cutting issue at SONGS includes three themes in the work practices component associated with the use of human error prevention techniques, the communication of the expectation of procedural compliance, and the supervision and management of work activities.

The team determined that since 2009, when the cross-cutting theme was first identified, the licensee had implemented substantial corrective actions to correct deficiencies in the area of work practices. The implementation of these actions successfully addressed many of the NRC’s concerns with the licensee’s use of human error prevention techniques, communication of station expectations regarding procedural compliance, and oversight of work activities. The team concluded that these actions resulted in significant improvement in the licensee’s performance associated with the work practices component of human performance. However, the team also determined that continued implementation of these actions, potentially including periodic adjustments to the scope of these actions, was essential to ensure further needed improvement. Specifically, the team noted the following:

- Many human performance tools are in place and available for easy reference in the “SONGS Human Performance Handbook for All Workers,” which all licensee personnel are required to carry with them and to use during certain work activities. Management expectations for their use are well established. However, the team observed that there was room for additional progress in ensuring that workers understand the tools and the reasons for their use.
- Compliance with expectations regarding human performance tool use was more rigorous in formal settings (e.g. during formal pre-job briefs with the work process supervisor) than during the execution of work activities in the field. The team noted that the licensee’s continued identification of human performance errors due, at least in part, to not using human error prevention tools may be related to this observation.
- During the team’s field observations, some licensee personnel appeared confused over when the use of certain human performance tools was appropriate. Although the workers decided to use the more conservative approach in tool use due to their uncertainty, the inspectors noted that absent



continuing training on expectations, confusion could lead to workers taking less-conservative approaches in the future.

- During an effectiveness review following the Unit 3 outage in the spring of 2011, the licensee observed that some gaps still existed with respect to the use of human error prevention techniques. The licensee initiated a direct cause evaluation to determine the cause of these gaps and to revise corrective actions as necessary to address them. The team observed that continued use of such evaluations and “course corrections” is important to ensure continued improvement.

Further, the team noted potential challenges to the sustainability of the licensee’s action taken to correct the work practices cross-cutting themes. For example, by procedure, line managers determine whether there is a need for human performance training that, according to closure review board documentation, was to be performed as a corrective action for these themes. The team noted that this did not meet the documented closure basis in that it did not ensure sustainability of the corrective action. The licensee documented this observation in Nuclear Notification 201505081. Further, two instances were identified, one by the licensee and one by the team, of CAPR being improperly anchored in procedures to ensure sustainability. The licensee documented these deficiencies in Nuclear Notifications 201503068 and 201504363.

Finally, based on its observation of a maintenance management team alignment meeting, its observation of an all-hands meeting, and its review of the leadership engagement trending system process, the team concluded that licensee initiatives for leadership engagement have significantly enhanced licensee management’s reinforcement of human performance expectations.

The team concluded that the licensee had made significant improvements in programs, processes, and procedures to ensure personnel work practices support human performance. If continued, and if periodically assessed and adjusted as necessary, these improvements are likely to correct the remaining performance gaps in this area.

## RESOURCES

The human performance substantive cross-cutting issue at SONGS includes one theme in the resources component associated with ensuring accurate documentation, procedures, and work instructions.

The team determined that the licensee had made progress in improving its programs to ensure procedures, instructions, and other written documentation was maintained accurate and up-to-date. The team noted that corrective actions implemented in response to VIO 05000361; 362/2010006-08 had resulted in more robust processes to ensure procedures were changed as needed to accurately reflect plant configuration (see Section 4OA2.3). The team also observed that the general quality of written procedures had significantly improved since the cross-cutting theme was originally

identified in 2008. However, the team noted some areas where further action may be warranted:

