

U. S. NUCLEAR REGULATORY COMMISSION
REGION V

Report No. 50-275/84-23 (IE-V-641)

Docket No. 50-275

License No. DPR-76

Licensee: Pacific Gas and Electric Company
77 Beale Street
San Francisco, California 94106

Facility Name: Diablo Canyon Unit 1

Inspection at: Diablo Canyon Site, Pacific Gas and Electric Corp Offices,
California

Inspection conducted: August 6 thru August 14, 1984

Inspectors: R. Fish 9/5/84
R. Fish, Emergency Preparedness Analyst Date Signed

G. M. Temple 9/5/84
G. M. Temple, Emergency Preparedness Analyst Date Signed

K. M. Prendergast 9/5/84
K. M. Prendergast, Emergency Preparedness Analyst Date Signed

Team Member: G. Bryan, Comex Corporation

Approved by: M. D. Schuster 9/5/84
M. D. Schuster, Chief, Security Licensing and Emergency Preparedness Branch Date Signed

Summary: Inspection during the period of August 6 thru August 14, 1984.

Areas Inspected: Routine, announced inspection of the licensee's emergency preparedness program including emergency detection and classification, protective active decision making, notification and communications, changes to the emergency preparedness program, training, licensee audits, follow-up on items identified during the last inspection, and the licensee's handling of concerns regarding response to site evacuation alarm. This inspection involved about 173 hours of onsite time by 3 NRC inspectors and one contractor team member. Inspection procedures 82201, 82202, 82203, 82204, 82206 and 82210 were performed.

Results: Of the 8 areas inspected no significant deficiencies or violations of NRC requirements were identified in 7 of them. The only violation of NRC requirements identified was the failure of some employees, assigned to positions in the site and corporate emergency organizations, to receive required initial training and retraining.

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DETAILS

1. Persons Contacted

a. Pacific Gas and Electric Personnel

- *K. Bieze, Chemical Radiation and Senior Instructor
- *J. Boots, Chemical and Radiation Protection Manager
- I. Costa, Clerk, General Employee Training
- A. Dame, Supervisor, General Employee Training
- R. Ewing, Shift Supervisor
- *W. Fujimoto, Supervising Nuclear Generation Engineer
- *J. Gisclon, Assistant Plant Manager, Technical Services
- G. Heggli, Senior Engineer, Internal Auditing
- *S. Joiner, Emergency Planner
- W. B. Kaefer, Assistant Plant Manager, Support Services
- *W. Keyworth, Supervisor, Emergency Planning
- *T. Mack, Senior Nuclear Generation Engineer
- P. Moreland, Assistant Office Supervisor
- T. Martin, Manager, Training
- W. O'Hara, Supervisor Chemistry and Radiochemistry
- *J. A. Sexton, Manager, Operations
- *R. Thornberry, Plant Manager
- J. Woessner, Director of Quality Assurance

b. Contractors

- R. Harris, Senior Engineer, NUMANCO
- *E. Murphy, Supervisor, Regulatory Compliance, Westinghouse

2. Open Items from the previous Inspection Report Number 50-275/83-25

(Closed) Open Item (83-25-01):

Concurrence of the State had not been obtained for the emergency action levels (EALs) utilized in the State's Emergency Response Plan, as required by IV B of Appendix E to 10 CFR 50. The State Office of Emergency Services has concurred on the emergency action level classification scheme by written correspondence dated December 28, 1983. As noted in Report Number 50-275/83-25, concurrence of the county had been obtained in July of 1983. Licensee personnel now plan to request concurrence of the State and county during the same time period in the future. Letters requesting concurrence of the state and county had been prepared. The letters were dated August 8, 1984 and requested responses by September 1, 1984. This item is closed.

Open Item (83-25-02):

Installation of instrumentation as required by Regulatory Guide 1.97, Revision 2, had not been completed. In addition to the correspondence noted in Report Number 50-275/83-25, the licensee has provided additional information on the conformance to Regulatory Guide 1.97, Revision 3, as evidenced by their September 9, 1983 letter to NRR. NRR's response to this letter was provided to the licensee by letter dated June 27, 1984.

