

U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report Nos: 50-275/86-13 and 50-323/86-14

Docket Nos: 50-275 and 50-323

License Nos: DPR-80 and 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: From April 13, 1986 to May 24, 1986

Inspectors:	<u><i>M. M. Mendonca</i></u>	<u>6/2/86</u>
	M. M. Mendonca, Chief Reactor Projects Section 1	Date Signed
	<u><i>M. L. Padovan for</i></u>	<u>6/2/86</u>
	M. L. Padovan, Acting Senior Resident Inspector	Date Signed
	<u><i>T. M. Ross for</i></u>	<u>6/2/86</u>
	T. M. Ross, Resident Inspector	Date Signed
	<u><i>T. J. Polich for</i></u>	<u>6/2/86</u>
	T. J. Polich, Resident Inspector	Date Signed
Approved by:	<u><i>M. M. Mendonca for</i></u>	<u>6/2/86</u>
	M. M. Mendonca, Chief, Reactor Projects Section 1	Date Signed

Summary:

Inspection from April 13, 1986 through May 24, 1986 (Report Nos. 50-275/86-13 and 50-323/86-14)

Areas Inspected: The inspection included routine inspections of plant operations, maintenance and surveillance activities, follow-up of on-site events, open items, and LERs, as well as selected independent inspection activities. Additionally, inspection of the Unit 2 power ascension startup program continued. Inspection Procedures 30703, 35751, 50095, 62703, 61711, 61726, 71707, 71710, 72301, 72600, 72608B, 72624, 90712, 92700, 93702, and 94703 were applied during this inspection.

Results of Inspection: No violations or deviations were identified.

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THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

TO THE HONORABLE CHAIRMAN OF THE BOARD OF TRUSTEES

AND THE HONORABLE CHAIRMAN OF THE BOARD OF EDUCATION

OF THE CITY OF CHICAGO

IN RESPONSE TO YOUR LETTER OF APRIL 15, 1954

RE: THE PROPOSED REORGANIZATION OF THE PHYSICS DEPARTMENT

AND THE PROPOSED MERGER OF THE PHYSICS DEPARTMENT

WITH THE DEPARTMENT OF CHEMISTRY

AND THE DEPARTMENT OF METALLURGY

AND THE DEPARTMENT OF MINERALOGY

AND THE DEPARTMENT OF GEOLOGY

AND THE DEPARTMENT OF BOTANY

AND THE DEPARTMENT OF ZOOLOGY

AND THE DEPARTMENT OF ANATOMY

AND THE DEPARTMENT OF PHYSIOLOGY

## DETAILS

### 1. Persons Contacted

J. D. Shiffer, Vice President Nuclear Power Generation  
\*R. C. Thornberry, Plant Manager  
\*J. A. Sexton, Assistant Plant Manager, Plant Superintendent  
\*J. M. Gisclon, Assistant Plant Manager for Technical Services  
\*J. D. Townsend, Assistant Plant Manager for Support Services  
\*C. L. Eldridge, Quality Control Manager  
\*K. C. Doss, On-site Safety Review Group  
\*R. G. Todaro, Security Supervisor  
\*D. B. Miklush, Maintenance Manager  
\*D. A. Taggart, Director Quality Support  
\*T. J. Martin, Training Manager  
\*W. G. Crockett, Instrumentation and Control Maintenance Manager  
J. V. Boots, Chemistry and Radiation Protection Manager  
\*L. F. Womack, Engineering Manager  
\*T. L. Grebel, Regulatory Compliance Supervisor  
S. R. Fridley, Acting Operations Manager  
\*R. S. Weinberg, News Service Representative

The inspectors interviewed several other licensee employees including shift supervisors, reactor and auxiliary operators, maintenance personnel, plant technicians and engineers, quality assurance personnel and general construction/startup personnel.

\*Denotes those attending the exit interview.

Note: Acronyms are used throughout this report; refer to the Index of Acronyms at the back of the report.

### 2. Operational Safety Verification

#### a. General

During the inspection period, the inspectors observed and examined activities to verify the operational safety of the licensee's facility. The observations and examinations of those activities were conducted on a daily, weekly or monthly basis.

On a daily basis, the inspectors observed control room activities to verify compliance with selected LCOs as prescribed in the facility TS. Logs, instrumentation, recorder traces, and other operational records were examined to obtain information on plant conditions, and trends were reviewed for compliance with regulatory requirements. Shift turnovers were observed on a sample basis to verify that all pertinent information of plant status was relayed. During each week, the inspectors toured the accessible areas of the facility to observe the following:

(a) General plant and equipment conditions.

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- (b) Surveillance and maintenance activities.
- (c) Fire hazards and fire fighting equipment.
- (d) Radiation protection controls.
- (e) Conduct of selected activities for compliance with the licensee's administrative controls and approved procedures.
- (f) Interiors of electrical and control panels.
- (g) Implementation of selected portions of the licensee's physical security plan.
- (h) Plant housekeeping and cleanliness.
- (i) Essential safety feature equipment alignment and conditions.

The inspectors talked with operators in the control room, and other plant personnel. The discussions centered on pertinent topics of general plant conditions, procedures, security, training, and other aspects of the involved work activities.

b. Axial Flux Difference

The inspector observed operator control and instrumentation monitoring of Axial Flux Difference in accordance with TS 3.2.1.1 for Unit 2 power changes on April 18.

No violations or deviations were identified.

3. Maintenance

The inspectors observed portions of, and reviewed records on, selected maintenance activities to assure compliance with approved procedures, technical specifications, and appropriate industry codes and standards. Furthermore, the inspectors verified maintenance activities were performed by qualified personnel, in accordance with fire protection and housekeeping controls, and replacement parts were appropriately certified.

a. Unit 1 Component Cooling Water Heat Exchanger Cleaning

The inspector observed selected portions of the subject cleaning to reduce high differential pressure on the auxiliary saltwater side of the CCW heat exchanger. This work was performed in accordance with Action Request Number A0021672. The inspector observed compliance with confined space and tool control requirements. The involved mechanics established clearance points, observed QC hold points, and acceptably conducted the work. The system was removed from service in compliance with TS requirements.

