

NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 50-133/94-01

License No. DPR-7

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

Facility Name: Humboldt Bay Power Plant (HBPP) Unit 3

Inspection at: Eureka, California

Inspection Conducted: January 31-February 4, 1994

Inspector:

M. Willis
M. Willis, Senior Radiation Specialist

2/22/94
Date Signed

Approved:

James H. Reese
James H. Reese, Chief
Reactor Radiological Protection Branch

2/22/94
Date Signed

Summary:

Areas Inspected:

This was a routine, announced inspection of licensee activities during SAFSTOR; including followup of a non-routine reported event, management organization and controls, operator training/retraining, maintenance/surveillance testing, radiation protection program, and the environmental monitoring program. The inspection also included facility tours. Inspection procedures 30703, 90712, 88005, 88010, 88025, 83822, and 88045 were used.

Results:

In the areas inspected, the licensee's programs appeared fully capable of accomplishing of their safety objectives. One non-cited violation involving the failure to conduct a monthly surveillance test and a weakness in the implementation of the emergency plan are discussed in Section 2. Increases observed in the collection, processing, and releasing of liquid waste is discussed in Section 6. Strengths were noted in the licensee's audit/surveillance and training programs.

DETAILS

1. Persons Contacted

- *P. E. Rigney, Plant Manager
- *R. B. Willis, Power Plant Engineer
- *R. C. Parker, Senior Chemistry and Radiation Protection Engineer (SC&RPE)
- *D. A. Peterson, Quality Control Supervisor (QCS)
- *R. D. McKenna, Supervisor, Operations
- *W. R. Montavlo, Jr. Radiation and Process Monitor (RPM) Foreman
- *P. G. Rasmussen, Senior Power Production Engineer
- *J. D. Crow, Training Coordinator

*Denotes individuals attending the exit interview on February 4, 1994.

In addition to the individuals noted above, the inspector met and held discussions with other members of the licensee's staff.

2. Review of Licensee Event Report (MC 90712)

a. Licensee Event Report

An in-office and on-site review of a non-routine event reported by the licensee on December 23, 1993, pursuant to 10 CFR 50.73(a)(2)(i)(8), was conducted. The reported event is as follows:

On December 23, 1993, the licensee submitted Licensee Event Report (LER) 3-93-001-00 regarding a missed surveillance test due to personnel error. The LER disclosed that on November 24, 1993, an engineer performing the weekly review of test results in Surveillance Test Procedure (STP) 3.6.2, discovered that the monthly surveillance test to verify the spent fuel pool monitors operability had not been performed since October 16, 1993. The licensee determined this event was in violation of Technical Specification (TS) Section V.B.5 which requires that the spent fuel pool monitor be verified monthly. It was also determined that the event was also not consistent with a licensee policy that was established to perform monthly TS surveillance tests every 21 day rather than every 31 days. TS Section V.B.5 states, "Level indication of the spent fuel storage pool water level monitors shall be verified monthly." The licensee also concluded that the missed surveillance test exceeded the 25 percent extension period allowed by TS.

The licensee's investigation disclosed that a weekly review of the latest surveillance test summary sheet was performed on October 12, 1993. A list of surveillance tests to be conducted during the following week was prepared; however, STP 3.6.2 was inadvertently left off the summary sheet, but was denoted in the control room schedule book. The STP 3.6.2 surveillance test was scheduled in the control room book for October 15, 1993, but was not performed.

The surveillance test was completed on October 16, 1993; however, the surveillance test results were not reviewed and thus was not rescheduled in the control room schedule book. The next scheduled due date would have been 21 days from the October 16, 1993, date.

The licensee determined that the event did not affect the health and safety of the public and that the root cause for the missed surveillance was personnel error. Immediate causes for the event were determined to be:

- a. The organization responsible for performing the surveillance test had not been informed of the next required due date.
- b. Failure to revise the STP schedule to reflect the next surveillance test date after the STP was completed on October 16, 1993.