- In 2010, the licensee completed a direct cause evaluation, which concluded that personnel sometimes feel empowered to work through minor procedure errors contrary to station expectations. The team noted that the written procedure quality count metric, used by the station to detect adverse trends in procedure quality, counts the number of times a procedure problem affects the completion of tasks or leads to errors in performance. The team concluded that if workers do not stop performance of a task due to poor procedure quality, as required by Procedure SO123-XV-HU-3, "Written Instruction Use and Adherence," Revision 8, but rather work through the error, this metric may not accurately reflect the number of procedure errors encountered.
- Procedure SO123-XV-HU-3 includes examples of problems with written instructions that should prompt workers to stop work and to obtain clarification from their supervisors prior to continuing. One of these criteria is "acceptance criteria not met." The team observed that for some procedures (e.g. surveillances), "acceptance criteria not met" is an anticipated condition. The failure of acceptance criteria to be met is more likely indicative of a problem with plant equipment than with the surveillance procedure. The team determined that inclusion of this criterion among those for procedure quality problems is a potential error trap - personnel could fail to identify a potentially significant equipment problem by treating it as a procedure error.
- Although the licensee has made significant progress in reducing it, the backlog of procedure change requests remains high. As noted above, the licensee made substantial improvements to Procedure SO123-XV-109.1, "Processing Procedures and Instructions," to implement corrective actions identified to correct the root cause of the performance deficiency associated with VIO 05000361; 362/2010006-08 and to make other enhancements. The implementation of these improvements ensured that significant technical and modification-related procedure changes were made timely and were not included in the backlog. Additionally, the licensee reduced its total procedure change backlog by almost 50 percent over the most recent 4 months from a peak of 3,336 items in January 2011 to 1,780 items in May 2011. The licensee anticipates reducing its procedure change backlog to fewer than 600 items by the end of 2011.

The team concluded that the quality and accuracy of written instructions had improved significantly. The team noted that the NRC continued to identify some deficiencies in procedural compliance, especially in compliance with procedures requiring the use of human performance tools as noted above, and those requiring the use of decision making tools as discussed below. However, the team determined that the behaviors, which led to the identification of a cross-cutting theme, either had been corrected or were likely to be corrected by the training, tools, management reviews, and other processes that the licensee had put in place.

## DECISION MAKING

The human performance substantive cross-cutting issue at SONGS includes one theme in the decision making component associated with the use of conservative assumptions.

The team verified that the six actions designed to correct the deficiencies in this area to which the licensee committed in correspondence to the NRC were complete. Completion of these actions resulted in enhancements to plant procedures, processes, and programs such that they more clearly communicated station expectations for the use of conservative assumptions in decision making. However, the NRC continues to identify issues associated with conservative decision making, especially in the performance of operability determinations following discovery of degraded or nonconforming plant conditions. Further, the NRC continues to issue a substantial number of findings with a cross-cutting aspect in this area.

The team observed that the licensee had taken significant actions to clarify the station expectation that workers and operators use conservative assumptions in decision making, and had processed procedure changes to formalize these expectations. However, the team concluded that these actions had not been effective in correcting the cross-cutting theme.

### .2 Safety Conscious Work Environment

On March 2, 2010, the NRC issued a chilling effect letter to Southern California Edison Company noting a number of challenges to the licensee's maintenance of a safety conscious work environment at SONGS. The letter requested that the licensee verify that it was taking appropriate actions to ensure that the SONGS workplace was one in which employees felt free, and were encouraged, to raise safety concerns.

The chilling effect letter followed the NRC's conclusion that some SONGS employees did not feel free to raise safety concerns, that licensee management had not effectively communicated the avenues available for raising safety concerns, and that licensee management had not effectively encouraged employees to raise safety concerns via these avenues without fear of retaliation. These conclusions were based on observations which included (1) employees expressing difficulty in using or inability to use the station's corrective action program, (2) employees' lack of knowledge or mistrust of the Nuclear Safety Concerns Program (now the Employee Concerns Program), (3) a substantiated case of a supervisor creating a chilled work environment in his/her work group, and (4) a perception among some employees that they would be retaliated against for raising safety concerns. The NRC's conclusion was further informed by a significant increase in the number of safety concerns raised via the NRC's allegations program, specifically those alleging a chilling effect or discrimination.

