

April 18, 2001

Mr. Gregory M. Rueger, Senior Vice President  
and General Manager  
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SUBJECT: NRC TEAM INSPECTION REPORT 05000275/2001-004, 05000323/2001-004

Dear Mr. Rueger:

On March 29, 2001, the NRC completed a team inspection at the Diablo Canyon Nuclear Power Plant, Units 1 and 2. The enclosed report presents the results of the inspection. The results were discussed with Mr. D. Oatley, Vice President - Operations, and other members of your staff, on March 29, 2001.

The inspection was an examination of activities conducted under your license as related to the identification and resolution of problems, and your compliance with the Commission's rules and regulations, and the conditions of your license. Within these areas, the inspection consisted of examinations of selected procedures and records, observation 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 inspectors concluded that problems were properly identified, evaluated and resolved within the problem identification and resolution programs.

In accordance with 10CFR2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the 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/**

Wayne D. Lanning, Director  
Division of Reactor Safety, Region I

Docket Nos. 05000275, 05000323  
License Nos. DPR-80, DPR-82

Mr. Gregory M. Rueger

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Enclosures: NRC Inspection Report 05000275/2001-004, 05000323/2001-004

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Mr. Gregory M. Rueger

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**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION I**

Docket Nos: 05000275, 05000323

License Nos: DPR-80, DPR-82

Report Nos: 05000275/2001-004, 05000323/2001-004

Licensee: Pacific Gas and Electric Company (PG&E)

Facility: Diablo Canyon Nuclear Power Plant, Units 1 & 2

Dates: March 20 - 29, 2001

Inspectors: Barry S. Norris, Senior Reactor Inspector, Region I  
Frank J. Arner, Reactor Inspector, Region I  
Greg V. Cranston, Reactor Inspector, Region I

Approved By: David C. Lew, Chief  
Performance Evaluation Branch  
Division of Reactor Safety, Region I

Anthony T. Gody, Chief (acting)  
Operations Branch  
Division of Reactor Safety, Region IV

## **SUMMARY OF FINDINGS**

IR 05000275-01-04, 05000323-01-04; on 03/20-29/2001; Pacific Gas and Electric, Diablo Canyon Nuclear Power Plant Units 1 & 2; Annual baseline inspection of the Identification and Resolution of Problems; no findings were identified.

The inspection was conducted by three regional inspectors.

### **IDENTIFICATION AND RESOLUTION OF PROBLEMS:**

The inspectors concluded that the implementation of the corrective action program at Diablo Canyon was acceptable. The Diablo Canyon staff adequately identified problems and entered them into the corrective action system. The overall corrective action backlog and the specific engineering and maintenance backlogs appeared to be appropriately prioritized and adequately managed. There was a low threshold for initiation of deficiency documents, and they were properly classified at the correct significance level. The depth of the root cause analysis for problems were appropriate. Corrective actions were generally adequate and completed in a timely manner, and as necessary prevented recurrence.

## REPORT DETAILS

### 4. OTHER ACTIVITIES (OA)

#### 4OA2 Identification and Resolution of Problems

##### a. Effectiveness of Problem Identification

###### (1) Inspection Scope

The inspectors evaluated the documents listed in Attachment 2. The review included deficiency documents, maintenance work orders, operator workarounds and burdens, temporary modifications, maintenance and engineering backlogs, security event logs, contamination event reports, and the disposition of selected operating experience events and notifications. Also, the inspectors interviewed the plant staff and management.

The inspectors reviewed quality assurance audit and surveillance reports, departmental self-assessments, and third-party reviews of licensee performance. This review was to determine whether the assessment results were consistent with NRC findings, to determine if assessment findings were entered into the licensee's corrective action program, and to determine if appropriate corrective actions were prescribed to resolve identified program deficiencies.

###### (2) Findings

Overall, the inspectors determined that the Diablo Canyon staff was effective in identifying problems and entering them into their corrective action program; in the Diablo Canyon corrective action program, the initiating document is an action request (AR). The threshold for identification of problems was low, as evidenced by approximately 15,000 ARs initiated yearly; in addition, about 5,000 event trend reports (ETRs) were generated for the last year. ETRs were used for identification of trend data and for issues that were not considered a quality problem requiring an AR. The inspectors also reviewed quality assurance audits and departmental self-assessments, and determined that they were thorough and self-critical; and that issues identified were entered into the corrective action program.