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b. Diesel Generator Starting Air Compressor

The inspector observed preventive maintenance activities performed on a diesel generator 2-2 starting air compressor. Activities included cleaning and inspection, checking bolt torques, sheave alignment, belt tensioning, oil changing and filter cleaning. The inspector verified required administrative approvals and tagouts were obtained, and procedures were used to control the work.

c. Diesel Generator Radiator Fan Drive

Preventive maintenance activities on the Diesel Generator 2-2 fan drive was observed to be conducted in accordance with an approved shopwork follower. Steam lancing, washing and rinsing of the radiator fins was also observed by the inspector. Clearance controls were reviewed and specific points were independently verified.

d. Reactor Trip Bypass Breaker

Preventive maintenance performed on Unit 2 bypass breaker 52 BYB was observed by the inspector. Work was performed in accordance with electrical maintenance procedure MP E-51.7 "Maintenance of Westinghouse Type DB 480 Volt Circuit Breakers". As found conditions on the breaker were obtained and recorded, and the breaker was cleaned and inspected. Contact pressure was checked, undervoltage and shunt trip assemblies were verified to function correctly, and the breaker was lubricated. The inspector verified test equipment was calibrated, personnel were qualified, and QC hold points were established. Required administrative approvals and tagouts were also verified to be in accordance with plant procedures.

e. Unit 2 Train A Reactor Trip Breaker

As part of a 6 month preventive maintenance schedule, the Unit 2 train A RTB was replaced with a serviced spare. An inspector observed the coordinated efforts of journeyman electrical maintenance personnel and I&C technicians during the physical exchange of RTBs and subsequent post maintenance testing in accordance with STP I-33C "Time Response Testing of RTBs." During this evolution the train B bypass RTB was only closed for an hour before the train A RTB was returned to an operable status. This time frame was well within the 2 hours allowed by TS 3.3.1.

STP I-33C measures and records the RTB UV and shunt trip time delays. These values are then routed to engineering for review and evaluation against TS prescribed reactor trip instrumentation response times. Although STP I-33A "Reactor Trip and ESF Response Time Test" provides an administrative limit of .167 seconds for RTB response time, there was no such guidance in STP I-33C. Nor were the I&C technicians and SFM aware of any established acceptance criteria to compare with the STP I-33C data. Even though TS 3.3.1 does not list a specific value for RTB time response, the inspector



considered that some immediate post maintenance testing evaluation was necessary to assure other reactor trip instrumentation response times have not been adversely effected. This concern was discussed with the engineering and I&C organizations who concluded that a procedure change was necessary to incorporate specific acceptance criteria. Follow-up of proposed changes to STP I-33C will be conducted during routine inspections.

f. Unexpected Unit 2 Diesel Generator Start

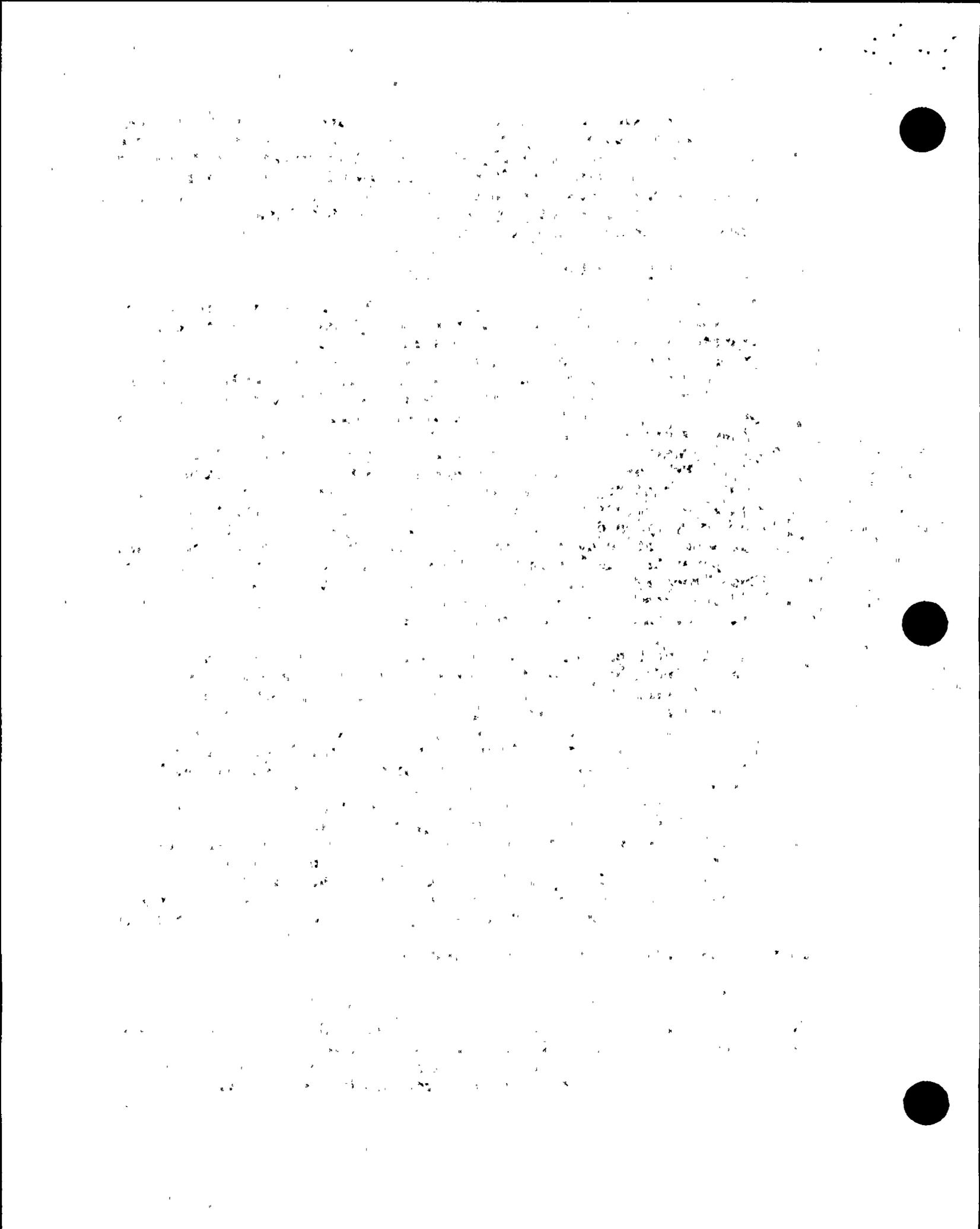
As described in Section 6.b of this report, an unanticipated diesel generator start and loading occurred on 4KV Bus G during manual transfer from auxiliary power to standby-startup power. Investigations by electrical maintenance concluded the diesel start and loading occurred as a result of an overcurrent condition on the auxiliary transformer, coupled with a miswired circuit in the Bus G power transfer scheme. The overcurrent condition was attributed to slightly differing voltages between the auxiliary and startup transformers. The miswiring error occurred when a wire lead was lifted by startup personnel in April 1985 to perform testing. After completion of testing, the lead was re-terminated to an incorrect pin location on the same terminal strip. The overcurrent condition correctly tripped the auxiliary transformer feeder breaker to bus G, but also sent an overcurrent signal through the misplaced wire into the power transfer circuitry. This caused the startup transformer Bus G feeder breaker to trip open and start DG 2-1 on bus undervoltage. The DG output feeder breaker then closed in on the vital bus and vital loads began to sequence onto bus G.