In November 2010 and January 2011, the NRC performed focused problem identification and resolution inspections to determine what progress the licensee had made in resolving these issues concerning the safety conscious work environment at SONGS. The teams performing these inspections determined that the licensee had taken several

significant actions to address the noted deficiencies, but that it had not resulted in significant progress to demonstrate that the issues had been corrected.

In early 2011, Southern California Edison Company commissioned a safety culture survey and an independent safety culture assessment to evaluate SONGS's progress in improving the station's safety conscious work environment and other aspects of its safety culture identified as needing improvement. The survey was administered by an independent organization from March 8 through April 1, 2011. The safety culture assessment was performed from May 2-13, 2011, by an industry team independent of Southern California Edison Company and SONGS. The results of these reviews were published as internal Southern California Edison Company documents, but were made available to the NRC for review, inspection, and independent verification.

a. Inspection Scope

The team reviewed effectiveness of actions taken by the licensee to resolve the chilled work environment issues as noted in the NRC's chilling effect letter. This included (1) a review of the licensee's cause evaluations and resulting corrective actions, including interviews of personnel responsible for their implementation; (2) a review of the licensee's metrics and measures used to track the improvement of or to detect a lack of improvement in its safety conscious work environment; and (3) a review of training and other corrective actions performed by the licensee to ensure that personnel were aware of the different avenues for raising safety concerns. Additionally, the team attended one all-hands meeting and one maintenance alignment meeting, both of which were part of campaigns initiated as corrective actions to improve the station's safety conscious work environment.

The team reviewed concerns raised to the NRC through the allegation process between January 2010 and May 2011 and, where these concerns resulted in the NRC sending requests for information to the licensee, assessed the licensee's progress in resolving the concerns. The team also assessed all allegations received during this period to determine whether each was related to the licensee's safety conscious work environment, and whether the number or rate of such safety conscious work environment-related concerns indicated improvement in the licensee's safety conscious work environment.

The team inspected the results of the safety culture survey and the independent safety culture assessment performed in April and May 2011. The team verified that the personnel administering the survey and conducting the assessment were independent of the SONGS organization. The team reviewed the questions and methodology used in the administration of the survey as well as both raw and processed survey results to ensure that conclusions were accurate and unbiased. The team independently analyzed the data and conducted interviews with selected individuals to verify the results.

b. Observations and Findings

The team concluded that the safety conscious work environment at SONGS is adequate to support safe operation. Further, while the licensee has demonstrated improvement in its safety conscious work environment in discrete areas, other areas need further improvement. These areas are discussed below. The team concluded that the station had made significant improvement in the areas of corrective action program accessibility, Employee Concerns Program visibility, senior leadership engagement, and plant personnel knowledge both of safety conscious work environment principles and of avenues for raising concerns. The team was unable to determine whether SONGS had made meaningful progress in reducing a fear of retaliation among site personnel.

#### CORRECTIVE ACTION PROGRAM

The team noted significant improvement in the licensee's corrective action program with respect to accessibility. Changes made to the licensee's corrective action program had significantly increased the ability of workers to initiate nuclear notifications, the means by which items are entered into the corrective action program. These changes included the addition of a computer desktop shortcut to initiate a nuclear notification, the addition of the ability to submit an anonymous nuclear notification electronically, and an improvement in the process for initiating a paper nuclear notification. The independent safety culture assessment noted that 99 percent of personnel interviewed (460 of 464) knew how to initiate a nuclear notification.

The team concluded that concerns described in the chilling effect letter regarding the ability of station personnel to use the corrective action program have been adequately corrected.