##### b. Prioritization and Evaluation of Issues

###### (1) Inspection Scope

The inspectors reviewed the documents listed in Attachment 2 to assess the appropriateness of the licensee's classification of the significance level, cause determination, and the extent of condition review. The inspectors assessed PG&E's review of the ARs for operability, reportability, and Maintenance Rule reliability and unavailability. The review also included an assessment of the backlog of corrective actions, and the maintenance and engineering backlogs, to determine if any actions, individually or collectively, represented an increased risk due to the delay of implementation. The inspectors also observed the onsite review committee to evaluate the effectiveness of their review with respect to corrective actions.

(2) Findings

The corrective action program at Diablo Canyon provided for three significance levels, usually corresponding to the risk associated with the issue. The entry point for all issues was the initiation of an AR. For issues that are considered a minor condition adverse to quality with no cause determination required, the issue remains an AR. For conditions adverse to quality for which a cause analysis was desired, the AR was escalated to a quality evaluation (QE). For significance conditions adverse to quality, requiring a formal in-depth root cause analysis and corrective actions to prevent recurrence, the AR became a non-conformance report (NCR).

The inspectors determined that the ARs were reviewed and escalated to the correct significance level, as necessary. Of the approximate 15,000 ARs initiated in the last year, about 60 were escalated to a QE, and 15 were escalated to NCR status. The inspectors reviewed the root cause analyses associated with the QEs and NCRs listed in Attachment 2 and found them to be probing and comprehensive. The issues were appropriately reviewed for operability and reportability. In addition, the inspectors noted that the overall backlog of corrective issues was reasonable, and that the specific backlogs of open engineering and maintenance issues were properly prioritized and appeared to be holding steady with respect to the total numbers.

c. Effectiveness of Corrective Actions

(1) Inspection Scope

The inspectors reviewed the status and implementation of corrective actions associated with Diablo Canyon cause evaluations.

(2) Findings

The inspectors identified no instances where corrective actions for significant issues were not completed as required and in a timely manner. No negative trends were identified of recurring problems that the licensee was not already aware of.

d. Assessment of Safety-Conscious Work Environment

(1) Inspection Scope

The inspectors interviewed plant personnel to determine if people were hesitant to use the corrective action system to identify safety problems.

(2) Findings

No findings of significance were identified.



4OA6 Meetings, Including Exit

Exit Meeting Summary

The inspectors presented the inspection results to Mr. Oatley, and other members of licensee management, at the conclusion of the inspection on March 29, 2001. No proprietary information was identified.

ATTACHMENTS:

Attachment 1: NRC's Revised Reactor Oversight Process

Attachment 2: Partial List of Personnel Contacted  
Items Opened, Closed, and Discussed  
List of Acronyms  
List of Documents Reviewed

## **Attachment 1**

### **NRC's REVISED REACTOR OVERSIGHT PROCESS**

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

#### **Reactor Safety**

- Initiating Events
- Mitigating Systems
- Barrier Integrity
- Emergency Preparedness

#### **Radiation Safety**

- Occupational
- Public

#### **Safeguards**

- Physical Protection

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: <http://www.nrc.gov/NRR/OVERSIGHT/index.html>.

**Attachment 2**  
**PARTIAL LIST OF PERSONNEL CONTACTED**

**Diablo Canyon**

J. Becker	Station Director
C. Belmont	Manager - Nuclear Quality Services
S. Chestnut	Manager - System Engineering
S. Fridley	Director - Site Services
J. Hayes	Director - Outage Management
R. Hite	Manager - Radiation Protection
S. Ketelsen	Supervisor - Regulatory Services
D. Miklush	Director - Engineering Services
D. Oatley	Vice President - Operations
P. Roller	Manager - Operations
J. Shoulders	Manager - Engineering Services
B. Terrell	Supervisor - Corrective Action Program
J. Tomkins	Director - Nuclear Quality, Analysis, & Licensing
B. Waltos	Director - Maintenance Services
L. Wolmack	Vice President - Power Generation
L. Fusco	Maintenance Rule Coordinator
T. Irving	Manager - Maintenance Support

**NRC**

A. Gody	Branch Chief
T. Jackson	Resident Inspector
D. Proulx	Senior Resident Inspector

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

None

**LIST OF ACRONYMS**

AR	Action Request
CFR	Code of Federal Regulations
ETR	Event Trend Report
IR	Inspection Report
NCR	Nonconformance Report
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
PG&E	Pacific Gas and Electric
QE	Quality Evaluation
WATS	Worker Accountability Tracking System

**LIST OF DOCUMENTS REVIEWED**

**Procedures**

Attachment 2 - (cont.)

