U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report Nos. 50-275/88-10, 50-323/88-09

Docket Nos. 50-275, 50-323

License Nos. DPR-80, DPR-82

Licensee: Pacific Gas and Electric Company
77 Beale Street, Room 1451
San Francisco, California 94106

Facility Name: Diablo Canyon Units 1 and 2

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

Inspection Conducted: March 28 through April 1, 1988

Inspector: Charles Ramsey — 5/2/88
C. Ramsey, Regional Inspector — Date Signed

Approved by: W. J. Wagner for — 5/3/88
S. Richards, Chief — Date Signed
Engineering Section

Summary:

Inspection During the Period March 28 through April 1, 1988 (Report Nos. 50-275/88-10 and 50-323/88-09)

Areas Inspected: Routine, unannounced inspection by one regional based inspector involving followup on previous NRC and licensee identified open items. During this inspection, Inspection Procedures 30703, 64707 and 92701 were used.

Results:

In the areas inspected, no violations or deviations were identified.

DETAILS

1. Persons Contacted

Pacific Gas and Electric

*J. M. Gipclon, Assistant Plant Manager
*W. B. McLane, Assistant Plant Manager - Technical Support
*T. Bennett, Maintenance Manager
*D. A. Taggart, Director - Quality Support
*C. Wetter, I&C General Foreman
*W. D. Barkhuff, Acting Quality Control Manager
*M. Angus, Work Planning Manager
*R. Kohout, Emergency Safety Supervisor
*C. Johnson, Fire Marshal
*R. A. Panero, Fire Protection Engineer
*M. Burgess, Surveillance Test Supervisor
*S. R. Fridley, Senior Operations Supervisor
*L. R. Exner, Training Supervisor
*M. E. Leppke, Project Engineer
*T. L. Grebel, Regulatory Compliance Supervisor
*K. Doss, OSRG Senior Engineer
*J. Arhor, NRA Engineer

California Department of Forestry

D. Anderson, Battalion Chief
B. Stuart, Battalion Chief
L. Friedman, Division Chief of Operations

NRC

*P. Narbut, Senior Resident Inspector
*K. Johnston, Resident Inspector
*L. M. Padovan, Resident Inspector
*J. F. Burdoin, Reactor Inspector
*G. R. Cicotte, Reactor Inspector

*Denotes those attending the exit meeting held on April 1, 1988.

2. Licensee Actions on Previous Inspection Findings

A. (Closed) Open Item No. 87-27-01 "Fire Brigade Manual Firefighting Capability and Offsite Fire Department Assistance"

This item was closed by the NRC resident inspectors in Inspection Report Nos. 275/88-03 and 323/88-04, as a result of the licensee's satisfactory corrective actions that are documented in a licensee internal memorandum dated February 19, 1988. However, because of prevailing concerns for potential wildland fire occurrences within the site boundary, the inspector performed additional followup in this area in order to verify the licensee's existing capability to

handle such occurrences. The following concerns were examined by the inspector:

(1) Diablo Canyon Wildland Fire Experience

The concern for potential wildland fire occurrences within the site boundary originates from the existence of heavy concentrations of flammable vegetation covering approximately 10,000 acres east and north of the controlled area, but within the site boundary.

In October 1982, a wildland fire occurred involving the flammable vegetation to the east of the controlled area (mostly Coastal Sage). Extensive acreage was burned by the fire. The resulting heat and combustion products generated caused the loss of all offsite power (230 KV lines) as well as 500 KV transmission lines due to phase to phase and phase to ground arching. The Santa Ana winds were occurring at the time of the fire and were blowing from the east toward the plant. The winds carried smoke, heat and combustion products to the plant site. The drifting smoke was picked up by the plant ventilation system and caused many fire alarm actuations inside the plant. This caused the plant staff to be continually busy monitoring the nature of the alarms. Neither unit was operating at the time. However, the Emergency Diesel Generators had to be started to provide onsite power.

(2) Geographical Wildland Fire Potential

In response to this potential threat within the site boundary, the inspector and the licensee's staff made a field examination tour of the wildland fire potential to the east and north of the controlled area. Although the licensee has made considerable progress during the past two years to reduce this external hazard to the plant through controlled burning, mechanical removal, chemical herbicide treatment, spatial separation (fuel breaks) and providing access roads for firefighting equipment, considerable flammable vegetation still exists. This geographical area experienced near drought conditions the past two years, but there was enough rainfall to produce annual grass growth. The Coastal Sage that burned in the 1982 fire has experienced a complete re-growth. In the woody vegetation areas, California Department of Forestry (CDF) officials expect the grass and coastal sage to dry out early this year and create a condition for high hazard fire potential.