This letter indicated that additional information would have to be provided on the types of instrumentation to be used as well as the schedule for installation of this instrumentation used to meet 1.97 requirements.

(Closed) Open Item (83-25-03):

The Emergency Assessment and Response System (EARS) program, used by the Shift Technical Advisors (STAs) for calculating dose assessment, was found to be non user friendly due to several software problems (e.g., unnecessary input, no recovery mechanism if a mistake is made, complicated conversions of instrumentation readings before input to EARS). Licensee actions to resolve this matter included a complete rewrite of the EARS program. The new EARS program, which has just recently been made available, has eliminated any unnecessary inputs and has provided methods for recovery from mistakes. A primary concern associated with the previous EARS program involved complicated conversions of instrument readings prior to program input. The new EARS program automatically performs these conversions for the user. Training on the operation of the new program has been scheduled for late September and early October 1984. Training will also be provided to operators, in addition to STAs, so that the operators could assist the STAs in an emergency. This item is considered closed.

(Closed) Open Item (83-25-04):

Additional HPN and ENS telephones needed to be installed in appropriate locations within the TSC to insure that an adequate means for contacting the licensee is available. Since there is no regulatory requirement for additional HPN and ENS telephones, this item is considered to be closed. However, installation of this equipment is still scheduled to be performed.

(Closed) Open Item (83-25-07):

During the last inspection, there was confusion over the location of the OSC by operations personnel. In 1983 the licensee had 2 temporary facilities to function as the Operations Support Center (OSC). They were called the operations support area and the operational support area. Since that time, the licensee has established a single location for the OSC, consisting of the the cold machine shop area and the chemistry and radiation control access hallway area, and changed the name of the old operations support area to the security readiness area. The licensee has also committed to cover the OSC extensively in training, to eliminate any confusion by operations personnel over the location or function of the OSC. This item is considered closed.

(Closed) Open Item (83-25-08):

Most of the Shift Foremen had not completed their emergency preparedness retraining. During this inspection, the emergency preparedness training/retraining program was examined. The results of this examination are described in Section 8 of this report. This item is closed.

(Closed) Open Item (83-25-09):

Lack of corporate personnel attending scheduled emergency plan training was identified as a deficiency in a licensee audit performed in December 1982. The licensee's report of an audit conducted in September 1983 shows this item is still considered to be open. The corporate training/retraining program was examined during this inspection. The results of the examination have been recorded in Section 8 of this report.

The inspector's examination of the program revealed that corporate management has written several memorandums concerning the importance and need for the corporate personnel to complete the required emergency preparedness training. This item is closed.

(Closed) Outstanding Item (83-25-10):

The Emergency Preparedness Training Program needs to be reevaluated and necessary improvements implemented. The licensee is currently in the process of rewriting all lesson plans for the EP courses given to site personnel. Procedure AP B-10, which establishes the emergency planning training requirements for the site, will be revised following the rewriting of the lesson plans. In addition, the licensee is actively seeking to fill an emergency planning training position to help expedite the EP training program. This item is closed.

(Closed) Open Item (83-25-11):

The licensee is currently in the process of performing a more indepth audit of the Emergency Plan and Procedures. This item was considered closed upon completion of the licensee's yearly audit which was performed to meet the requirements of 10 CFR 50.54(t). The audit was completed on September 29, 1983 (See Section 3).

3. Emergency Classification and Protective Action Decision Making

The inspector reviewed the site Emergency Plan and implementing procedures and observed that they contain the criteria for measurable and observable emergency action levels (EALS). EALS are based upon inplant conditions and onsite/offsite radiological monitoring results.

The licensee's Emergency Plan provides for an onsite individual to be available 24 hours a day to fill the position of the Emergency Coordinator. Initially the Shift Foreman fills this position and is assisted by one STA and a Reactor Operator (RO). Interviews were held in the control room for three control room shifts. Based on the interviews it was determined that (1) the licensee had the 24 hour capability to evaluate emergency conditions, (2) the control room shifts were able to use the Emergency Plan and implementing procedures to properly classify the accident scenarios within 15 minutes and (3) take appropriate action to execute notification and protective action recommendations specified in the plan and implementing procedures.

