

U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 50-275/84-29

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, San Luis Obispo County, California

Inspection conducted: October 29-31, 1984

Inspectors: *K. M. Prendergast* 11/29/84
K. M. Prendergast, Emergency Preparedness Analyst Date Signed

G. M. Temple 11/29/84
G. M. Temple, Emergency Preparedness Technician Date Signed

Team Members: J. Martin, PNL
G. Martin, PNL
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Approved by: *R. F. Fish* 11/29/84
R. F. Fish, Acting Chief Date Signed
Emergency Preparedness Section

Summary:

Inspection on October 29-31, 1984 (Report No. 50-275/84-29)

Areas Inspected: Announced inspection of the emergency preparedness exercise and associated critiques. The inspection involved about 138 hours onsite by 3 NRC inspectors and 3 contractor team members.

Results: No significant deficiencies or violations of NRC requirements were identified.

DETAILS

1. Persons Contacted

a. PG&E personnel:

- N. Aiken, Shift Foreman
- B. Arellaro, Control Operator
- *J. Boots, Chemistry and Radiation Protection Manager
- *B. Giffin, I&C Maintenance Manager
- *J. Gisclon, Assistant Plant Manager
- *W. Fujimoto, Supervising Engineer
- S. Fridley, Senior Control Operator
- M. Hemke, Senior Control Operator
- *M. Isaacson, Emergency Planning
- *W. Joiner, Emergency Engineer
- *W. Kaefer, Assistant Plant Manager
- *T. Mack, Senior Engineer
- *T. Martin, Training Manager
- M. Mclane, Materials and Project Coordinator Manager
- *R. Patterson, Plant Superintendent
- *J. Shiffer, Vice President - Nuclear Power Generation
- *P. Steiner, Dose Assessment
- *J. Townsend, Assistant Plant Superintendent
- *R. Todaro, Security Supervisor

*Persons present at exit interview.

b. Other Personnel

- T. Ross, Resident Inspector, NRC
- A. Cruz, Impell
- B. Fairchild, Impell
- *B. Gary, Impell
- P. Havelly, Impell
- *K. Herman, Impell
- *T. Hook, Impell
- B. Jones, Impell
- D. Nizolek, Impell
- R. Ridge, Impell
- J. Toresdahl, Impell
- R. Wester, Impell
- B. Wiggs, Impell

2. Emergency Preparedness Exercise Plan

The licensee's corporate staff has the overall responsibility for developing, conducting, and evaluating the emergency preparedness exercise. The exercise scenario was developed by a team approach involving Impell Corporation and PG&E under a contract issued by the licensee. Impell was also responsible for conducting the exercise and

providing controllers/evaluators for evaluating the exercise and preparing a written report of the findings promulgated by the critique process. In an effort to maintain strict security over the scenario, individuals who had been designated by the licensee to assist in the preparation of the scenario were not active players in the exercise.

The emergency preparedness exercise objectives were established as the result of discussions and meetings involving representatives from San Luis Obispo County, the State of California, Pacific Gas and Electric Company, Federal Emergency Management Agency (FEMA) and the NRC. The exercise plan document included: the objectives and guidelines, the scenario, the informational messages used during the exercise, the initial and subsequent plant parameters, meteorological and radiological data, and controllers/evaluators instructions and evaluation sheets.

The plan document was controlled by Impell Corporation and distribution was limited to persons having a specific need which included; onsite and offsite controllers/observers, and members of the Federal organizations (NRC and FEMA) evaluating the exercise. This emergency preparedness exercise was intended to meet the requirement for a full-scale exercise required by IV F.3 of Appendix E, 10 CFR Part 50.

The exercise started with an "Alert" declared and escalated ultimately to a "General Emergency" condition. The scenario was based upon an unisolatable main steam line break coincident with a steam generator tube rupture. The loss of vital emergency core cooling (ECCS) equipment during the event ultimately led to core damage. Other significant events in the exercise scenario included; RHR pump malfunction, the loss of all 4160 volt vital electric power, a diesel generator fire, and subsequent failure of the automated fire suppression system. The rupture to the main steam line along with severe primary to secondary leakage provided a direct path for the release of fission products to the environment. Meteorological conditions throughout the scenario were directed to allow county, State and other offsite emergency organizations the opportunity to exercise their emergency preparedness.

3. Observers

The exercise was observed by several organizations. Impell corporation provided controllers/observers at all onsite areas where exercise activities took place. Impell also provided observers at the Emergency Operations Facility (EOF), the Unified Dose Assessment Center (UDAC), the Corporate Incident Response Center (CIRC) in San Francisco, and for the onsite radiological monitoring teams. Some observers also performed the dual function of controller by providing necessary data at appropriate times or as needed. If necessary, the controller could have altered the course of the exercise, however, procedures had been developed governing this situation. The participating offsite agencies also provided observers for their portions of the exercise.

Observers from the NRC and FEMA Region IX were present during the exercise. The FEMA observers were evaluating the portions of the exercise that involved local and State agencies as well as interfaces occurring in the EOF. The NRC observed activities in the Control Room (CR), Technical Support Center (TSC), Operations Support Center (OSC), UDAC, and the EOF.

Several briefing meetings were held prior to the exercise. Controllers and observers were briefed on; their assignments and responsibilities, the scenario, and the critique sessions to be conducted at the end of the exercise. On October 29th a briefing session for the PG&E players was held, during which introductions of the Impell controllers/observers and the NRC were accomplished and exercise objectives and extent of play were discussed. The players were instructed to perform their normal duties until they were expected to respond to the exercise scenario. Management also emphasized the importance of participating in as real a manner as possible.