(3) Wildland Fuels Management by the Licensee

Because of the interface of the Diablo Canyon plant with the encircling wildland fire hazard potential and the site's experience with two fires of this type within the past five years, the licensee has been coordinating efforts with the California Department of Forestry to reduce this potential over

the past three years. For short and long term, these efforts have included the following:

a. Scraping the vegetation from unimproved roads paralleling the 500 KV lines east of the switch yard.

b. Mechanical removal of vegetation with a road grader or bulldozer.

c. Conducting controlled burns of flammable vegetation east of the warehouse and radwaste building, and north of the protected area fence. In addition to controlled burns, according to the licensee, about 15 acres of heavy brush was removed from the south side of the plant in the past year to reduce the risk of electrical faults with the 500 KV lines and to prevent structural damage to the line towers by wildland fires.

d. Reduction of vegetation along the Diablo Canyon Drive (site access road) by chemically spraying herbicides to prevent discarded cigarettes or vehicle exhaust from igniting the vegetation.

e. Continuing annual evaluation of the wildland flammable vegetation growth and total fuel potential.

f. Long term periodic controlled burns and mechanical removal of flammable vegetation in specific areas near the immediate vicinity of the plant. This includes six areas totaling approximately 90 acres of land within the site boundary.

(4) <u>Capability of Licensee to Extinguish Wildland Fires Occurring Within the Site Boundary</u>

By contractual agreement dated August 5, 1981 and Memoranda of Understanding dated August 5, 1981 and February 11, 1986 between the licensee and the CDF, the CDF has the responsibility to provide fire protection to the state responsibility area forest and watershed lands surrounding the plant. Upon discovery of a watershed fire (grass or brush), the licensee will notify the CDF Emergency Communications Center (ECC). The plant fire brigade will take initial action to suppress fires that threaten a structure or plant operations. Upon receipt of notification by the licensee, the CDF ECC will use Wildland Response Cards and pre-planned local mutual aid responses by county fire departments to ensure that the necessary equipment, manpower and fire suppression agents are dispatched to a site fire area (a mobile emergency communications center is available for dispatch and communications command for fires at the site).

Though not specific to wildland fire occurrences within the licensee's site area boundary, the CDF's "Wildland Response

Card" for Area-18 (a section of wildland within the licensee's site boundary) specifies the minimum equipment and manpower to be dispatched during low, medium and high periods of fire potential. During periods of high fire potential, the response card specifies that a minimum of 1 - aircraft, 1 - air tanker, 1 - helicopter, 2 - fire officers, 6 - fire engines, 2 - bulldozers and 2 hand crews be dispatched to a fire occurrence in this area on first alarm. Second, third, fourth and fifth alarms result in additional manpower and equipment being dispatched accordingly, and additional strike team call up capability is available.

(5) Offsite Fire Department Access to the Site

According to the licensee staff and CDF officials interviewed, recent offsite fire department response times to the site have been recorded at 20 minutes. Security access has not presented problems and safety measures, such as radiological training for offsite responders, are formalized in procedures, training and drill sessions.

(6) Fire Brigade and Offsite Fire Department Training/Drill Sessions

During the inspection, the inspector observed a licensee fire brigade classroom training and drill session. The classroom session consisted of a discussion of pre-fire plans for a radiological fire involving an Auxiliary Feedwater pump room and a non-radiological fire involving a Diesel Generator room fire. After the classroom discussion, the brigade members drilled on the fire scenarios in the referenced areas of the plant. At the end of the drill the brigade members practiced outside fire ground evolutions with the licensee's new fire engine. According to the station fire marshal, each fire brigade member participates in two 8 hour sessions of this type yearly. The fire marshal plans to expand this training to two 16 hour sessions each year.

In addition, the station fire marshal and the CDF officials interviewed indicated that joint training sessions and drills with the fire brigade and offsite fire department are held annually. The training sessions are held offsite and involve internal and external structural firefighting, inside and outside of a temporary burn facility. A separate smoke house is also provided. According to the licensee, these facilities are in the process of being expanded into a full scale certified burn facility as a joint venture involving the licensee, the CDF and California Polytechnical Institute. The licensee estimates that the new facilities will be complete by late 1989. When completed, the licensee plans to pursue firefighter certification for all fire brigade members.

The offsite (CDF) fire department personnel interviewed by the inspector appeared knowledgeable of pre-fire plans for the site and exhibited a high degree of confidence in their relationship

with personnel at the site. Both parties (the licensee and the offsite fire department) appeared to mutually agree on the level of confidence in their ability to work together to implement the various individual and joint responsibilities in this area.