#### EMPLOYEE CONCERNS PROGRAM

The team determined that the licensee made substantive changes to the Employee Concerns Program, greatly increasing its visibility to employees and its available organizational resources. However, there were still concerns among many employees as to its anonymity and its ability to resolve concerns. In the April 2011 safety culture survey, 78 percent of personnel agreed with the statement "At SONGS, the Employee Concerns Program is a trusted way to identify problems and remain anonymous." Approximately one quarter of the neutral and negative responses included comments; the majority of these comments indicated either a belief that the Employee Concerns Program was not anonymous or a belief that a concern brought to the Employee Concerns Program would not be resolved.

The team concluded that the licensee has adequately addressed the NRC's concerns about the knowledge of and accessibility of the Employee Concerns Program described in the chilling effect letter. The team further concluded that continued efforts are needed to address some employees' negative perceptions of the confidentiality and effectiveness of the program.

## SAFETY CONSCIOUS WORK ENVIRONMENT: PROGRAMS AND METRICS

The team noted weaknesses in Procedure SO123-XV-50.3.1, "Nuclear Safety Culture Programs Process for Monitoring and Responding to Safety Culture and Safety Conscious Work Environment Issues and Potential Trends," Revision 0, issued on May 20, 2011. These included the following, which the licensee documented in Nuclear Notification 201481440:

- For trending and monitoring purposes, the procedure attempted to distinguish between safety conscious work environment issues and general work environment issues. However, while the procedure's definition of general work environment explicitly excluded safety conscious work environment, safety conscious work environment was implicitly included in the discussion of general work environment and explicitly included in the general work environment trend codes. The team concluded that these contradictory definitions could lead to confusion in how personnel handle potential safety conscious work environment-related corrective action program items.
- The definition of safety conscious work environment included in the procedure is inconsistent with that used in other station procedures (SO123-NSC-1, "Nuclear Safety Culture Program," Revision 0, and SO123-D-008, "SONGS Safety Conscious Work Environment and Resolution of Employee Concerns," Revision 15, both issued May 17, 2011). The team concluded that this lack of a consistent definition of safety conscious work environment could lead to confusion when determining how to characterize corrective action program items to identify potential adverse trends or could cause false positives when identifying improving trends.
- The procedure requires periodic keyword searches of the corrective action program database to ensure items related to safety conscious work environment and general work environment were being appropriately categorized for trending. However, the inspectors determined that the required search terms were overly narrow (e.g. "harassment" but not "harass" or "harassed"); the use of these narrow terms could result in some safety conscious work environment- or general work environment-related corrective action program items being overlooked.

These observations were consistent with the results of the independent safety culture assessment, which noted that "improvement [was] warranted in SONGS's processes to gather, analyze, and respond to SCWE data and trends." The team concluded that the combination of overlapping and contradictory definitions of safety conscious work environment and general work environment noted above, general work environment metrics that included safety conscious work environment-related items, and a lack of clear program guidance in Procedure SO123-XV-50.3.1 resulted in some inconclusive trend data in the licensee's metrics.

Further, the team observed that the large number of trend codes available for use (approximately 300 total) could, without specific, carefully followed procedural guidance,

lead to items being incorrectly categorized, potentially masking trends or skewing metric data. The licensee documented this observation in Nuclear Notification 201505815.

The team concluded that the licensee had successfully developed programs to monitor the effectiveness of actions to improve the safety conscious work environment at SONGS. However, the licensee should address weaknesses in those programs and processes to ensure data accurately indicate performance trends in this area.

