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**Pacific Gas and Electric Company** 

77 Beale Street San Francisco, CA 94106 415/972-7000 TWX 910-372-6587 James D. Shiffer Vice President Nuclear Power Generation

January 6, 1989

PG&E Letter No. DCL-89-004

U.S. Nuclear Regulatory Commission ATTN: Document Control Desk Washington, D.C. 20555

Re: Docket No. 50-275, OL-DPR-80 Docket No. 50-323, OL-DPR-82 Diablo Canyon Units 1 and 2 Reply to NRC Inspection Report Nos. 50-275/88-26 and 50-323/88-24

Gentlemen:

NRC Inspection Report Nos. 50-275/88-26 and 50-323/88-24 (Inspection Report) dated November 23, 1988, requested (1) PG&E's progress in dealing with problems that were discussed at the SALP meeting and in the Inspection Report regarding instilling proper instincts in personnel, and (2) information on the results of the Event Investigation Team (EIT) for the review of operating experience, and problem ownership and timely resolution of problems. A description of our progress in these areas is provided in Enclosure 1. A summary of the EIT report on operating experience review and PG&E's planned action to implement recommendations is provided in Enclosure 2.

Kindly acknowledge receipt of this material on the enclosed copy of this letter and return it in the enclosed addressed envelope.

Sincerely,

J. D. Shiffer

cc: J. B. Martin M. M. Mendonca P. P. Narbut B. Norton H. Rood B. H. Vogler CPUC Diablo Distribution

Enclosures

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## ENCLOSURE 1

RESPONSE TO CONCERNS IDENTIFIED IN NRC INSPECTION REPORT NOS. 50-275/88-26 AND 50-323/88-24 REGARDING INSTILLING PROPER INSTINCTS IN PERSONNEL

As identified in the cover letter of NRC Inspection Report 50-275/88-26 and 50-323/88-24 (Inspection Report), dated November 23, 1988, this enclosure discusses PG&E's progress for dealing with issues arising from various incidents which have recently occurred at the Diablo Canyon Power Plant (DCPP). These issues have been characterized by the NRC as: (1) instincts instilled in personnel; (2) communications of management expectations; and (3) personal accountability, that is, a sense of individual responsibility and ownership of problems. These issues were discussed at our October 26, 1988, SALP meeting and were summarized in an NRC letter dated November 10, 1988.

PG&E has analyzed the recent events at Diablo Canyon described in both the subject Inspection Report and in Inspection Report 50-275/88-31 and 50-323/88-29, dated December 20, 1988. While numerous initiatives have recently been taken to improve plant performance, involving both procedural and equipment upgrades, this analysis indicates that nonconforming conditions continue to result from inappropriate personnel actions. As with any large organization, management's greatest challenge is to constantly and effectively communicate its expectations to its employees and to instill in them the sense of personal accountability. We recognize that improvement is necessary and that it will require an ongoing effort. This enclosure describes our current activities and those proposed to improve this situation.

In our prior meetings, I have expressed the opinion that improvements will be achieved less with new programs or refinements to existing programs, but more through the unrelenting communication of management goals and expectations and increased personal accountability. The key word is unrelenting. We have achieved many short-term improvements, but evidence shows that backsliding occurs when the emphasis for performance is relaxed for even a short time. In order for management initiatives to be effective, they must be carried forth in a unrelenting way by every member of the plant management organization. While senior management continually sets and communicates these standards, an effective ongoing program requires that everyone, especially the working level managers and supervisors, be totally involved and committed to communicating and achieving such standards. Therefore, a focus of our efforts being taken in 1989 are directed toward achieving this involvement and commitment.

1. At my direction, the Plant Manager has been charged with developing an overall program for managers and supervisors at Diablo Canyon to communicate our goals and expectations. This plan will be established by the end of January, 1989.

Regularly scheduled meetings will be held between senior managers and their first line supervisors and craft personnel. As a minimum, for example, in 1989 the Vice President will hold at least two general plant assemblies, plus at least two meetings with specific audiences at the first line supervisor/craft level. Also, approximately one-third of the nonconforming conditions include post-event tailboard briefings as part



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of the corrective action. This suggests that more effective tailboard briefings could prevent some of these occurrences. The Plant Manager has also been tasked with the responsibility of identifying actions to enhance the the effectiveness of tailboard briefings as part of the communications plan.