The San Luis Obispo County Emergency Plan was examined and noted to contain provisions for immediate actuation of the prompt notification system by the Sheriff's Watch Commander at the declaration of a general emergency by the Site Emergency Coordinator.

The Emergency Coordinators (ECs) were aware of their responsibilities to classify events and to initiate emergency actions which included the protective action recommendations to State and local officials. The ECs were also familiar with those responsibilities and duties that are non-delegable. Recommendations made by the ECs to offsite officials were noted to consider plant and core conditions and were referenced in the Emergency Plan implementing procedures. The plan also considered the effectiveness of evacuation versus sheltering for keeping exposures as low as reasonably achievable during an accident. The licensee was able to effectively use post accident monitoring instrumentation data to assess core and containment status. Also, the inspection disclosed that, when required, the ECs and STAs were able to estimate the release rate from containment following a simulated LOCA (with plant conditions stable, known gap damage, and complete containment barrier integrity) and the results (determined by the three shifts examined) were correct and within 3% of one another.

Interviews were also held with a few individuals who would assume responsibilities in the TSC during an emergency. The interviews disclosed that those individuals were current in their training, aware of their responsibilities and were willing to execute them.

No significant deficiencies or violations of NRC requirements were identified.

4. Changes to the Emergency Preparedness Plan

The inspector reviewed random samplings of changes to the Emergency Plan and implementing procedures from January 1983 - July 1984. All changes had been reviewed by the Plant Staff Review Committee (PSRC) and signed by the Plant Manager. Changes examined were sent to Document Control for distribution and to the NRC within the required 30 day time period. Temporary instructions were reviewed and it was noted that the PSRC had taken timely action, with subsequent forwarding to the Plant Manager for a signature, for permanent inclusion into the Emergency Plan. Of the changes examined, none appeared to decrease the effectiveness of the Emergency Plan.

The Technical Support Center (TSC) and the OSC were toured for a comparison of the physical facility to that described in the Emergency Plan. The TSC was observed to contain equipment described in the Emergency Plan and no deviations from the plan were observed.

The location and the description of the OSC was as depicted in the Emergency Plan. However, in response to NRC findings (See Open Item 83-25-07), the licensee has developed and tested a new OSC. The licensee expects to have the new OSC in full operation, prior to the next exercise in October 1984. A cursory review, against the requirements of NUREG-0696, was performed on the draft procedures for the new OSC. The

new facility appears to satisfy the guidance requirements contained in NUREG-0696.

FEMA Region IX was also contacted to ascertain if there were any significant changes of personnel in the State or local emergency organizations. The FEMA representative stated there were no significant changes to State or local officials which would have an impact on their emergency organization.

PSRC minutes were sampled and were noted to contain references to changes in emergency procedures. The changes had been reviewed by the PSRC and notations were made when procedures were recommended to the plant manager for approval or returned to their originator for further research.

The licensee's administrative procedure EP AP-E4 (procedure for changes of various types of procedural documents) was reviewed and appeared adequate. The document appeared to contain the necessary criteria and guidance relating to the preparation, review and distribution of changes that are important to safety, which included the Emergency Plan.

There were no changes observed in the licensee's Emergency Plan that appeared to impact the effectiveness of the organization.

5. Licensee Audits

The inspector examined the licensee's audit of the emergency preparedness program to determine that the licensee had performed an independent review or audit such that it met the requirements in 50.54(t) of 10 CFR 50. The licensee's audit to meet the above requirement was performed by C. E. Hill and members of the QA staff on September 19 through 29, 1983. The audit addressed the interface between local officials and the Diablo Canyon Power Plant. The audit and notes also contained an evaluation of the licensee's drills and exercises, and stated that the licensee is effectively implementing the Emergency Plan. Also, the audit had been distributed to the Plant Management, and items of improvement were documented and entered into the licensee's computer tracking system for resolution. All open items identified in the 1983 audit were observed to be closed.