**SAFETY CONSCIOUS WORK ENVIRONMENT: PERCEPTIONS OF RETALIATION**

The team determined that further improvement was needed at SONGS to eliminate perceptions or fears of retaliation for raising safety concerns. The team noted the following results from the independent safety culture assessment (percentages indicate percent of focus group interviewees):

Question	June 2010 results	May 2011 results
Are you willing to raise a safety concern?	98% Yes	99% Yes
Are there any conditions under which you would be hesitant to raise a safety concern?	23% Yes	12% Yes
Have there been any events or circumstances in the last year that have reduced your willingness to identify or raise safety issues?	8% Yes	8% Yes
Have there been any instances in which you or another individual experienced a negative reaction for raising a safety issue?	11% Yes	19% Yes

Additionally, the independent safety culture assessment report noted that 77 percent of focus group interviewees believed the safety conscious work environment at SONGS was improving, and only 1 percent viewed it as declining. The team also noted the following results from the April 2011 safety culture survey (percentages indicate respondents who agreed or disagreed with the statement; a neutral response was also available):

Survey Statement	Agree	Disagree
Personnel can raise nuclear safety concerns without fear of retribution and have confidence their concerns will be addressed.	80%	6%
There is a free flow of information in which issues are raised and addressed.	67%	11%

The corrective action program is consistently used to identify issues/problems, record investigations, and track corrective actions.	84%	3%
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The team concluded that although virtually all interviewed personnel expressed a willingness to raise a safety concern via one or more of the available avenues, there was a need for continued or additional actions to address the hesitation by some personnel to do so. Further, the significant increase in the percentage of personnel (from 11 percent to 19 percent) who perceived negative reactions for raising safety concerns, together with the 20 percent of personnel who did not fully agree with the first survey statement above, indicated that additional improvement in this area is warranted.

The team noted that the independent safety culture assessment identified that 11 of the 16 “Priority Groups” identified as having safety conscious work environment issues in 2010 no longer had significant issues, though two had general work environment issues that warranted attention. One additional group, not among the Priority Groups identified in 2010, was noted to have safety conscious work environment concerns during the 2011 assessment. Also significant, one group previously identified as a Priority Group declined to participate in the independent safety culture assessment as requested.

Finally, through its review of concerns submitted to the NRC through the allegation process, the team identified that data did not conclusively indicate an improving or declining trend in the safety conscious work environment at SONGS. The team reviewed the allegations received and identified those from on-site sources that involved concerns with the health of the licensee’s safety conscious work environment. Because of the large fluctuations in site population over the past year due to increases and subsequent decreases in workers for the steam generator replacement projects and other outage activities, the team normalized the allegation data to the number of personnel working onsite. The NRC received no safety conscious work environment-related allegations from SONGS personnel between February and April 2011. The number of safety conscious work environment-related allegations received per capita in May 2011, however, was the fourth highest of any month in the 12-month period from June 2010 through May 2011. While 67 percent higher than the monthly mean, this May 2011 increase was not statistically significant due to large month-to-month variations in numbers of safety conscious work environment-related allegations received from SONGS. Therefore, the team concluded that allegation data were insufficient to identify a trend. However, the team determined that when considered together with a number of safety conscious work environment-related allegations the NRC has continued to receive subsequent to the conclusion of the onsite portion of the inspection, the May 2011 increase confirmed the need for continued efforts to improve the safety conscious work environment at SONGS.

.3 (Closed) Violation 05000361; 362/2010006-08, “Failure to Maintain Written Procedures Covered in Regulatory Guide 1.33”

On July 30, 2010, the NRC issued SONGS a notice of violation for its failure to implement controls over its backlog of procedure change requests to prevent procedures



with known technical deficiencies from being used in the field. The licensee's corrective actions for two previous noncited violations for the same performance deficiency had failed to restore compliance with Technical Specification 5.5.1.1.

As noted in Section 4OA2.1.a, above, the team reviewed and inspected the corrective actions taken in response to this notice of violation. The team noted that the licensee made substantial improvements to Procedure SO123-XV-109.1, "Processing Procedures and Instructions," to correct the root cause of the performance deficiency. The implementation of these improvements ensured that the licensee made timely changes to significant technical and modification-related procedures to prevent deficient procedures from being issued for use. The team determined that these actions had adequately corrected the performance deficiency associated with this violation. This violation is closed.