OM3.NQ1	Employee Concerns Investigations & Reporting, Rev 3A
OM4	Nuclear Oversight Program, Rev 1A
OM4.ID12	Self-Assessment Guideline, Rev 2
OM4.ID13	Internal Auditing, Rev 6A
OM5	Quality Assurance Program, Rev 4A
OM7	Corrective Action Program, Rev 1
OM7.ID1	Problem Identification and Resolution - Action Requests, Rev 12A
OM7.ID10	Quality Trend Analysis Program, Rev 6A
OM7.ID12	Operability Determinations, Rev 4A
OM7.ID2	Quality Evaluations, Rev 10
OM7.ID3	Nonconformance Report and Technical Review Group, Rev 9
OM7.ID4	Cause Analysis, Rev 3
OM7.ID5	Issues Needing Validation to Determine Impact on Operability (INVDIO), Rev 2A
OM7.ID8	Operability Evaluation, Rev 8
OP1.DC16	Control of Plant Equipment Not Required by Technical Specifications, Rev 6
QCP10.2	Inspection Activities, Rev 16
SP106	Security Reporting, Rev 13
SP10	Security Review Groups and Actions Taken Response to Events, Rev 3

**Nonconformance Reports**

N0002109	N0002118	N0002115	N0002117	N0002119	N0002121
N0002112	N0002114	N0002116	N0002118	N0002120	N0002122
N0002113					

**Quality Evaluations**

Q0012170	Q0012186	Q0012191	Q0012202	Q0012212	Q0012219
Q0012178	Q0012188	Q0012194	Q0012206	Q0012214	Q0012220
Q0012181	Q0012109	Q0012198	Q0012208	Q0012216	Q0012222
Q0012182	Q0012190	Q0012200	Q0012211	Q0012217	Q0012224
Q0012183	Q0012191				

**Action Requests**

A0461379	A0502541	A0504956	A0508770	A0513448	A0518400
A0501814	A0502588	A0505113	A0508836	A0513762	A0518612
A0501893	A0502863	A0505115	A0509075	A0515108	A0518785
A0501895	A0489609	A0505116	A0509094	A0516157	A0518814
A0501952	A0502963	A0505617	A0509117	A0516173	A0518890
A0501965	A0503012	A0506139	A0509119	A0516451	A0519286
A0501972	A0503090	A0506178	A0510598	A0516744	A0519770
A0502118	A0503340	A0506337	A0510916	A0516934	A0521037
A0502138	A0503465	A0506550	A0511260	A0517329	A0521852
A0502145	A0503728	A0507486	A0511815	A0517362	A0522297
A0502153	A0506248	A0507508	A0512284	A0517380	A0522529
A0502354	A0504107	A0508188	A0512398	A0517599	A0523641
A0502359	A0504338	A0508252	A0512560	A0517720	A0523663
A0502501	A0504719	A0508460	A0512727	A0517966	A0524008

Attachment 2 - (cont.)

A0524307	A0524402	A0525484	A0527731	A0527933	A0528030
A0524396	A0524729	A0526439	A0527732		

**Non-Cited Violations**

2000-02-01 TS 3.6.3 violation for opening inboard CIV while outboard valve was inoperable  
2000-05-02 TS 3.4.4 violation for opening block valve while PORV was inoperable  
2000-05-03 Licensed power level exceeded  
2000-05-05 Failure to control maintenance department overtime usage  
2000-05-06 Failure to properly dedicate commercial grade components  
2000-07-01 Failure to evaluate / restrain a portable cart next to safety piping  
2000-07-02 Unauthorized person reviewed emergency preparedness program  
2000-08-01 Failure to document issues in the corrective action program  
2000-08-02 Failure of preventive maintenance to preclude failure of diesel generator to start  
2000-09-01 Operator prematurely energized accumulator isolation valves, violating TSs  
2000-10-01 Work on wrong equipment resulted in failure to follow procedures  
2000-14-01 Failure to survey  
2000-14-02 Violation of TS 5.7.1.e for entering HRA without knowledge of dose rates  
2000-14-03 Two examples of failure to follow procedures for working on the wrong unit  
2000-15-01 Failure to adequately control personnel access to the plant warehouse  
2000-16-01 Radioactive material outside the RCA