Records of the licensee's 1983 and 1984 drills and exercises were examined by the inspector and all reports contained the designed objectives, and an evaluation to confirm that such objectives were or were not met. All drill and exercise reports examined contained a closing critique which was written to document where items of improvement were identified. If items of improvement were identified, these items were entered into the licensee's tracking system for resolution.

During this inspection, discussions were held with the Emergency Preparedness staff and the QA department concerning the fact that although the 1983 audit by Mr. Hill was a considerable improvement over the previous years audit, there was room for further improvement in the documentation area. This item was specifically discussed during the exit interview (See Paragraph 11). The inspector also reviewed the

licensee's QA audit of the Emergency Preparedness Organization (a separate audit) and noted that where improvements were warranted, management was made aware of the necessary improvements, and that such items were entered into the licensee's QA system for tracking their resolution.

There were no significant deficiencies or violations observed with the licensee's audit program.

6. Notifications

Notification procedures for the onsite and offsite emergency organizations were reviewed. The procedures for notifying the onsite emergency organization address the appropriate personnel and were kept current through the monthly communications drill process and a quarterly telephone number verification program. The licensee, in order to upgrade their notification method, has ordered a Rapid Alert Notification System (RANS). This system is scheduled to be delivered in the near future, however, RANS will probably not be completely operational by the October 1984 exercise. RANS will provide a significant improvement to the licensee's current manual method for making offsite notification of emergency response personnel. RANS has the capability to automatically make telephone calls and transmit pre-recorded messages. The new system will also include a method for message receipt acknowledgment and will repeat all unacknowledged and unanswered calls.

Emergency Plan implementing procedures for notifying the offsite emergency organization were noted to include corporate support, counties, State and Federal agencies. Provisions for verifying messages were not deemed necessary since the initial notification to the county's Sheriff's Office and the State Office of Emergency Services is performed by automatic tieline with a dedicated radio for backup. Procedures appear to be consistent with the emergency classification and emergency action levels scheme utilized by the licensee. Pre-printed forms were also used in preparing initial emergency messages, prior to transmittal of the information to the outside authorities. Except for a section which described the emergency event, the form can be completed by filling in the blanks and checking the appropriate boxes. The local offsite agencies have been provided with blank copies of these forms and the forms are completed by the offsite agency during the call. This appears to be an effective means of transmitting the required information. Other information contained in the initial message form appears to be appropriate when compared to the guidance provided by NUREG-0654. The licensee's system for making prompt notification to the public consists of an Early Warning System (EWS) which utilizes 128 sirens and the use of the Emergency Broadcasting System (EBS). Both systems are in place and appropriate tests had been conducted bi-weekly, monthly, quarterly and annually. A major test of the Early Warning System is to be conducted on August 11, 1984 and is scheduled to be evaluated by FEMA.

7. Communications

The licensee has a sophisticated system of communications equipment installed within their emergency response facilities. This equipment was observed to be operable and records demonstrated that appropriate drills had been conducted. Communications equipment consists of primary and backup systems for making onsite and offsite communication links. It

appears that the licensee's communications network should function effectively in the event of an emergency. Portable communications systems used by the radiation monitoring teams appear to be adequate. An antenna system had been installed throughout the plant, including the containment and auxiliary building, to eliminate dead spots from radio communications.

8. Training

The inspection included a review of the licensee's emergency preparedness (EP) training program with the emphasis placed on changes made since the July 18-22, 1983 inspection. In addition to interviewing individuals and examining records and documents, two training classes (Radiological Emergency Response Procedures and Response Procedures for Non-Radiological Emergencies) given to reactor operations personnel and Shift Technical Advisors were observed. The EP training requirements for the Diablo Canyon site are still contained in Procedures NPAP B-2 and AP B-50, General Training Requirements for On-Site Personnel and Emergency Planning Training respectively. Neither of these procedures has been revised since the July 1983 inspection. These procedures implement Sections 8.1.1 and 8.1.2 of the Emergency Plan, all of which satisfies 10 CFR 50.54(q), 10 CFR 50.47(b) and Section IV.F of Appendix E to 10 CFR 50. There are about 130 site personnel who must satisfy the training requirements in procedure AP B-50.

