

U. S. NUCLEAR REGULATORY COMMISSION

REGION -V

Report Nos. 50-275/89-19 and 50-323/89-19

Docket Nos. 50-275 and 50-323

License Nos. DPR-80 and DPR-82

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

Facility: Diablo Canyon Units 1 and 2

Inspection at: Diablo Canyon Site, San Luis Obispo County, California

Inspection Conducted: September 11-15, 1989

Inspectors: Kent M. Prendergast 11/11/89
K. M. Prendergast Date Signed
Emergency Preparedness Analyst

Kent Prendergast for Ed Podolak 11/11/89
E. Podolak, NRC Headquarters Date Signed

Team Members: G. Martin, Pacific Northwest Laboratories
D. Schultz, Comex

Approved By: R. F. Fish 11/11/89
R. F. Fish, Chief Date Signed
Emergency Preparedness Section

Summary:

Areas Inspected: Announced follow-up on open items and inspection of the emergency preparedness exercise and associated critique. Inspection procedures 82301, 82302, and 92701 were covered.

Results: Based upon the results of the exercise observed, there is reasonable assurance that in the event of an emergency appropriate protective measures can and will be taken. No deficiencies or violations of NRC requirements were identified. The inspection did not identify any program weaknesses; however, some improvement areas are identified in the "Details" of the report.



DETAILS

1. Persons Contacted

- *J. Townsend, Plant Manager
- *B. Giffin, Assistant Plant Manager, Technical Services
- *D. Oatley, Supervising Nuclear Generation Engineer
- *E. Waage, Senior Nuclear Generation Engineer
- *L. Womack, Assistant Plant Manager, Operations
- *S. Wilde, Nuclear Generation Engineer
- *W. Keyworth, Senior Power Production Engineer, Emergency Planning
- *S. Joiner, Emergency Planning Coordinator

*Indicates personnel attending the exit interview.

2. Action on Previous Inspection Findings

(Closed) Open Item (89-04-02), Establish methods to verify the operability of the site sirens. The initial concern regarding this open item dealt with the installation of 5 emergency alarms/sirens in differing locations of the Plant, i.e. Unit 2 Auxiliary Building Boron Injection Tank Room-73 foot level, Security Diesel Room, Interior of Security Building, Unit 2 Auxiliary Building-85 foot level, Unit 2 Turbine Building (119 foot level) travel crews quarters. The completion of the installation of the additional alarms and sirens in the above areas was March 1989. The verification of siren operability has been addressed by dividing the sirens into 2 groups, those inside the power block and those outside the power block, for testing. The outside power block sirens were considered a higher priority due to exposure to weather.

All outside sirens have been tested, deficiencies noted and corrected, and surveillance test procedure (STP G-17 N) entitled "Site Emergency Signal-Outlying Areas Surveillance" was issued effective April 7, 1989. A check of Document Control during this inspection indicates that the STP appears effective and quarterly tests are being conducted.

Testing of inside sirens is ongoing, every Friday a segment of the inside power block sirens is being surveyed for operability. Records are available for those sirens checked to date, and those awaiting testing. The licensee expects to complete the testing of all sirens before the end of the year. At present the testing is 60 % complete. Test findings indicate circuit problems identified thus far are less than 5% for all sirens and alarms. Prior to the end of the first quarter of 1990 the licensee expects to have proceduralized an appropriate surveillance program for the inside power block signals.

Based on new sirens having been installed and the testing performed thus far indicating less than 5% circuit problems, this item is considered closed.



(Closed) Open Item KP-06-02, Spurious siren activation. This Item dealt with a spurious activation of siren 19c and the inability of a private citizen to obtain timely and accurate information on the reason for the emergency siren activation. The siren spuriously activated on June 2, 1989 at 4:49 a.m. awaking a private citizen on Valley Lane in Los Osos. Upon waking from a sound sleep, the individual was concerned that there might have been an emergency at Diablo Canyon. He was unable to get informed information regarding the reason for the siren or if emergency precautions were necessary. The individual made numerous attempts to obtain information regarding the siren activation. These attempts included the following.

1. The individual turned on the radio to the designated station. No emergency information was being broadcast.
2. The individual called the emergency phone number listed in the DCPP Emergency Information Booklet. There was no answer because this number is only activated during an actual emergency.
3. The individual called 911 and was told that it might be a runaway siren, but the 911 number was not the appropriate number to call (45 calls concerning the siren were received on the number).
4. The individual called the Sheriff's number and was told it was probably a runaway siren.
5. The individual called PG&E's "trouble shooting" phone number in the phone book but there was no answer. This is a twenty four hour number and there was no explanation given by the licensee as to why this phone was not answered.

Some time later the individual was informed that the activation was spurious and no emergency actions were necessary. Licensee and county personnel reviewed the event to determine root cause and corrective actions. The following explanation was given for why no announcement was made over the emergency broadcast system (EBS) station.