2. Significant occurrences, or selected lesser occurrences with generic lessons to be learned, will be evaluated in a formal documented manner analagous to the INPO Case Studies. These will be disseminated among all departments for study, rather than just the affected department(s). Since it will usually be possible to identify the group actually involved, it is expected that the Case Study approach will also strengthen the development of personal accountability among all departments.

An example of such a case study is an analysis by the DCPP Training Department of a recent steam generator dryout event. This case study was distributed to all plant supervisors for discussion with their personnel. This study included a detailed description, itemization of causes, and discussion of applicability to DCPP.

- 3. The Plant Manager has held debriefing sessions with all involved personnel on specific events. While this need not be done on every event, it is important to increase communications between upper management and the personnel performing activities, including supervisory personnel and the craft personnel. As a result, everyone in the chain of command should receive a clearer understanding of what happened and management expectations of what should have happened. This process will continue to be used for selected events. Examples of recent debriefing sessions were for an inadvertent diesel start and the inadvertent actuation of plant equipment from the Anticipated-Transient-Without-Scram Mitigation System Actuation Circuitry (AMSAC) circuitry.
- 4. DCPP line managers will be required to conduct a number of special training sessions, in combination with the existing administrative procedure training program, to reemphasize management expectations regarding error reduction and attention to detail.
- 5. The Plant Personnel Awareness Program (PPAP) was established in October 1988 to provide a mechanism for exchanging information among all plant personnel and to provide human performance experience feedback to them. The focus of the PPAP is to increase plant personnel awareness in the area of human performance as related to personal accountability actions.
- 6. The existing, but relatively new, practice of summarizing personnel errors in the weekly DCPP Bulletin will be continued.
- 7. The Plant Manager will be added to the General Office Nuclear Plant Review and Audit Committee (GONPRAC) to increase plant communications with this oversight group.





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- 8. Existing programs to widely disseminate departmental goals and actual performance against these goals will be continued.
- 9. Operations and maintenance productivity and errors are now being tracked at the crew foreman level. The tracking is categorized in the following manner:
  - a. Category A errors
    - Errors that result in a loss of generation (>20 MWe)
    - Errors that result in a formal report to a regulatory agency (Technical Specification violation, reactor protection system (RPS) or emergency safety feature (ESF) actuation, serious injury or significant equipment damage).
  - b. Category B errors
    - Errors that result in an Operations/Maintenance Incident Report
    - Errors that are submitted by department management and include:

Errors which provide the potential for the occurrence of Category A errors

 Minor errors which may have been inconsequential, but could be indications of a situation leading to a Category A error.

This information will be disseminated among senior management to enable a more accurate assessment to be made of individual crew performance.

Examples of additional performance indicator activities being considered for potential tracking at the crew foreman level are:

- Operation's clearance performance
- Work Order completion/rework
- Quality Evaluation personnel error trends
- Procedure improvement recommendations
- Outstanding performance recognition
- 10. The Plant Manager has given special recognition to individuals who have demonstrated the proper instinct and appropriate action which prevent events from happening or becoming more significant. This recognition has consisted of a personal letter from the Plant Manager and a gift certificate for dinner at a local restaurant. Examples of recent recognition are: (1) a mechanic upgraded to foreman pursued what he thought was a wrong part issued to the plant for installation in the chemical and volume control system (CVCS), even though all paperwork appeared to be correct. His action prevented the installation of a small relief valve with the wrong spring; and (2) a supervising





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technician persisted in discussions with the shift foreman and was successful in preventing the shift foreman from listing a nonconservative Technical Specification Action Statement limit in the Technical Specification out-of-service log.

- 11. Several recent events which involved personnel errors have resulted in the application of the positive discipline program.
- 12. The Corporate Management Incentive Program has been restored for 1989. All managers/supervisors may earn substantial monetary bonuses if DCPP achieves various safety, regulatory compliance, and generation goals.
- 13. An external management consultant is currently performing a study of possible incentive programs to supplement the Management Incentive Program. Their recommendations are expected in the Spring of 1989.
- 14. Nuclear Power Generation (NPG) personnel have visited other utilities and are assessing the positive aspects of their programs and activities. NPG will continue to evaluate the successful actions being taken at other facilities for their applicability to Diablo Canyon.

Motivating personnel to high quality, error-free performance is a challenging task. The foregoing examples represent the initial efforts to be emphasized in 1989. In most cases, they represent enhancements to existing programs. This is an ongoing and evolving area and we intend to monitor and assess our progress. We will make further enhancements where desirable and will eliminate actions which are judged to be ineffective.