The licensee initiated a complete rewriting of the lesson plans for the emergency preparedness courses. Drafts of new lesson plans have been prepared for 8 of the 14 courses with the remainder to be completed during the next few months. An examination of these drafted lesson plans disclosed they included a description of the course and estimated presentation time, a topical outline, the learning objectives, identification of the instructor and student materials, lesson references, and an instructor lesson guide. Each plan identified the date of issuance and revision number. The front page provided for signatures of the originator, reviewer and approval authority. Examination questions and correct answer sheets were provided for those courses that are not limited to a discussion of implementing procedures only. According to the licensee, some of these draft lesson plans, which are more detailed than the previous version, are already being used. The EP courses are presently being taught to the Emergency Planning staff, except where specialized knowledge (e.g. dose assessment and operation of the EARS instrumentation) is provided by appropriate members of the Diablo Canyon staff. The licensee stated that they are presently seeking a full time EP instructor who would be a member of the training organization. The Emergency Planning staff will provide the appropriate guidance for this new instructor.

The EP training records have been incorporated into a system consisting of computerized data and microfilms. The attendance sheets and (where applicable) examinations are initially entered into the computer data bank. These documents are then microfilmed and stored for a few years. The computer data bank, which is organized by the individual, includes information on the EP courses required, the courses and dates they were taken and the examination score, if applicable.

On a monthly frequency, training status reports are printed by the organization and distributed to appropriate supervision. These reports include information on which courses are overdue for each individual. The monthly reports are prepared for licensee and contractor personnel assigned to the Diablo Canyon site. Interviews during the inspection disclosed more than one understanding of the responsibility for assuring that timely EP initial and retraining is accomplished. One understanding was that the supervisor was responsible, while another was the individual has the responsibility to assure he receives the required training. Since the operations staff receives scheduled training one week out of five, the training staff has been given the responsibility for assuring the shift personnel receive the required EP training in a timely manner.

A random sampling of the EP training records were examined during this inspection. The records showed the following annual retraining had not been accomplished.

a. Shift Foreman

One individual had not taken required course nos. EP-200* and EP-400* since May 1983. One individual had not taken required course no. EP-260* since December 1982.

b. Senior Control Operator

One individual had not taken required course nos. EP-200 and EP-400 since February 1982 and course no. EP-500* since July 1982. One individual had not taken required course nos. EP-200 and EP-400 since August 1982. Three individuals had not taken required course no. EP-500 since February, June and September 1982 respectively.

c. Control Operator

Three individuals had not taken required course nos. EP-200, EP-400 and EP-500 since September 1982. Three individuals had not taken required course nos. EP-200 and EP-400 since February 1982. Two individuals had not taken required course no. EP-500 since July 1982.

d. Chemical and Radiation Protection Foremen

One individual had not taken required course nos. EP-200 and EP-500 since October 1982. Two individuals had not taken course no. EP-200 since September 1981.

*Note:

EP-200, Radiological Emergency Response Procedures
 EP-260, Basic Radiological Accident Assessment
 EP-400, Response Procedures for Non-Radiological Emergencies
 EP-500, Overview of Diablo Canyon Emergency Plan and Procedures

The EP training requirements for general office personnel who are assigned to positions in the Corporate Emergency Response Organization

(CERO) that is established in accordance with the Corporate Emergency Response Plan (CERP), are described in Section II.C of CERP Implementing Procedure Number 2.2, Emergency Preparedness Training Program. These requirements address initial and annual refresher training. The current version of Procedure Number 2.2 is Revision 1 which has a date of January 13, 1984. The training consists of three phases: (1) taking the course titled Corporate Emergency Response Plan and Diablo Canyon Power Plant Emergency Plan Overview, (2) a self study or attending a course on the CERP Implementing Procedure(s) applicable to their assigned CERO position and (3) participation in drills, annual EP Exercise Dress Rehearsal or the annual EP exercise. The annual refresher training requirement consists of satisfying either the Phase 2 or Phase 3 training lesson plans that have been prepared for each of the courses. The lesson plans identify the objectives, provide references, describe the instructional aids for both the instructor and the student, and provide an outline for course presentation including the identification of aides and pertinent notes. There are about 220 corporate personnel who must satisfy the training requirements in procedure 2.2.