The Sheriff's watch commander, following the runaway siren procedure, contacted the two designated radio stations with information concerning the spurious siren activation and requested it be broadcast. At one (EBS) station, the message was received by the person on duty, but not put on the air because it did not seem very important. The other station was an AM/FM station. The FM portion had a live Disc Jockey (DJ), but the AM station was automated. The DJ made the announcement over the FM station but not on the AM station. The AM station is the EBS station.

The root cause was determined to be an inadequate implementation of a request by the county to broadcast over the EBS system information regarding the spurious siren activation.

Licensee and county emergency planning management made arrangements and did meet with the concerned individual on September 8, 1989, to discuss the steps that had been taken to avoid any similar situation and



determine if there were any further concerns. At the conclusion of the meeting, the concerned individual expressed satisfaction with the explanation concerning as to why the EBS radio did not activate and the actions taken to preclude a similar situation. The following represent actions taken by county and licensee personnel to improve the timeliness of information to the public regarding a spurious siren.

1. The licensee has distributed a video tape to provide for further training for county personnel and individuals responsible for implementing the activation of the EBS.
2. The County has revised the County Sheriff's runaway siren procedure to utilize the County "tone alert" system which would disseminate information to all EBS stations in lieu of calling only the station in the affected area.
3. The County has retrained personnel responsible for activating the EBS.
4. All sirens on the same circuit have been retested to insure a similar problem, such as the blown transistor which activated the siren in question, was not a generic problem.

3. Review of Exercise Objectives and Scenarios

The exercise objectives and scenario were examined by the NRC and considered appropriate to demonstrate the licensee's capabilities to respond to an emergency in accordance with their Emergency Plan and implementing procedures. The exercise scenario started with an event classified as an alert and ultimately escalated to a general emergency classification. The initiating condition for the alert was a loss of annunciators and alarms. A site area emergency was declared due to a loss of onsite and offsite power. A general emergency, the most severe emergency classification, was declared upon the judgement of the Recovery Manager, due to the loss of power mentioned above complicated by indications of reactor coolant system leakage and localized boiling in the core.

4. Exercise Planning (82301)

The licensee's corporate staff has the overall responsibility for developing, conducting and evaluating the annual emergency preparedness exercise. The corporate staff developed the scenario package with the assistance of licensee staff possessing appropriate expertise (e.g., reactor operations, health physics, maintenance and etc.) In an effort to maintain strict security over the scenario, individuals who had been involved in the scenario preparation were not participants in the exercise. The corporate staff in concert with the offsite agencies, established the exercise objectives. NRC, Region V, and the Federal Emergency Management Agency, Region IX, were provided an opportunity to comment on the proposed scenario and objectives. The exercise document included the objectives and guidelines, the exercise scenario and necessary messages and data and was tightly controlled prior to the exercise. Advance copies of the exercise document were provided to the



NRC evaluators and to other persons having a specific need to know its content. The players did not have access to the exercise document or information on scenario events. This exercise was intended to meet the requirements of IV.F.3 of Appendix E to 10 CFR Part 50.

5. Federal Evaluators (82301)

Four NRC inspectors observed the licensee's response to the scenario. Inspectors were stationed in the control room (simulator), technical support center (TSC), operations support center (OSC); and in the emergency operations facility (EOF). The NRC inspectors in the OSC also accompanied repair/monitoring teams to evaluate their performance in responding to the scenario.

FEMA, Region IX, evaluators were also present during the exercise evaluating those portions of the exercise that involved state and local agencies, as well as the interface occurring in the EOF. The results of FEMA's evaluation will be described in a separate report issued by FEMA.

6. Control Room/Simulator (82301)

The following aspects of CR operations were observed during the exercise: detection and classification of emergency events, notification, frequent use of emergency procedures, and innovative attempts to mitigate the accident. The following are NRC observations of the CR activities. The recommendations, as appropriate, are intended for improving the program.

- a. The CR staff acted promptly and professionally to classify the accident (1 minute), make necessary notifications, determine the effect of the accident on the plant, and demonstrate command and control. The Control Room staff was effective in demonstrating their capabilities to mitigate the consequences of the simulated event.
- b. The Control Room staff were frequently briefed on accident status and prioritization plans for continued accident control.
- c. The Control Room and TSC reacted properly to the postulated fire with regards to notification to state and local agencies. The notifications were carefully delivered to insure the offsite agencies were informed of the fire and not confused by an event that would correspond to an emergency action level for a lesser emergency classification. The plant was in an alert emergency classification due to a loss of annunciators and alarms when the fire occurred. The fire met the emergency action level (EAL) for the declaration of an unusual event (UE) and notification of the declaration of a UE resulting from the fire could have been construed as a downgrade in the emergency classification causing unnecessary confusion.

7. Technical Support Center (TSC) (82301)

The following aspects of TSC operations were observed: activation, accident assessment/classification, dose assessment, notification, and support of the CR. The following represent the NRC findings in the TSC.



The observations, as appropriate, are intended to be suggestions for improving the program.