The Startup Department testing procedure used in April 1985 did not require independent verification of lifted leads and jumpers. This procedure (Electrical Field Instruction ETI-2-1) was to be revised to include the provision for QC involvement and independent verification of lifted leads and jumpers. As additional corrective actions, the licensee reviewed all safety-related work performed by the test technician involved in the miswiring, and sampled work performed by twenty other technicians on fifty other wiring jobs. No problems were identified. The NPG department inspected all Unit 2 vital buses for similar miswiring, without locating any errors. Additionally, wiring drawings will be compared against schematic diagrams to verify the drawings are in agreement. And finally, the as-built field wiring in all 40 breakers of the Unit 2 4KV vital buses will be checked in accordance with the re-verified drawings. Unit 1 4KV vital buses were similarly walked-down several years ago.

No violations or deviations were identified.

4. Surveillance

By direct observation and record review of selected surveillance testing, the inspectors assured compliance with TS requirements and plant procedures. The inspectors verified that test equipment was calibrated, and acceptance criteria were met or appropriately dispositioned.



a. Solid State Protection System Train B Actuation Logic Test for Unit 2

The inspector observed selected portions of the subject STP I-16A. The technicians understood the test and conducted the test in accordance with the STP. The technicians kept operators informed on the progress and status of the test. The test results were reviewed and approved by I&C supervisors.

b. Unit 2 RCS Temperature Channel Calibration

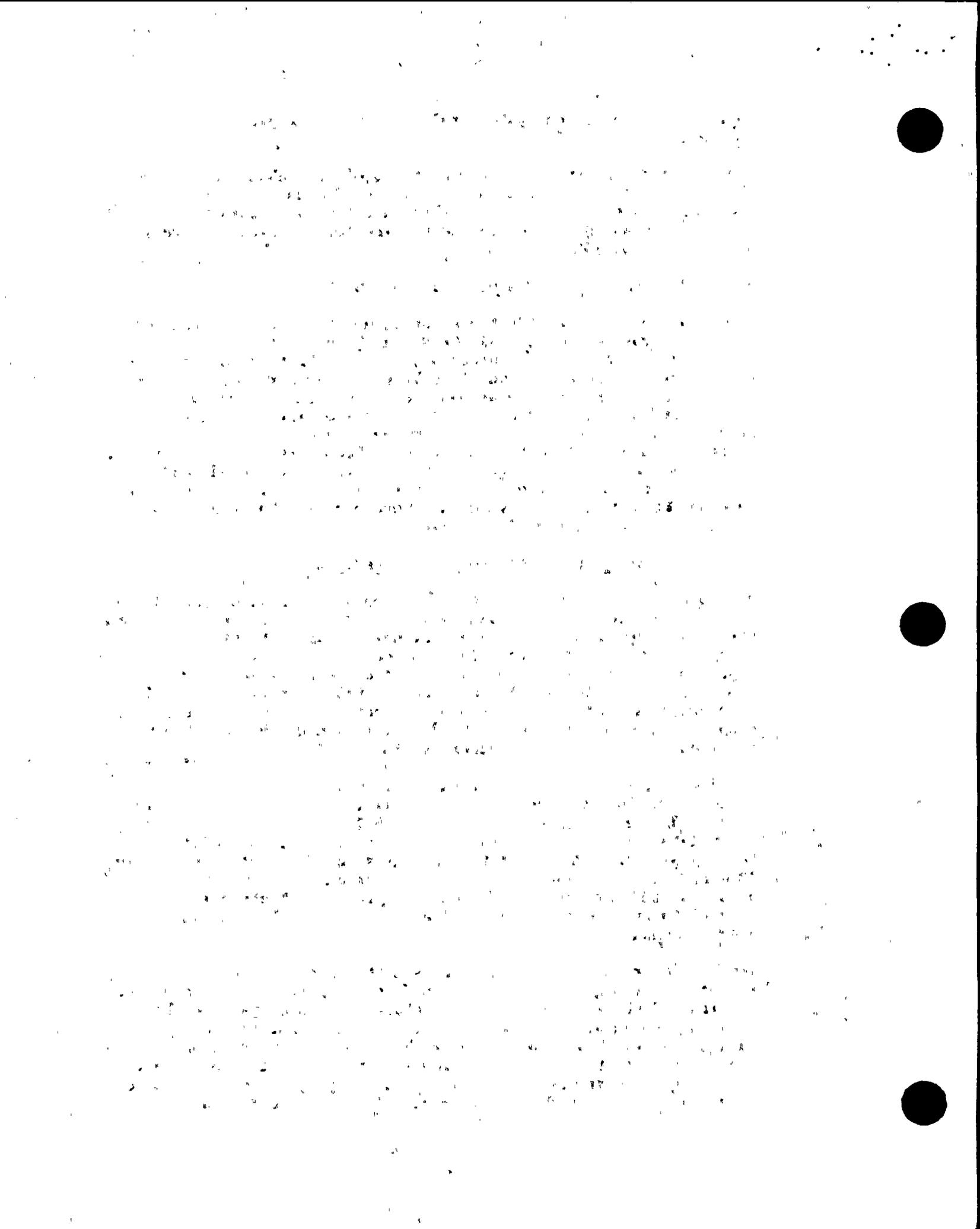
The inspector observed I&C troubleshooting of temperature channel 411 which provides OT delta T, OP delta T, Tavg., and delta T protection and safeguards functions. Troubleshooting was required due to out of tolerance conditions found during performance of the monthly analog channel operational test STP I-5A required by TSs 4.3.1.1 and 4.3.2.1. Documentation associated with the channel removal from service was reviewed by the inspector and was found to be in accordance with STP I-5B1 "Removal From Service...." The test channel was also verified to have been correctly defeated, and associated bistables were tripped as required by TS. All required information and out-of-service tags were properly hung, and testing was accomplished by qualified personnel.