The Senior Nuclear Generation Engineer, who supervises the Corporate Emergency Planning staff, is responsible for maintaining the corporate EP training files. The records of training received are organized according to the various corporate organizations (e.g. Nuclear Plant Operations, Law Department, Governmental Relations Department, etc.). The primary records consist of attendance sheets and certifications of self study. These primary records are summarized to show the current status of training received. The current status record included information through April 30, 1984. The examination of the corporate EP training records disclosed that 18 persons with CERO assignments had not taken the required corporate Emergency Response Plan and Diablo Canyon Power Plant Emergency Plan Overview course. In addition, 50 persons had not (1) performed the self study or taken the related course on the applicable CERP Implementing Procedure(s) to satisfy the initial training requirement or (2) had not satisfied the annual refresher training requirement in this area since July 1982.

One violation of an NRC training requirements described in the first paragraph of this section was identified. (84-23-01)

9. Related Emergency Preparedness Items

Incident to this inspection was a review of the licensee's response to a spurious activation of an emergency alarm which resulted in an aborted localized site evacuation on May 22, 1984. Subsequent to this incident, several workers utilized the licensee's quality hot line to report that the evacuation did not follow normal evacuation procedures and that unauthorized personnel were telling workers to return to work. It was further reported that both of these factors caused confusion on the part of the workers. In addition, workers expressed concern about how they would have been notified of the need to evacuate the site while this false alarm was sounding. A temporary change to Emergency Procedures EP G-4, Personnel Accountability and Assembly, dated April 26, 1984, was issued to cover the prompt notification of personnel in all areas of Unit 2 while the normal means were out of service due to construction. This temporary change had subsequently been incorporated into the later

revision EP G-4. There was no significant change in content during this transition. As a result of this review, the inspector determined that EP G-4 adequately addresses notification of personnel.

The licensee has responded to the above stated incident in several ways. Per project instruction PI-40, Processing Allegations of Quality Concerns (Quality Hot Line), the licensee has prepared a written response to the incident. Attempts are still being made to transmit this response to the worker who initially telephoned via the hot line. Apparently this worker was laid off shortly after the incident. Licensee personnel have also prepared and disseminated a letter to all plant personnel addressing the response to the site emergency signal. This letter is intended to remind all employees of site evacuation practices. In addition, an article on the same subject is scheduled to be included in the next issue of the plant news letter. The licensee's response to this event appears satisfactory.

10. Information Notices

This inspection included an inquiry concerning the licensee's response to IE Information Notices 83-28 (Criteria for Protective Action Recommendations for General Emergencies) and 84-40 (Emergency Worker Doses). The licensee's event classification procedure (EP G-1) requires an "evacuation of the low population zone" (six mile radius around the plant) and subsequent recommendation to San Luis Obispo County when a General Emergency is declared. In addition, the licensee is to consult with local, State and Federal authorities concerning the initiation of additional protective actions. The licensee has documented the fact that their protective actions meet and exceed the guidelines in Notice 83-28 in a memorandum issued by the Senior Nuclear Generation Engineer for Emergency Planning. In response to Notice 84-40, the licensee issued Rev. 5 to Radiation Control Standard Number 1, External Radiation Dose Control, to require that emergency exposures are to be included in personnel exposure histories.

11. Exit Interview:

An exit interview was held with the licensee on August 10, 1984. Personnel present have been previously identified in Section 1 of this report. During the exit interview the following items were discussed:

- a. The licensee was informed of an apparent violation of training requirements for individuals in the emergency organization required by their Emergency Plan and 50.54 of 10 CFR.
- b. The licensee's annual independent audit of the Emergency Preparedness organization, which was performed to meet the requirements of 50.54(t), was noted to be improved over previous audits, however, the need for further improvement in documentation should be examined.