Contributing causes were attributed to lack of procedural guidance for the STP scheduling process and lack of guidance for performing a secondary verification of the STP scheduling process.

The missed surveillance test was promptly performed after the event was discovered on November 24, 1993. The surveillance test acceptance criteria was met.

Additional corrective actions established to prevent recurrence are as follows:

- a. An administrative procedure will be developed to provide instructions for reviewing and scheduling surveillance tests and establishing a method of verifying that all required surveillance tests are scheduled and have been completed.
- b. An evaluation for developing and/or obtaining an automated system for managing STP schedules will be conducted.

The corrective actions are scheduled to be completed by March 15, 1994.

Failure to perform the monthly surveillance test was identified as a violation of TS Section V.B.5. However, this violation will not be subject to enforcement action because the licensee's efforts in identifying and correcting the violation meet the criteria specified in Section VII.B of the Enforcement Policy. (NCV 50-133/94-01-01).

b. Technical Review Report

The inspector reviewed the circumstances involving the notification of an Unusual Event (UE) made to the NRC Region V office on November 18, 1993.

A UE was declared on November 18, 1993, when off-site assistance was requested for a worker who was participating in a training exercise. The exercise was being conducted outside of the licensee's restricted area but within the licensee owner controlled area. It was suspected that the victim may have suffered a heart attack. The victim in this case was not contaminated which is a criteria defined in licensee procedure EPIP R-7, "Establishment of the On-site Emergency Organization and Notification of the Off-Site Organizations," for declaring an unusual event. The licensee's activation of the emergency plan did not appear to be consistent with EPIP R-6, "Emergency Plan Activation."

Discussions held with the licensee's staff disclosed that a Technical Review Group (TRG) was convened to ascertain if the emergency was properly classified. The inspector reviewed the TRG minutes dated December 13, 1993. The TRG concluded that the declaration of the UE was in error as the victim in this case was not contaminated. The TRG also noted several errors with respect to making notifications in the proper sequence and to the proper off-site agencies (Humboldt County and California Warning Center). This same observation had also been noted by the NRC staff at the time of the UE. It was also noted that the licensee had not terminated the event, until prompted by the NRC.

The TRG issued Job Order C008206 to re-instruct responsible personnel on how to determine the proper classification of an emergency and the importance for assuring all of the proper notifications are made during the initial declaration and upon termination of an event.

The findings were discussed at the exit meeting. The inspector informed the licensee that this item would be examined during a subsequent inspection (50-133/94-01-02).

3. Management Organization and Controls (MC 88005)

This area was examined to determine compliance with Technical Specifications (TS) Section VII and licensee procedures.

The examination disclosed that there had been no significant changes in management personnel, the organizational structure or staffing that could affect operations of Unit 3 during SAFSTOR.

From the review of records, the inspector determined that the Plant Staff Review Committee (PSRC) and Nuclear Safety Oversight Committee (NSOC) were properly staffed and conducted the meetings and reviews prescribed in the TS.

In addition to the Quality Assurance (QA) audits conducted by the Corporate office, the inspector reviewed selected monthly

housekeeping/fire protection reports, weekend/backshift inspection data sheets, and quality control (QC) inspection and management review reports (see Section 6). No concerns were identified from this review.

The inspector concluded that the licensee's performance in this area was satisfactory, and their management control program appeared to be capable of accomplishing of its safety objectives. No violations or deviations were identified.

4. Operator Training (MC 88010)

The licensee's training program was reviewed for compliance with the requirements delineated in the Technical Specifications, Section VII C.4, "Training," 10 CFR Part 19, licensee procedures and recommendations outlined in various industry standards. The following training programs were reviewed:

- a. Fuel Handler Certification Training (FHCT),
- b. Fire Brigade Training,
- c. Radiation and Process Monitors (RPMs),
- d. General Employee Training (GET).