c. Unit 1 Narrow Range Accumulator Level Transmitters

An inspector observed calibration of accumulator narrow range level transmitters 953, 954, and 956 by I&C technicians in accordance with STP I-30B. Of these three channels, only LT 956 exhibited acceptable "as found" data. The "as found" transmitter output measurements for LTs 954 and 956 exceeded the required accuracy limits specified on the STP data sheet. Violation of these limits were promptly reported to the SFM, and both channels were then properly re-adjusted. "As left" data for channels 954 and 956 were recorded as within desired accuracy limits.

Difficulties by the I&C department to maintain accumulator narrow range LTs within required calibration limits have been previously described in inspection report 50-275/85-17. Since that time all accumulator LTs have been subject to an accelerated surveillance testing program. Normally these channels would be calibrated every 18 months as prescribed by TS 4.5.1.2, but due to transmitter drift problems, I&C has instituted a schedule to recalibrate all accumulator narrow range LTs at least every 6 months (in some cases every 3 months).

The inspector has frequently discussed this program with the responsible I&C general foreman, and has independently reviewed the results. Both trending and visual channel check comparisons have been used to ensure drifting transmitters are identified promptly. Maintaining the Unit 1 accumulator LTs within calibration has been a tedious and resource consuming proposition for the I&C department. During the upcoming refueling outage for Unit 1, all eight (two per accumulator) older model narrow range LTs are scheduled for



replacement with newer models. This design change has already been accomplished for Unit 2.

d. Unit 2 Protection and Safeguards Actuation Room Halon System

To demonstrate continued operability of the SSPS room Halon system, TS 4.7.9.4.a requires verification of Halon storage weight and pressure every six months. Accordingly, an inspector observed journeyman mechanical maintenance personnel disconnect, weigh, and reconnect both the main and reserve halon tanks for Unit 2 in accordance with STP M-19A. This surveillance activity was also supported by an I&C technician who removed and returned the halon control system's 120 VAC power and also verified battery voltage. The inspector independently verified gross weight measurements and Dilon scale calibration, reviewed halon charge weight calculations, and observed system restoration to service.

e. Unit 1 Containment Hydrogen Monitor

The inspector observed selected portions of detailed calibrations and routine maintenance on containment hydrogen monitor 83 by I&C technicians in accordance with STP I-46B "Calibration Test (Equipment Verification), Containment Hydrogen Monitor Channel 82(83)." STP I-46B maintenance and calibration activities are beyond those required by TS 4.6.4.1 and have been established administratively on an annual frequency.

Initial performance of the pressure integrity verification test failed due to excessive pump seal leakage. This pump was replaced and the hydrogen monitor system was then satisfactorily pressure tested. After establishing system integrity, operation of electronic components were checked and calibrated. Throughout the performance of STP I-46B, the inspector monitored step-by-step procedural compliance, verified test equipment calibration and alignment, and reviewed documentation of required data.

No violations or deviations were identified.

5. Event Follow-up

a. Initiation of Unit 2 Shutdown Required by Technical Specifications

At 1:48 a.m. (PST) on April 18 an Unusual Event was declared when operators commenced shutdown of Unit 2 from 100% power to hot standby in order to comply with TS section 3.0.3. The Unusual Event was terminated at 4:00 a.m. that day, by which time reactor power had been reduced below 50%. Unit 2 was subsequently restored to full load conditions.

This event began at 9:48 a.m. on <sup>April</sup> May 17 when NIS PR channel 41 was removed from service to re-calibrate RPS rate trips. When a PR channel is inoperable, TS section 3.3.1 action 2.c requires the licensee to monitor QPTR at least once per 12 hours while in mode 1 or 2. In order to comply with this requirement, a partial incore



flux map was performed by a senior nuclear engineer at 8:30 p.m. to measure QPTR. Anticipating the normal delays associated with offsite transmission of flux map data for reduction, the PSRC approved an extension of the 12 hour surveillance requirement by an additional 25% as allowed in TS 4.0.2. Subsequent review of the returned flux map data revealed the first incore pass had not been picked up by the P-250 plant process computer for some unknown reason. Without first pass data, the entire flux map was invalidated.