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## ENCLOSURE 2

## EVENT INVESTIGATION TEAM SUMMARY OPERATING EXPERIENCE REVIEW

As requested in the cover letter of NRC Inspection Report 50-275/88-26 and 50-323/88-24 (Inspection Report), dated November 23, 1988, this enclosure summarizes PG&E's Event Investigation Team (EIT) Report regarding operating experience review and PG&E's planned action to implement EIT recommendations.

The following summarizes PG&E's EIT investigation regarding timely review of operating experience. A full report is in PG&E files and is available for NRC review. At the direction of the Vice President-NPG, an EIT was established to evaluate the timeliness and effectiveness of the review and incorporation of industry and Diablo Canyon experience into plant operations. Three case studies were selected for review: (1) instrument air system problems, (2) check valve failures, and (3) two recent seismic trips experienced at Diablo Canyon Unit 2.

#### 1. Investigation Results

From a review of the three events, the EIT determined that there was a need for greater involvement by management level supervisors to ensure the timely implementation of operating experience. Two root causes for untimely implementation of operating experience were identified: (1) the lack of accountability and management followup on documented plant problems and (2) the lack of accountability for assuring implementation of corrective actions.

The EIT reviewed the in-place systems to determine if procedures for handling operating experience and engineering work requests had been followed. Procedural violations had not occurred since no procedural requirements exist which specify any time frame for the review of operating experience. The team then reviewed the present systems to determine ways in which the occurrence of similar events could be minimized. The EIT agreed that improving the handling and review of non-compliance reports (NCRs), implementing the System Engineer Program, and improving the operating experience review program would improve the timeliness and effectiveness of the incorporation of operating experience.

The EIT determined that (1) management systems needed to be strengthened to utilize operating experience, and (2) the tracking of key action items and the incorporation of recommendations resulting from technical review groups (TRGs) and EITs were not effective. As demonstrated by the cases studied and other similar examples, management has been aware that the problems existed. However, due to the lack of prioritization and the inconsistent communication of technical problems through the normal management chain, appropriate attention and resources were not focused on the issues. In addition, the lack of an effective priority system for corrective actions that were documented on design change notices (DCNs) and engineering work requests (EWRs) allowed them to languish while work was assumed to be progressing.



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# 2. Corrective Actions and Schedule for Implementation

The following recommended corrective actions address the root causes as identified by the EIT. The recommendations were adopted by PG&E and are divided into actions relative to DCPP operating experience and industry operating experience. The group assigned the responsibility for implementation of each recommendation and the tentative schedule for completion are identified.

- a. Actions Relative to DCPP Operating Experience
  - Review status of open NCRs at a monthly Plant Staff Review Committee (PSRC) meeting to increase the awareness of DCPP and Nuclear Engineering and Construction Services (NECS) management of significant plant problems. This action was assigned to Quality Control (QC) and is scheduled for implementation by February 1989.
  - 2) Review all EIT reports at PSRC and GONPRAC meetings to create management awareness of the corrective actions recommended by EITs and ensure that management is aware of significant safety concerns. This action was assigned to QC and is scheduled for implementation by February 1989.
  - 3) Require that any NCR pertaining to DCPP be reviewed and signed by an Assistant Plant Manager prior to convening a TRG. Action to revise procedure C-12, "Identification and Resolution of Problems and Nonconformances," was assigned to QC with revision scheduled by March 1989.
  - 4) Review potential NCRs at the Plant Manager's morning meeting for assignment of responsibility for NCRs based on consideration of the department with the most responsibility for the potential corrective actions. This action was assigned to Technical Services and is scheduled for implementation by February 1989.
  - 5) Revise the NCR process to require specific consideration of appropriate industry operating experience, including Nuclear Plant Reliability Data Service (NPRDS). This will allow an evaluation of the specific event to determine if any other plants have had the problem and what was done as a correction. This action was implemented by revision to procedure C-12.
  - 6) Review C-18, "Event Investigations," to require that an NCR be written to track EIT corrective actions. Action to revise procedure C-18 was assigned to Regulatory Compliance with revision scheduled by February 1989.
  - 7) Review NPG Vol. O, Section 5.3, "Committee Charters, Diablo Canyon Plant Staff Review Committee," procedure to include a NECS representative as a non-voting member of the PSRC and

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require their attendance when NCRs are addressed and at special quarterly PSRC meetings. This will ensure that NECS is aware of any significant problem which is discussed at the PSRC including the NCR review and the operating experience status report. Action to revise NPG Vol. O, Section 5.3 was assigned to QC with revision scheduled by March 1989.