The inspector noted that the FHCT and GET programs had been changed since the last inspection. Both of these training programs had been revised to address the changes made to 10 CFR Part 20 as set forth in Federal Register 50 FR 23377, dated May 21, 1991.

A review of selected lesson plans, student handout material, training attendance records, examinations, discussions with plant workers, and observations during the inspection disclosed that continuing training was being conducted in accordance with the regulatory requirements prescribed in 10 CFR Part 19.12 and had included instructions on the recent changes prescribed in 10 CFR Parts 20.1001-20.2401. The inspector noted that the licensee devoted a lot of effort to ensure that appropriate training was being provided to all staff members. During facility tours and discussions with plant personnel, the inspector observed no indication of work being performed by inadequately trained personnel.

The inspector concluded that the licensee's performance in this area was satisfactory, and their training program appeared to be fully capable of accomplishing of its safety objectives. No violations or deviations were identified.

5. Maintenance/Surveillance Testing (MC 61700 and 62700)

In addition to the missed surveillance test noted in Section 2 above, the inspector reviewed records of other Technical Specifications (TS) required surveillance tests conducted since the last inspection.

Surveillance tests for the following areas were verified: operability of the spent fuel pool liner gap pump, verifications of the spent fuel pool level indicator, plant fire system checks, monthly caisson sump sampling checks, leak testing of sealed radioactive sources, process monitor checks, calibrations of the area radiation monitors, verification of the emergency 480 volt transfer system, tests of the refueling building ventilation system, and the full load test of the 480 volt emergency transfer system.

Except for the missed surveillance test discussed in Section 2, the inspector noted that all other surveillance tests were accomplished at a greater frequency than is specified in the TS. All surveillance tests were current and deficiencies identified during the testing were documented and promptly corrected. The surveillance test procedures appeared to provide adequate instructions and guidance to accomplish the tasks.

The inspector concluded that the licensee's performance in this area was satisfactory, and their surveillance test program appeared to be capable of accomplishing of its safety objectives.

6. Radiation Protection (83822)

The inspector reviewed the licensee's radiation protection program during SAFSTOR. The inspector also examined the licensee's efforts to implement the new 10 CFR Part 20 regulations (e.g., 10 CFR Parts 20.1001-20.2401) that became effective January 1, 1994.

The licensee's radiation protection program was reviewed for compliance with the requirements of 10 CFR Part 20, Technical Specifications, and with administrative procedure HBAP C-200, "Requirements for the HBPP Radiation Protection Program." Procedure HBAP C-200, which was recently revised to incorporate the new 10 CFR Part 20 regulatory requirements, outlines the licensee's radiation protection program and licensee's commitment to maintain exposures as low as is reasonably achievable (ALARA) as prescribed in 10 CFR Part 20.1101. The procedure also establishes the on-sitelines of authority and responsibilities for the radiation protection program.

The inspector reviewed selected copies of radiation protection program procedures, records of surveys, use of survey and monitoring equipment, sealed source leak test results, and conducted a facility tour. The inspector also verified that the licensee's general employee training (GET) program was consistent with 10 CFR Part 19 requirements (see Section 4, above) and that posting and labeling practices were in compliance with 10 CFR Part 19.11 and 10 CFR Parts 20.1901-20.1905.

a. Changes

The implementation of new Part 20 regulations (Parts 20.1001-20.2401) was the most significant change noted.

b. Audits

The inspector held discussions with the licensee's Quality Assurance (QA)/Quality Control (QC) staff and reviewed the following audit and surveillance reports:

- Quality Control Management Review (QCMR) 3.3, "Management Review of the Health Physics/Regulatory Guide 4.15-1977"
- QCMR 3.7, "Management Review of the HBPP Document Control and Records Management System"
- QC Surveillance on "Housekeeping" conducted between June 1993, and January 1994
- QCMR 3.4, "Management Review of Fire Protection Activities"
- Random Weekend and Backshift Inspections - June 1993 through November 1993
- Audit Report 930111 - "Triennial Fire Protection"
- Audit Report 930231 - "HBPP Corrective Action Process, Technical Specifications, Training, Plant Staff Qualifications, and QA Programs for SAFSTOR"
- Surveillance Report SQA-93-0064 - "Readiness Review for Implementation of 10 CFR Part 20.1001 - 20.2401"

The licensee informed the inspector that an audit and/or surveillance for post implementation of the new 10 CFR Part 20 regulations was being considered. The licensee expects to conduct the post review before the end of 1994.