At approximately 11:00 p.m., the SFM was notified by engineering that the initial attempt to monitor QPTR was unsuccessful. Furthermore, the time necessary to accomplish another partial incore flux map would take longer than the extended surveillance frequency allowed. Concurrently, I&C technicians were continuing to experience unforeseen equipment problems while restoring NIS channel 41 back to service. Thus, the LCO and associated action statement 2.c of TS 3.3.1 ( Table 3.3-1), for one inoperable PR channel, was exceeded at 12:48 a.m. on April 18 when a QPTR determination was not satisfactorily accomplished within the time allowed. Accordingly, the SFM logged that Unit 2 had entered into TS LCO section 3.0.3 . One hour later an unusual event was declared as operators initiated a plant shutdown to hot standby conditions (mode 3). At approximately 4:00 a.m., upon successful completion of STP I-2B "NIS PR Analog Operational Test", NIS channel 41 was declared operable thus terminating the unusual event and plant shutdown.

An additional flux map, performed with plant power below 50%, was completed and analyzed shortly thereafter. However, results from the second flux map were not considered an accurate representation of QPTR because plant conditions were outside the LCO scope of applicability specified by TS 3.2.4 . The inconsistency between TS 3.3.1 and 3.2.4 applicability for measuring QPTR, was the source of some confusion to operations and engineering personnel during the event.

Re-calibration of other NIS PR channels have been temporarily suspended while plant management evaluates the problems and lessons learned from this event. Additionally, the licensee intends to submit a LAR in order to clarify apparent conflicting requirements between TS 3.2.4 and 3.3.1 when an NIS channel is out of service.

b. Unit 2 Diesel Generator Start and Load on Undervoltage

At 2:24 p.m. (PDST) on May 5, DG 2-1 was unexpectedly started by an undervoltage condition on vital 4KV bus G. A significant event was declared, and was reported at 5:05 p.m. as required by 10 CFR 50.72 for ESF actuation (4 hour reportability).

This event began earlier that afternoon as operators were stabilizing Unit 2 plant conditions following an automatic main turbine runback from 100% to 20% power (initiated by a loss of stator cooling water). While attempting to manually re-align vital 4KV bus G from auxiliary to standby-startup offsite power, the



auxiliary power feeder breaker (52-HG-13) tripped on overcurrent and the startup power feeder breaker (52-HG-14) did not close in. This resulted in a loss of power (i.e. undervoltage) to vital 4KV bus G causing the associated DG to start and load-up. At 2:47 p.m. operators shutdown DG 2-1 and successfully transferred 4KV bus G to standby-startup power. The auxiliary power supply for bus G was then declared inoperable as an independent offsite circuit, and as such entered Unit 2 into a 72 hour TS (3.8.1.1) action statement. While plant operators complied with TS by starting all Unit 2 DGs every 8 hours and verifying system alignment, electrical maintenance personnel conducted troubleshooting of the power transfer circuitry associated with bus G.

Follow-up inspection activities of this event verified licensee actions were appropriate, except for the following :

- 1) Inoperability of auxiliary power breaker 52-HG-13 was not effectively communicated to the oncoming CO during shift turnover.
- 2) Failure to document in SFM or CO logs the performance of surveillance requirements 4.8.1.1.1a and 4.8.1.1.2a within the one hour required by TS 3.8.1.1 .

These items were discussed with plant management. Plant management discussed these problems with responsible individuals to address these observations. Troubleshooting and corrective actions associated with the unsuccessful power supply transfer were previously discussed in Section 4.f of this report.

No violations or deviations were identified.

#### 6. Startup Testing - Unit 2

The following S/U TP results were reviewed and approved by the Lead S/U Engineer, and accepted for DCCPP by the Plant Superintendent:

TP 38.1 "Automatic Reactor Control"

TP 43.8 "Plant Trip with Loss of Offsite Power"

Test results of these completed procedures were evaluated by the inspectors; including a review that all test procedure changes and test deficiencies were appropriately incorporated or dispositioned in accordance with administrative guidelines.

S/U TP 42.3, "Static Rod Drop and RCCA Below Bank Position Measurements Test" was eliminated from the Unit 2 test program as described in PG&E letter No. DCL-85-354 to the NRC, dated November 25, 1985. Accordingly, no TP 42.3 data was available for NRC review on Unit 2.

No violations or deviations were identified.

11



## 7. Independent Inspection

### a. Biofouling of Cooling Water Heat Exchangers (Temporary Instruction 2515/77, Closed)

Reduced heat transfer efficiency and increased flow resistance of cooling water systems due to biofouling has been an industry wide problem. The resultant detrimental effects on performance of plant and safety-related systems have been addressed in IE Bulletin 81-03 and various information notices, and in INPO SOER 84-1. An inspector reviewed the licensee's responses to the aforementioned documents and independently examined implementing procedures and activities.

At Diablo Canyon only the CCW system heat exchanger is used to remove heat from safety-related components and systems; whereas an independent and diverse Service Water system heat exchanger cools balance of plant components and systems. Biological fouling of safety-related components or systems is, by design, limited to the ASW system which circulates ocean water (ultimate heat sink) through the tube side of the CCW heat exchanger. Concurrently, the physically separated shell side circulates chromated pure water to cool the various essential loads (i.e. ECCS pumps, CFCUs, RHR, RCPs, etc.). The CCW side has been considered relatively immune to biofouling and corrosion. As such, the licensee does not generally record and review flow or differential pressure measurements, of individual safety-related equipment, against design parameters.

Permanently installed control room indication and alarm instrumentation were available to monitor CCW system heat exchanger performance (i.e. flow rates, temperatures and, differential and discharge pressures). Degradation and/or total loss of CCW capabilities were addressed in plant operating procedures and incorporated into regular requalification training. The ASW system, and saltwater side of the Service Water system, have undergone a program of monthly demusseling and continuous chlorination. Frequent cleaning and inspection of the CCW heat exchanger tube side has been performed in the past, the frequency was based upon observed degradation of performance factors (i.e. CCW Hx ASW differential pressure and CCW outlet temperature). Several of these evolutions were monitored by the inspectors, who have seen only minimal fouling.

Scheduled periodic inspections are not performed on the non safety-related Service Water System. Although the offsite Nuclear Safety Engineering Group had made a recommendation that some kind of yearly test or inspection would be advisable. Flushing and flow testing of fire water systems are conducted periodically as part of the TS surveillance test program.