#### **4OA6 Meetings**

##### Exit Meeting Summary

On June 17, 2011, the team presented the inspection results to Mr. Peter Dietrich, Senior Vice President and Chief Nuclear Officer, and other members of the licensee staff. The licensee acknowledged the issues presented. Proprietary information reviewed by the inspectors was returned to the licensee or destroyed, as appropriate.

ATTACHMENT: SUPPLEMENTAL INFORMATION

**SUPPLEMENTAL INFORMATION**

**KEY POINTS OF CONTACT**

Licensee Personnel

J. Barrow, Manager, Nuclear Safety Culture  
D. Bauder, Vice President & Station Manager  
M. Brown, Manager, Human Performance  
R. Corbett, Director, Performance Improvement  
W. Frick, Manager, Employee Concerns Program  
G. Kline, Director, Engineering & Technical Services  
J. Madigan, Director, Site Recovery & Nuclear Safety Culture  
A. Martinez, Manager, Corrective Action Program  
T. McCool, Plant Manager  
T. O'Meara, Manager, Nuclear Safety Culture  
R. St. Onge, Director, Nuclear Regulatory Affairs  
M. Stevens, Engineer, Nuclear Regulatory Affairs  
R. Treadway, Manager, Nuclear Regulatory Affairs  
D. Yarbrough, Director, Operations

NRC personnel

D. Allen, Senior Project Engineer  
J. Reynoso, Resident Inspector

**LIST OF ITEMS OPENED, CLOSED AND DISCUSSED**

Closed

05000361; 05000362/2010006-08	VIO	Failure to Maintain Written Procedures Covered in Regulatory Guide 1.33 (Section 4OA2.3)
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**LIST OF DOCUMENTS REVIEWED**

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
D-003 ISS 3	Nuclear Safety Culture	2 (EC 1)
D-008	SONGS Safety Conscious Work Environment and Resolution of Nuclear Safety Concerns	14

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
D-008	SONGS Safety Conscious Work Environment and Resolution of Nuclear Safety Concerns	15
SO123-NSC-1	Nuclear Safety Culture Program	0 (EC 2)
SO123-XV-109.1	Processing Procedures and Instructions	10 (EC 1)
SO123-XV-50.2	Employee Concerns Program and SONGS Safety Conscious Work Environment	23
SO123-XV-50.2.2	Safety Conscious Work Environment Review Boards	1 (EC 2)
SO123-XV-50.3.1	Nuclear Safety Culture (NSC) Programs Process for Monitoring and Responding to Safety Culture and Safety Conscious Work Environment Issues and Potential Trends	0
SO123-XV-50.CAP-4	Implementing Corrective Actions	7
SO123-XV-50.CAP-5	Effectiveness Review for Corrective Action to Prevent Recurrence (CAPR)	4
SO123-XV-51	Site Program Impact (SPI) Assessment and Resolution	14 (EC 1)
SO123-XV-HU-1	Human Performance Program	13
SO123-XV-HU-3	Written Instruction Use and Adherence	8
SO123-XV-PI-1	Site Performance Indicator Program	3 (EC 1)
SO123-XV-SA-3	Trend Coding and Analysis	4

NUCLEAR NOTIFICATIONS

200888919	201469661	201505081
201261911	201481440	201505813
201378245	201497724	201505815
201450269	201503068	201506421
201469401	201504363	

MISCELLANEOUS

<u>TITLE</u>	<u>REVISION / DATE</u>
Effectiveness Review Challenge Board report: Nuclear Safety Culture	October 1 through December 31, 2010
Follow-Up Independent Safety Culture Evaluation: San Onofre Nuclear Generating Station	June 10, 2011
San Onofre Nuclear Generating Station Management Review Meeting package	June 28, 2011
SONGS Desktop Trending Guide for Trending Human Performance and Equipment Events	0
SONGS Excellence Guidebook	
SONGS Human Performance Tools Handbook for All Workers	
SONGS Leadership Guide to a Healthy Work Environment	
Trend Coding and Analysis desktop guide	4