8) Revise the engineering work request procedure so that any work request to engineering be submitted using an Action Request (AR). This will provide for the prioritization, electronic tracking, and handling of any engineering work request. Action to revise procedure C-1S2, "Requesting Plant Design Changes and Engineering Evaluations," was assigned to Technical Services with revision scheduled by February 1989.

- 9) Implement the System Engineer Program at DCPP and require a quarterly status report on each assigned system be provided to NPG management. This report will include as a minimum the review of all outstanding ARs, DCNs, NCRs, and operating experience issues. The report will be prepared jointly by the DCPP system engineer and the NECS design engineer and will be discussed with personnel from the Operations, Maintenance, Chemistry, and Radiation Protection Departments before it is submitted for management review. The System Engineer Program is presently being implemented at Diablo Canyon by Technical Services.
- 10) Revise NECS budget guidelines to provide the cognizant engineers with the flexibility to be able to react on a more proactive basis. This will allow the engineers to commence work to provide solutions to identified significant plant problems without waiting approval to start work. NECS budget guidelines are being revised with implementation scheduled by the end of 1989.
- 11) Revise procedure C-12 to clarify that ARs are required for significant operations or maintenance problems, errors, events or near misses. ARs are generally written when repairs are needed, but they are often not written on these types of problems. This action was implemented by a revision to procedure C-12.
- 12) Assign responsibility and provide authority to a designated individual to implement an effective Trip Reduction Program. The Plant Manager has the responsibility to coordinate the implementation of the Trip Reduction Program.
- 13) Require that NOS, as part of their oversight function, review quality evaluations (QEs), NCRs, EITs, DCNs, NRC inspection reports, and perform an independent check to assure that significant problems are being addressed in a timely fashion. This action is being established by Nuclear Operation Services (NOS) and is scheduled for implementation by March 1989.



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- 14) Implement a policy where GONPRAC and PSRC hold a joint meeting quarterly to discuss status of significant industry and DCPP operating experience. This policy has been established.
- 15) Assess the feasibility of specifying that any action request which describes a condition which could cause a reactor trip or reduce availability be given a priority level of 2 and be reviewed by an Assistant Plant Manager. This action was assigned to Technical Services for assessment by March 1989.
- b. Corrective Actions Relative to Industry Operating Experience

In addition to the above corrective actions, the EIT made several recommendations for corrective actions pertaining to industry operating experience. These are aimed at improving the overall effectiveness of PG&E's operating experience feedback program.

- NOS personnel should increase communication with all NPG departments early in the process and continue communication. Implement INPO guidelines to enhance the screening process for prioritizing review items, and identify system engineers and departments who should provide input into the review process. Operating experience packages should be developed on a system basis for use by the system engineers and design engineers. NOS has responsibility to establish this action by the end of January, 1989.
- 2) Ensure that the initial review of industry operating experience by NOS personnel is timely. Corrective actions should be segregated into interim and long term action items to assure timely implementation of corrective actions. Interim actions should be implemented promptly, while longer term actions will be tracked to assure schedule completion. Provide interim responses to the PSRC for issues requiring extensive investigation. NOS has responsibility to establish this action by February 1989.
- 3) Develop integrated NOS monthly status report on DCPP and industry operating experience. This report should identify to management the status of operating experience activities by department. Key action items should be tracked and identified by management for timely implementation. Issues of particular importance should be discussed at the weekly NPG managers meeting at DCPP. Implementation of this action by NOS is scheduled by February 1989.
- 4) Utilize performance indicators to monitor program effectiveness. The discussion of these indicators, as well as the overall status of the operating experience review, will be added as an agenda item for the joint Special Quarterly PSRC and GONPRAC meeting. Implementation of this action is scheduled by June 1989.

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- 5) NOS should develop an operating experience database to allow for improved tracking of operating experience review activities and easy "keyword" searching of the historical in-house and industry operating experience by plant personnel. Action for development was assigned to NOS with scheduled completion by June 1989.
- 6) Review status of open industry operating experience reviews at a quarterly PSRC meeting. This will allow plant and NECS management to review the status of outstanding operating experience recommendations and to decide what action is necessary to resolve the issue. Implementation of this action was completed January 2, 1989.

The implementation of corrective actions discussed above will improve the communication of priority items both up and down the management chain and provide for management accountability for problem resolution.



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