The inspector verified that appropriate corrective actions had been taken for all identified deficiencies. The inspector concluded that the quality of audits, surveillance, and management reviews were excellent and covered all aspects of the various SAFSTOR programs in detail. Appropriate corrective actions had been taken for all identified deficiencies. The inspector determined that licensee audits and surveillances were effective in identifying and reporting deficiencies to management and that the audit/surveillance program appeared to be consistent with the licensee's SAFSTOR Quality Assurance Plan, Revision 6, dated October 14, 1993.

c. External Exposure Control

Personnel exposure records for 1993 were reviewed. The inspector noted that the total collective dose for the period of January 1, 1993, through December 31, 1993, was approximately 0.571 person-

rem. The highest annual exposure for any one individual during 1993, was 0.098 rem. The licensee's staff stated that there had been no major tasks conducted in 1993 that would have resulted in higher personnel exposures.

The inspector noted that the licensee had conducted a site characterization of possible doses to "members of the public" (20.1301). The inspector also noted that the licensee established the following annual occupational dose limits for adults (20.1201):

- Total Effective Dose Equivalent (TEDE) - 2.5 rem
- Total Organ Dose Equivalent (TODE) - 25 rem
- Lens Dose Equivalent (LDE) - 7.5 rem
- Shallow Dose Equivalent (SDE) - 25 rem

The licensee had established dose limits for minors, declared pregnant woman (embryo/fetus), and members of the public that are consistent with the limits prescribed in 10 CFR Parts 20.1207, 20.1208, and 20.1301.

d. Procedures

The inspector noted that the licensee's radiation protection program implementing procedures had been revised to address the new 10 CFR Part 20 (20.1001-20.2401) regulatory requirements which became effective January 1, 1994. Most program implementing procedures were found to be in final form.

Several radiation work permits (RWPs) and procedures were randomly selected and reviewed during the inspection. No concerns were identified.

The inspector noted that the procedure established by the licensee for ensuring compliance with 10 CFR Part 20.1501(b) did require that all instruments used for quantitative radiation measurements be calibrated but did not provide any specific instructions as to the frequency and how they planned to ensure that instruments and equipment used are periodically calibrated. The inspector did not observe any instruments and/or equipment that were not calibrated. This observation was brought to the licensee's attention during the exit interview. The licensee acknowledged the inspectors observation.

e. Internal Exposure Control

The licensee continues to assess and control internal exposures on the basis of their air sampling, whole body counting, engineering controls, and the respirator protection program. The inspector

reviewed air sampling and whole body counting records during the inspection period.

The inspector noted that the licensee continues to maintain an active respiratory protection program that includes, training, medical examinations, fit testing, and procedures for use and maintenance of respirators. It was also noted that the licensee's use and/or need to use respiratory equipment has been extremely limited. The inspector concluded that the licensee maintained a respiratory protection program that was consistent with 10 CFR Part 20.1701-20.1704, and industry standards.

f. Control of Radioactive Materials and Contamination, Surveys, and Monitoring

No changes in the licensee's radiological monitoring program for SAFSTOR were observed. The inspector reviewed 1993 radiation protection survey records. The documentation of surveys, degree of detail, supervisory reviews, and survey frequency of the surveys were found to be consistent with 10 CFR Part 20, the TS, and licensee procedures.