(7) Nuclear Safety Impact of Potential Wildland Fire Occurrences

The wildland fire occurrence at the site in October, 1982 was an external event that produced a loss of offsite power. Regardless of the external cause, the loss of offsite power event appears to be an analyzed FSAR Chapter 15 event. The spurious actuation of fire alarms that occurred during the 1982 fire were in part, the subject of NRC Information Notice No. 83-41. Page 3 of Attachment 1 of the information notice makes specific reference to this event at Diablo Canyon. Licensees were requested to review this information notice for applicability to their plants.

Based on the inspector's assessment of Diablo Canyon's implemented and planned corrective actions for wildland fire occurrences, the licensee has taken and is continuing to take deliberate and prudent steps to reduce the potential for this type of event to lead to conditions that could result in more serious nuclear safety concerns.

B. (Closed) Open Item 275/87-27-03 - "Open Fire Barrier Action Request (AR's)"

This open item documented the concern that an excessive number of outstanding AR's existed on inoperable or damaged fire barriers and that this work was not being completed in a timely fashion.

During the inspection, the licensee provided the inspector with a copy of fire barrier component data and generic action on open AR's from the Plant Information Management System (PIMS) dated March 29, 1988. No open AR's related to fire door repairs were listed. This work, as discussed in AR No. A0027655 for the RHR pump room, had been completed. The remaining open fire barrier AR's were primarily related to fire barrier penetration seal grout and plaster repairs. The inspector determined that these conditions were being satisfactory addressed by priority status and routine maintenance activities that are tracked by the PIMS.

This item is considered closed based on the licensee's corrective actions.

C. (Open) Open Item 275/87-27-02 - "Automatic Fire Alarm System Deficiencies"

The licensee's plan to upgrade this system has been finalized in Design Control Memorandum (DCM) No. E-33. This document describes the required features and capabilities to be provided by an upgraded computer-based, plant-wide proprietary fire alarm consolidation

within the control room. Site additions since 1983 have made it necessary to upgrade the original fire alarm system in order to achieve compliance with National Fire Protection Association standard no. 72D.

The upgraded computer-based fire alarm system is required to provide an Underwriters Laboratory listed proprietary fire alarm system capable of providing the features specified by NFPA 72D. In addition, the licensee plans to make the system capable of interfacing with the "Plantwide Information Management System/Integrated Communication System (PIMS/ICS)". This interface would include the capability to down load alarms and trouble data as well as the system data base. The licensee was cognizant of the stipulation in NFPA 72D requiring independent features for this system that preclude any downloading and subsequent operation of the PIMS/ICS from affecting the independent operation of the alarm system in the control room. In this regard, the licensee stated that such computer compatibility was technically achievable through circuit interlocks. However, the licensee expressed concern that this interface would invalidate the Underwriters Laboratory listing for the system. To address this concern, the licensee indicated that an evaluation would be performed to demonstrate equivalency. The upgraded system installation is scheduled to be completed by December 31, 1988.

This item remains open pending further licensee action and Region V followup.

D. <u>(Open) 275/87-27-04 - "Generic Letter No. 86-10 Compliance Evaluations."</u>

Region V's concern that the licensee was following the appropriate regulatory process by applying their understanding of Generic Letter 86-10 to gain relief from previous NRC licensing commitments are documented in this open item.

After further review of the subject Generic Letter 86-10 evaluations, the licensee has decided there is an apparent contradiction with the licensee's interpretation of Generic Letter 86-10 guidelines and previous license commitments to the NRC. Therefore, by internal memorandum dated March 29, 1988, the licensee determined that further review of the evaluations will be made to determine which of the evaluations need to be submitted to the NRC staff for review and approval based on previous licensing commitments. The licensee did not specify a date for this review to be complete and the results forwarded to NRR for review.

This item remains open pending further licensee action and Region V followup.

3. <u>Program Review</u>

During the inspector's followup on the licensee's action on the open items discussed above, the inspector also made an assessment of the

icensee's routine fire protection program implementation. Based on the inspector's assessment, the program is being implemented satisfactorily.

No violations were identified.

4. Open Items

Open items are matters which have been discussed with the licensee, which will be reviewed further by the inspector, and which involve some action on the part of the NRC, the licensee, or both. Open items disclosed during the inspection are discussed in paragraphs 2.C and 2.D.

5. Exit Interview

The inspector met with the licensee's representatives (noted in paragraph 1) at various times during the inspection and formally on April 1, 1988, to summarize the scope of the findings and inspection activities described in this report. The licensee's representatives acknowledged the statements made by the inspector.