- a. The TSC was activated in a timely manner and was proactive in their response to plant events in support of the Control Room.
- b. The Engineering Group in the TSC required approximately 40 minutes to determine the pressure ratings of the Component Cooling Water (CCW) components, such as piping, to permit the setting of isolation boundaries in the system to stop the radiological discharge to the environment. This time period, which appears to be excessive, occurred due to inadequate indexing of plant drawing numbers and non familiarity with the relationship of "P and IDs" and the "Line Designation Table" (drawing number 102040) and related accompanying sheets. Further, the effectiveness of the engineering group in the TSC was limited due to (1) their lack of information regarding paths or directions the control room was taking to mitigate the accident and (2) knowledge of equipment that was inoperable. Also, the individuals in the group apparently were unaware of the support roles of the EOF and the Corporate Incident Response Center in providing information that is not readily available in the TSC. The licensee's response in the TSC would benefit from a review of the role of the Engineering Group in the TSC with the objective of improving its effectiveness. In addition, it was noted that the engineering group in the EOF was hard pressed to deal with inquiries from the NRC Site Team while responding to the higher priority task of mitigating the accident. During a real event more staff would have probably been required to deal with further inquiries from the NRC Regional office and Headquarters. The presence of the NRC Site Team showed a need to reevaluate the engineering resources in the EOF and determine how they can be strengthened, if necessary, until further resources arrive from the corporate office.
- c. On several occasions there appeared to be confusion over the number of teams in the plant. The TSC may benefit from information regarding the time frame necessary to dispatch a team and perhaps some follow-up information regarding the dispatch status of the team(s). In addition, the licensee is encouraged to examine methods to expedite team dispatch to streamline the operation and still maintain safety.
- d. The reader/printer device in the TSC was inoperative and severely limited access to microfiche information for purposes of system troubleshooting.
- e. The TSC would benefit from a more formalized system to keep track of actions or status of plant equipment. This would keep the TSC informed of who has responsibility for certain actions and the status and time of completion.

8. Operations Support Center (OSC) (82301)

The following aspects of OSC operations were observed: activation of the facility, functional capabilities and the disposition of various



in-plant/monitoring teams. The following are NRC observations of the OSC activities. The recommendations, as appropriate, are intended to be suggestions for improving the program.

- a. The OSC did a very good job of keeping track of teams dispatched during the exercise. Radiological briefings and considerations were thorough and well thought out. The PASS (Post-accident Sample System) sample team was very efficient in obtaining the requested samples. The recovery discussion following the exercise was well done and demonstrated a thorough knowledge of the task that the OSC would be called upon to perform during the recovery phase of an accident.
- b. At approximately 12:00 P.M., when increased radiation levels were reported in the OSC, there was no order issued (or simulated issued) for staff to cease eating, drinking and smoking, until habitability could be established. This area is best addressed in training or procedures.
- c. The licensee should consider including a step in the PASS procedure to secure the door and check that the ventilation system is operating properly. During the exercise the PASS team forgot to close and secure the door.
- d. The licensee should consider a step during the team assembly process to insure all personnel requiring respiratory protection are currently trained and qualified for respirator use.

9. Emergency Operations Facility (EOF) (82301)

The following EOF operations were observed: activation and coordination with state, local and Federal agencies, accident assessment and classification, dose assessment, notifications to state and local agencies, and the formulation of protective action recommendations. The following are NRC observations of EOF activities. The observations, as appropriate, are intended for improving the program.

- a. The EOF was activated in a timely manner with interim staff (55 min.) and later with permanent staff (2 hours and 37 minutes) following the declaration of an alert.
- b. The Recovery Manager properly declared a General Emergency based on advice from the TSC. He also provided a protective action recommendation to state and local government decision makers in the EOC along with the declaration.
- c. As a suggestion for improvement, the licensee may benefit from training switchboard operators, or individuals who may receive outside calls in the TSC and EOF, to direct calls from the public or relatives of staff to the appropriate source, e.g. the Rumor Control Center.



10. Critiques (82301)

Immediately following the exercise, critiques were held in each of the emergency facilities. The critique process included comments from both licensee players and evaluators. A summary of the licensee's critiques was presented to management on September 15, 1989. The following represent some of the critique findings presented during this meeting.

- a. There were several locations where problems in the plant public address (PA) system resulted in plant personnel not being informed of plant events or activities. These areas will be located and corrective action taken.
- b. Based upon findings in the EOF and TSC, the licensee will be examining methodology and training to strengthen the engineering support in the TSC and EOF.
- c. The loss of computer capabilities in the warehouse would have impacted the plant's ability to obtain parts. The licensee will be examining methods to help personnel locate parts if the computer is unavailable.
- d. Some problems were experienced with heavy radio traffic due to the use of the repeater.
- e. The time frame to dispatch a team from the OSC was discussed and the licensee will be examining methods to speed dispatch and still maintain safety.
- f. There were some simulator problems encountered with the modeling of the CCW system.

11. Exit

An exit interview was held on September 15, 1989 to discuss the preliminary findings of the NRC inspection team. Section 1 of this report identifies the licensee's personnel who were present at this meeting. The licensee was informed that no deficiencies or violations of NRC requirements were identified during the inspection. The findings and observations described in Sections 2-9 were also summarized and discussed during this meeting.