The inspector reviewed records of the licensee's sealed source inventory and sealed source leak tests for compliance with TS Section V.B.7 and STP 3.39.1, "Leak Testing of Sealed Radioactive Sources." No concerns were identified.

g. Facility Tours

Tours of the licensee's facilities were conducted during the inspection period. Independent radiation measurements were made with a Ludlum, Model 3 Survey Meter, NRC serial number 035644, due for calibration on June 8, 1994.

All survey instruments in use were within their current calibration period. Operating personnel survey instruments were conveniently located at exits from contaminated areas. Personnel in controlled areas were equipped with proper dosimetry. No abnormal radiation measurements were identified.

All areas toured were found to be exceptionally clean. No concerns were identified.

h. Other Observations

Records of filtered liquid discharges to the outfall canal indicated that the numbers of liquid waste batch releases since the earthquake, magnitude 6.9, of April 25, 1992, and the earthquake of September 23, 1992, has shown a significant increase. The licensee reported that ground water in-leakage into the caisson sump had increased from an approximate 150 gallons per day prior to the earthquake to approximately 700 gallons per day after the September

1992 earthquake. Fifteen (15) batch (approximately 6700-6800 gallons per batch) releases were made in 1991, 32 batch releases were made in 1992, and 60 batch releases were made in 1993. Licensee records for batch releases prior to 1992 (depending on the type of rainy season experienced) varied between approximately 10 and 26 batches per year. The inspector verified that all releases were well below the limits prescribed in 10 CFR Part 20. A licensee evaluation disclosed that the calculated dose (less than 0.003 mrem/yr) to the average individual in the population (e.g., unrestricted areas) from all receiving-water-related pathways were well below 10 CFR Part 50, Appendix I, guidelines and also comply with 40 CFR Part 190 guidelines. The inspector determined that the operation and analysis of the waste disposal system and sample analysis were conducted in accordance with the requirements specified in TS Section VI, "Waste Disposal Systems."

This observation was brought to the licensee's attention at the exit interview. The Plant Manager stated that he had assigned the engineering group to closely monitor the situation for any additional changes. It was reported that licensee studies have shown that the low ground water table (e.g., five to ten feet) and weather conditions (e.g., rain vs drought) had a direct affect on the volume of in-leakage seen in the caisson sump. The licensee stated that the collection facility was not in jeopardy and could accommodate a larger volume should the leakage into the caisson sump increase again. The licensee stated that their engineering group will continue to closely monitor the caisson sump ground water in-leakage problem for any additional changes/trends. The inspector informed the licensee that this item would be examined during a subsequent inspection (50-133/94-01-03).

The licensee's performance in this area was found to be satisfactory and the radiation protection program appeared fully capable of accomplishing its safety objectives. The inspector concluded that the licensee had implemented the new 10 CFR Part 20.1001-20.2401 changes on January 1, 1994. No violations or deviations were identified.

7. Environmental Protection (88045)

The licensee's environmental protection program was reviewed for compliance with TS Section V and licensee procedures. The results of environmental monitoring data for the period of August 1993 through December 1993 was reviewed.

No significant changes in the licensee's environmental protection program were identified from the review. The licensee has continued the sampling program described in Inspection Report 50-133/92-01 Section 4.

The inspector toured the site boundary to observe the direct monitoring stations and the wells. The sampling equipment appeared to be maintained in good condition.

The review of the licensee's environmental sampling program disclosed that the program exceeded TS requirements. The program had not changed from what is described in Inspection Report 50-133/93-02 Section 3. The sample data results continue to show that no abnormal results and that plant operations while in SAFSTOR has had no apparent impact on the environment. The inspector concluded that the licensee's environmental monitoring program was fully capable of accomplishing its safety objectives and the licensee's performance in this area continues to exceed TS requirements. No violations or deviations were identified.

8. Exit Interview

The inspector met with the licensee representatives, denoted in Section 1, at the conclusion of the inspection on February 4, 1994. The scope and findings of the inspection were summarized. The licensee was informed of the NCV and weakness discussed in Section 2, and the observations regarding increased liquid waste batch releases discussed in Section 6.h.