**Operating Experience Reviews**

OE 11957 Bottomed Out Stationary Contacts on Refurbished/Overhauled GE AK Circuit Breaker  
OE 11958 Single Barrier Appendix R Fire Door Failed to Close  
OE 11959 Preliminary Report - Unexpected and Spurious Electronic Personal Dosimeter Alarm During Dive Operation  
OE 11960 Quench Spray Valves Mispositioned Since Plant Startup  
OE 11961 RCS Drain Motor Operated Valve Gland Stud Eyebolt Failure and Subsequent Packing Leak After Maintenance is Performed  
OE 11962 Foreign Material Damages Emergency Diesel Generator Internals  
OE 12007 Valve Reach Rod Deficiency Contributes to RCS Boration  
OE 12008 Surge Line Temperature Change Which Could be Indicative of a Pressurizer Temperature Change in Excess of the TS Limits  
OE 12009 Preventive Maintenance Procedure 40-120 Opened TSC Deluge Valve and Started Fire Pumps A & B  
OE 12010 Work Instructions Altered by QC  
OE 12011 3B Emergency Diesel Generator Failed to Stop at Idle or Rated Speed  
OE 12012 U3 Turbine Building Crane Pendant Control and Takeup Reel Fell from Pendant Rail  
OE 12013 Problems Involving Lock-tubes While Installing Fuel Assembly Top Nozzles  
OE 12014 Emergency Diesel Generator Declared Inoperable Due to Failure to Start During the Performance of the 31-Day Surveillance Test  
OE 12015 UE Was Declared Due to a Fire in Radwaste Truck Lock  
OE 12016 'B' ESW Pump Inoperable Due to Low Pressure and Low Flow  
OE 12017 Coagulant Transfer Pump Timer Stuck Causing Coagulant Feed Tank to Overflow

Attachment 2 - (cont.)

- OE 11957 Bottomed Out Stationary Contacts on Refurbished/Overhauled GE AK Circuit Breaker
- OE 12018 Solid State Trip Device in Circuit Breakers using MOSFET's Found
- OE 12019 Elevated Dose Rates Discovered in Primary containment Drywell From Crud Burst
- OE 12020 Auxiliary Building Floor Fan Coil Unit 'B' May Have Increased Fouling Based on Tests of Fan Coil Unit 'A'
- OE 12021 Foreign Material in Body feed Pumps
- OE 12022 Radiation Monitor May Have the Potential to be Inoperable Due to Board Transfer
- OE 12023 Worker Injured During Ice Blowing Activity

**Self-Assessments & Third Party Evaluations**

- Design Electrical Group Assessment Program, Assessment A050818, Event Trending Report Review, Analysis, and Self Assessment
- Fire protection self assessment, combustibles on red floor A0504956
- INPO Readiness Self-Assessment, 4<sup>th</sup> Quarter 2000
- Non-Cited Violations Self-Assessment, 2<sup>nd</sup> Quarter 2000
- Nuclear Watch Station Practices Self-Assessment, 1<sup>st</sup> Quarter 2000
- Operations Human Performance Self-Assessment, 1<sup>st</sup> Quarter 2000
- Radiation Protection Self Assessment A0509375, Evaluate Actions Taken to Reduce the number of 2R9 Personnel Contamination Incidents, June 2000
- Security self assessment ATSA A0511417
- Self Assessment, MS2000-MA07, Work Package Closure
- Post maintenance mod. Testing program self assessment, NCR N0002098

**Quality Assurance Audits & Surveillances**

- 2000 Emergency Preparedness Annual Audit (11/2/00 - 1/4/01)
- Corrective Action Peer Review Audit (1/24/00 - 1/28/00)
- NQA audit 4<sup>th</sup> quarter 2000
- NQA assessment 003709463
- Operations Training Audit (8/28/00 - 8/31/00)
- Operations 1R10 Refueling Activities Audit (10/8/00 - 11/17/00)

**Other Documents**

- Action Request Review Team Daily Meeting Packages (3/20/01 - 03/29/01)
- Monthly NPG Quality Problem Report for February 2001
- Operations Shift Logs (7/26/00 - 8/1/00)
- Quality Performance Assessment Report - 3<sup>rd</sup> Quarter 2000
- Quality Performance Assessment Report - 4<sup>th</sup> Quarter 2000
- Response, 3-12-2001, Security Hardware Events
- Security Incident Report, 01-0077-5M
- Security Logbook January 2001 to March 30, 2001
- Security Incident Report, 01-0054-5N
- Special Report 98-02 EDG
- TRACE SE3 report, Human Factor Events
- TRACE report 'SECATS' Security Event by category