4. Exercise

The exercise was initiated at approximately 8:00 a.m. on October 19, 1983. The exercise involved the following locations described in the Diablo Canyon Power Plant Emergency Plan; Control Room, Technical Support Center, Operations Support Center, Corporate Incident Response Center, and the EOF. Offsite areas including the EOF and UDAC were observed by FEMA and will be described in a separate report issued by that agency. The exercise also included sending teams into the plant to simulate repair activities, the collection of chemical and radiological samples, the extinguishing of a fire, and onsite and offsite radiation monitoring.

5. Critique

Immediately following the termination of the exercise, the players, controllers, and observers in each area participated in a critique session. On October 31, 1984 controllers and observers from each area and PG&E representatives from the corporate organization responsible for the exercise and emergency planning held a formal debriefing. The purpose of the debriefing was to summarize the earlier critique sessions and to discuss problem areas where improvements may be warranted. There was a general conclusion that all the objectives were met and no significant deficiencies were encountered. The following represent the findings of the debriefing session and changes Pacific Gas and Electric Company will need to consider:

- a. Establish methods or procedures to ensure that a timely notification occurs.
- b. Investigate streamlining the notification procedure for the State and county.

- c. Investigate a radio base station and/or implement improvements to the in-plant antenna system. Also, maintenance teams should be required to carry radios even though they may not be effective in some areas.

Note: Completion of the plant PA system should alleviate some of the communications problems encountered.

- d. Investigate increased training and/or a reference document should be provided to alleviate confusion concerning the reactor vessel level reading used to predict core damage.
- e. Review appropriate contamination control techniques and review proper dress-out procedures for maintenance team members. Also management should ensure respiratory qualifications for team members are current.
- f. Ensure Security is notified of potentially hazardous areas onsite.
- g. Ensure direction to administer KI is disseminated to all appropriate personnel.
- h. Review proper anti-c selection for teams going into the plant.
- i. Have the TSC use a local radio frequency when communicating with onsite teams.
- j. Establish dedicated vehicles with permanently installed radios equipped with 100 watt bilinear amplifiers.
- k. Investigate acquiring vehicles that provide protection for equipment and personnel from inclement weather and increase the legibility of maps to the field monitoring teams.
- l. Provide for an increase in dosimeter training. Dosimeters should be read at designated intervals when working in areas where dose rates exceed background levels.
- m. Streamline the review process associated with PG&E informational releases to expedite the dissemination information to the public and the news media.

6. Exercise Summary

On Wednesday October 31, 1984 a summary of the exercise findings was presented to the public in the San Luis Obispo County Sheriff's auditorium. Representatives of the County, State of California, PG&E, FEMA, and the NRC made short presentations.

7. Exit Interview

On October 31, 1984 an exit interview was held with the licensee to discuss the NRC findings. PG&E and their contracting personnel attending the exit interview have been previously identified in paragraph 1. The licensee was informed that no significant deficiencies or violations of NRC requirements were observed. The NRC acknowledged the use of alternates in a number of key emergency response positions to better prepare them for filling the position.

The following NRC observations, none of which were considered significant, were discussed.

- a. Communications between the Control Room, TSC, and OSC would benefit from the use of an open line to facilitate the flow of information. On several occasions, there appeared to be a lack of coordination with regard to team status and priority of duty.
- b. The Control Room should research a method to conveniently keep track of the status of equipment to identify the abnormal status of certain pumps, valves, etc.
- c. Radio communication for the in-plant teams was still poor, as previously reported in the 1983 exercise. This item was also mentioned during the licensee's critique session.
- d. The installation of a PA system would enhance the ability to communicate rapidly changing plant conditions to individuals dispatched on repair or monitoring teams within the plant. This item was also mentioned during the licensee's critique session along with the commitment to install such a system.
- e. The status board in the CR was not updated frequently and the licensee should evaluate reorganizing the board. Also, the status board in the EOF was not updated frequently and the licensee should evaluate whether this board serves any useful purpose.
- f. The licensee should evaluate the form used to quantify dose projection or consider training to alleviate problems encountered by the county in differentiating between the dose projection based on calculations and the release rates. This was also discussed during the licensee's critique.
- g. The Control Room and the EOF would benefit by further delegation of administrative or communicative tasks to support personnel leaving key individuals free to manage their operations.
- h. The licensee should evaluate their protective clothing requirements for Post Accident Sampling System team members and other individuals who may be exposed to radioactive liquid or steam while performing radiation monitoring or attempting repair. This was also discussed during the licensee's critique.

- i. There appeared to be a need for more controllers/observers to improve the control and evaluation of repair or monitoring teams going into the plant.
- j. Two scenario problems were discussed. The lack of surface exposure rate data for an RCS sample resulted in some confusion and the mishandling of this sample. Also, meteorological data for a two hour jump in time near the end of the scenario would have been beneficial to individuals working in the EOF.
- k. The licensee's notification process to the State and the county was slowed because of the State's requesting further information and the licensee's communicator being unfamiliar with the notification procedures and equipment. This item was also brought up during the licensee's critique.
- l. The scenario appeared to hamper operator performance because plausible reasons for equipment failures were not readily available, therefore, specific fixes were not pursued.