### b. Implementation of Long Term Compensatory Technical Specification Action Statements

Throughout the year, an inspector has placed additional emphasis on examining the effectiveness of licensee programs and activities to

10



identify, track, and implement TS action statements that allow exceeding specific LCOs for an extended period of time (i.e. 3 to 30 days, or even indefinitely). The inspector was especially interested in evaluating implementation of those TS actions which prescribed special surveillance or reporting requirements, and/or accelerated testing frequencies. The licensee's efforts to implement the following TS actions were evaluated during conditions when the associated LCO was not met:

- . TS 3.1.2.1 Inoperable boron injection flow path
- . TS 3.1.3.1 Inoperable rod position deviation alarm
- . TS 3.2.1.1 AFD outside target band
- . TS 3.2.4 Inoperable QPTR alarm
- . TS 3.3.1 Inoperable RPS channels
- . TS 3.3.2 Inoperable Safeguard channels
- . TS 3.3.3.4 Primary meteorological tower inoperable
- . TS 3.3.3.9 Inoperable SG blowdown flow recorder and rad  
& 3.3.3.10 monitors
- . TS 3.4.4 Inoperable PORV
- . TS 3.6.3 Inoperable containment isolation valve
- . TS 3.7.9.3 Inoperable cardox and halon systems  
& 3.7.9.4
- . TS 3.7.10 Impaired fire barriers
- . TS 3.8.1.1 Loss of offsite power

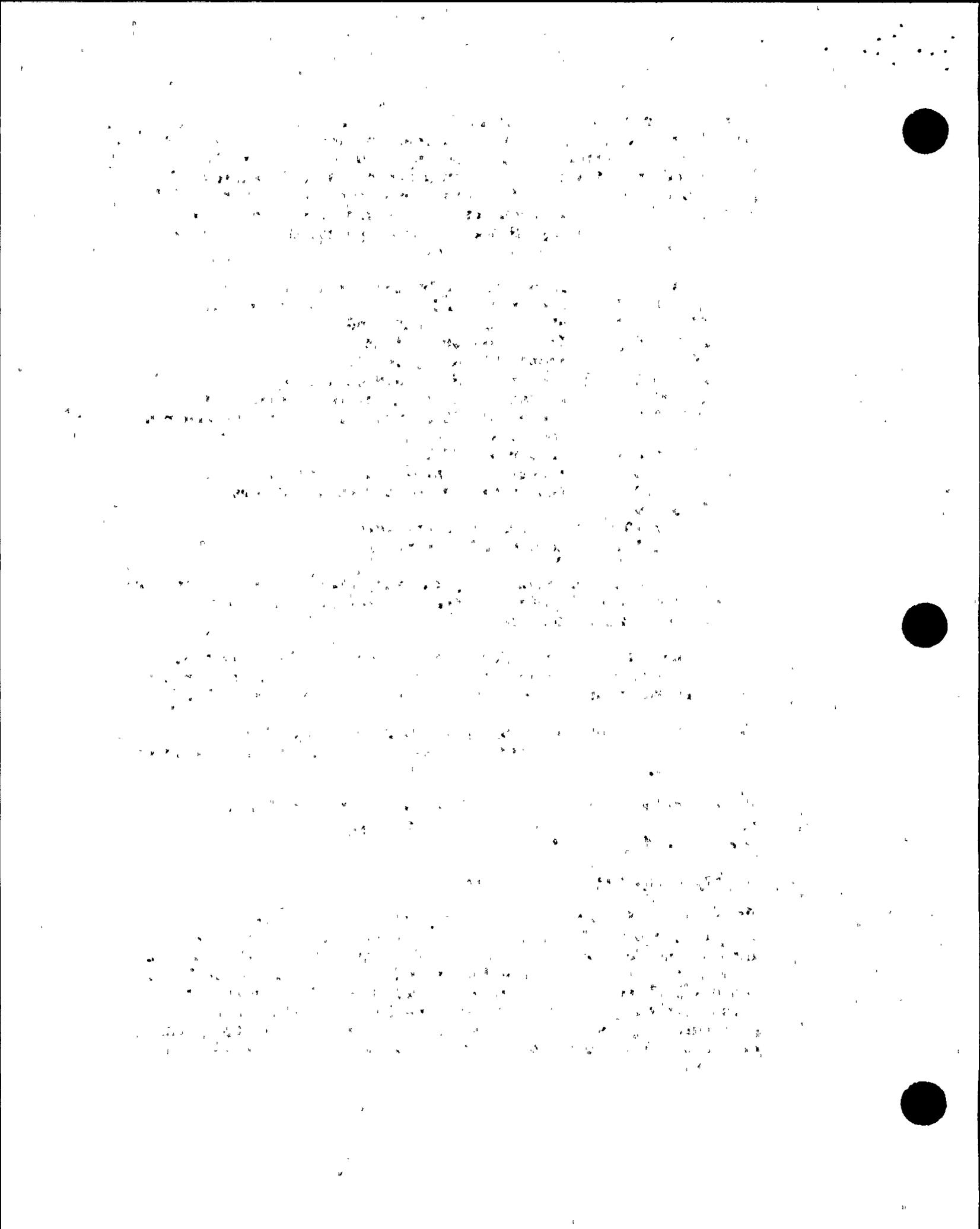
In all circumstances examined by the inspector, existing procedures and measures taken by plant personnel were appropriate except for the following minor deficiencies:

- a) Annunciator alarm response procedures provided inadequate detailed guidance on accelerated TS surveillance requirements when the plant process computer (P-250) was unavailable.
- b) Delta I points below 50% power were not automatically recorded when Unit 2 was outside the target band due to lack of control over instrument inputs scanned by the P-250.

These findings were discussed with the Operations Manager, and the resultant procedure changes and enhanced program controls were reviewed and found acceptable.

c. Commitment Management Data Base

CMD is an administrative tool proposed to control the licensee's commitments with the NRC. Source documents used to assemble this information data base will include TS, FSAR, SERs, and PG&E letters. A task force led by the Regulatory Compliance organization has been reviewing these source documents to identify all commitments, and cross-reference them with the applicable implementing plant procedures. This task force meets on a regular basis to discuss progress and problems, one such meeting was also attended by an inspector.



The intent of CMD is two-fold: (1) assure all NRC commitments have been addressed in plant procedures, and (2) provide a cross check mechanism for any changes made to the associated implementing procedures. An inspector discussed the progress and status of licensee's efforts to develop CMD with the Regulatory Compliance Supervisor. The present schedule anticipates all TS and FSAR commitments should be entered into the PIMS by the end of May, with final reviews and approvals due shortly thereafter. Further independent inspection activity will continue to monitor development and implementation of CMD.

No violations or deviations were identified.

8. Licensee Event Report Follow-up

Based on an in-office review, the following LERs were closed out by the resident inspectors:

Unit 1: 85-40, 86-04

Unit 2: 86-01, 86-02, 86-10, 86-11, 86-12, 86-13

These LERs were reviewed for event description, root cause, corrective actions taken, generic applicability and timeliness of reporting.

The LER identified below was also closed out after an in-office review and on-site follow-up inspection to independently verify licensee corrective actions:

Unit 2: 85-19 was closed based upon examination of engineering STP records and subsequent review of the LER revision.

No violations or deviations were identified.

9. Open Items

a. Inoperable Feedwater Isolation Valve (Open Item 50-323/85-32-02, Closed)

The inspector verified the miswiring was corrected and the corrective action of testing similar circuits has been completed; therefore, the open item is considered closed. This subject was also described in LER 85-14 which was closed by IR 50-323/86-10.

b. Component Cooling Water System Walkdowns (Open Item 50-323/85-23-01, Closed)

The inspector had identified several problems with broken or missing valve seals and incorrect valve labeling during a CCW system walkdown (see IR 50-323/85-23 Section 2.b). These problems were resolved by the licensee and only one broken seal has been identified since then (see IR 50-323/86-02 Section 3.A). Recent walkdowns of other ESF systems have confirmed the proper condition



of sealed valves are being maintained; therefore, this open item is closed.

c. Warehouse Access Control (Open Item 50-323/85-29-01, Closed)

The inspectors walked down the licensee's old and new warehouse facilities and found the current and proposed personnel access controls acceptable; therefore, this open item is closed.

d. Procedures for Operator Entry into High Radiation Areas (Open Item 50-323/86-02-01, Closed)

Operating Procedure O-4 was revised to include instructions for operators to enter high radiation areas for inspection of safety related equipment. Thereby, this open item is closed.

e. Valve Stroke Distance Surveillance (Open Item 50-323/86-02-03, Closed)

The inspector reviewed the licensee's plan to upgrade ASME XI IWV position indication testing of valves. The plan addressed the inspection subject open item to accurately observe actual valve position during surveillance. This open item is closed.

f. Quality Control Inspection Involvement (Open Item 50-275/86-02-05, Closed)

The licensee committed to establish a detailed task inspection plan for QC work. This commitment closes the subject open item.

g. Design Change Information Control (Open Item 50-275/86-02-08, Closed)

The inspector examined the licensee's follow-up actions as documented and closed in AR No. A0019610. Based on this review this open item is closed.

h. Plant Staff Review Committee Modifications Review Requirements (Open Item 50-275/86-02-09, Closed)

Nuclear Plant Administrative Procedure C-1S1 was revised to specify PSRC review of modifications; thereby, this open item is closed.

i. Temporary Modifications Administrative Procedures (Open Item 50-275/86-02-10, Closed)

Nuclear Plant Administrative Procedure C-4 S1 has been revised to require plant Engineering approval for temporary modifications greater than 3 months old. Additionally NPAP C-1 S1 has been tied to C-4 S1 to assure that temporary modifications are controlled as such. Finally, the specific problems have been corrected under AR No. A0019518. Therefore, this open item is closed.



j. Priority Assignment of Safety Related Maintenance (Open Item 50-275/86-02-04, Closed)

The licensee committed to review and revise the assignment of maintenance priorities for all safety related equipment and the licensee's action plans have been reviewed for this open item; therefore, this open item is closed.

No violations or deviations were identified.

10. Spent Fuel Pool Re-racking

Fifteen of the sixteen Unit 1 high density spent fuel racks have been delivered to the site and are in storage. The remaining rack is expected to be shipped to the licensee by the end of May 1986. The inspector reviewed the licensee's onsite rack storage procedure JP-2473-23 "Joseph Oat Corporation Jobsite Storage Procedure", and verified the racks were being stored in accordance with the procedure. One rack had been left outside the designated controlled storage area for a period of several days, but was transferred to the designated storage area after the inspector discussed the situation with the licensee's representative. The inspector also reviewed all written correspondence between NRR and the licensee on the subject of the spent fuel pool re-racking (through 5/12/86) for licensee commitments which were verifiable by direct onsite inspection. PG&E Specification No. 5679 "Specification For Furnishing and Delivering High Density Spent Fuel Storage Racks..." is also being reviewed by the inspector.

No violations or deviations were identified.

11. Information Notice Follow-up

a. Information Notice 85-91 (Open Item IN-85-91, Closed)

The licensee analysis of this information notice on load sequencers for emergency diesel generators was reviewed. This analysis examined the Diablo Canyon system compared to that described in the notice and found that the problem was not germane to Diablo Canyon Units 1 and 2. The inspectors review of the load sequencer logics in the information notice and the Diablo Canyon instrumentation drawings concurred with the licensee's.

b. Information Notice 85-42 (Open Item IN-85-42, Closed)

The licensee evaluation of this notice on loose phosphor in Panasonic 800 series thermoluminescent dosimeters was reviewed by the inspector. The licensee included manufacturer input and quality related testing by the Division of Engineering Research. This evaluation acceptably addressed the subject information notice for both Units 1 and 2.

No violations or deviations were identified.

100-100000



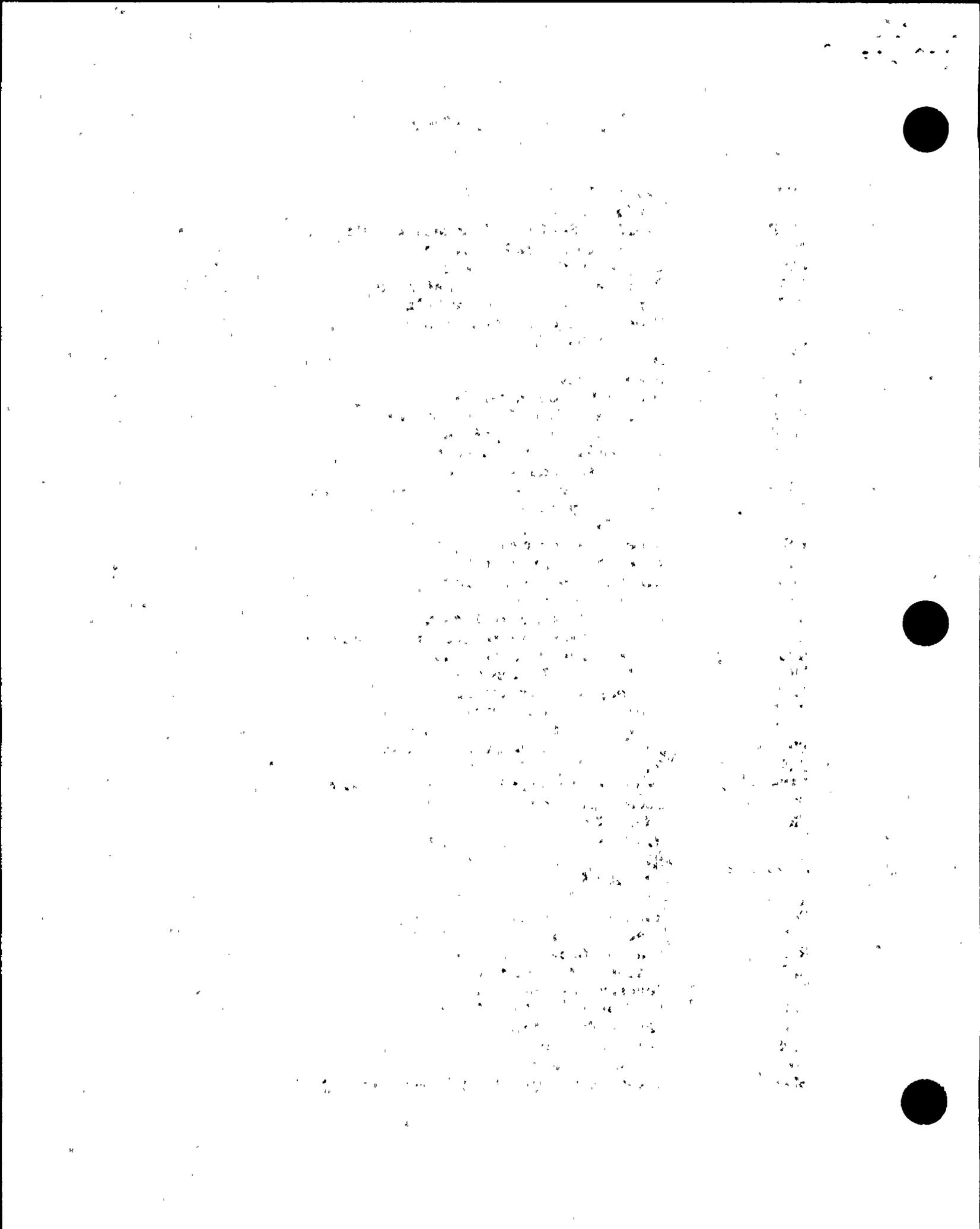
12. Exit

On May 23, 1986 an exit meeting was conducted with the licensee's representatives identified in paragraph 1. The inspectors summarized the scope and findings of the inspection as described in this report.



Index of Acronyms

AFD	Axial Flux Difference
AR	Action Request
ASME	American Society of Mechanical Engineers
ASW	Auxiliary Saltwater System
CCW	Component Cooling Water
CMD	Commitment Management Database
CFCU	Containment Fan Cooler Unit
CFR	Code of Federal Regulations
CO	Control Operator
DG	Diesel Generator
DCL	Diablo Canyon Letter
DCPP	Diablo Canyon Power Plant
ECCS	Emergency Core Cooling System
FSAR	Final Safety Analysis Report
I&C	Instrumentation and Control
IE	Inspection and Enforcement
INPO	Institute of Nuclear Power Operations
IR	Inspection Report
KV	Kilo Volt
LAR	License Ammendment Request
LER	Licensee Event Report
LCO	Limiting Conditions for Operation
LT	Level Transmitter
NIS	Nuclear Instrumentation System
NPAP	Nuclear Plant Administrative Procedure
NPG	Nuclear Power Generation
NRC	Nuclear Regulation Commission
NRR	Nuclear Reactor Regulation
OT Delta T	Over Temperature Delta Temperature
OP Delta T	Over Power Delta Temperature
PDST	Pacific Daylight Standard Time
PG&E	Pacific Gas and Electric
PIMS	Plant Information Management System
PORV	Power Operated Relief Valve
PR	Power Range
PSRC	Plant Staff Review Committee
PST	Pacific Standard Time
QC	Quality Control
QPTR	Quadrant Power Tilt Ratio
RCCA	Rod Control Cluster Assembly
RCP	Reactor Coolant Pump
RCS	Reactor Coolant System
RHR	Residual Heat Removal
RTB	Reactor Trip Breaker
RPS	Reactor Protection System
SER	Safety Evaluation Report
SFM	Shift Foreman
SG	Steam Generator
SOER	Significant Operating Experience Report



SSPS	Solid State Protection System
STP	Surveillance Test Procedure
S/U	Start-up
TAVG	Average Temperature
TP	Test Procedure
TS	Technical Specification
UV	Under Voltage
VAC	Volts Alternating Current

