

U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 50-275/85-23

Docket No. 50-275

License No. DPR-80

Licensee: Pacific Gas and Electric Company  
77 Beale Street, Room 1435  
San Francisco, California 94106

Facility Name: Diablo Canyon Unit 1

Inspection at: Diablo Canyon Site, San Luis Obispo County, California  
and PG&E San Francisco Offices

Inspection conducted: June 10-28, 1985

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Summary:

Inspection during the period of June 10-28, 1985 (Report No. 50-275/85-23)

Areas Inspected: Special unannounced inspection of Diablo Canyon's administrative controls associated with the four most important safety-related systems based on probabilistic risk assessment. More specifically selected systems and activities related to the auxiliary feedwater system (AFWS); diesel generators (DGs); 125V vital DC system; high pressure safety injection (HPSI); offsite committee activities; health physics program and associated licensee administrative controls were inspected.

The team's approach was to direct 60 percent of its effort on administrative controls associated with the emergency DGs, 125V DC, HPSI and AFW systems and the implementation and adherence of those controls in the following areas: M&TE Calibration Program; Maintenance Program; Surveillance Program; Vendor Field Change Notices; and Design Changes and Modifications. The other 40 percent of the team's effort was on administrative controls in the following important areas; implementation of corporate policies; offsite committee activities; quality assurance audits (onsite); licensed/non-licensed operator training; plant operations; health physics; and radioactive waste systems.

The team strategy for this inspection required the selection of a sample of Diablo Canyon administrative controls associated with four important safety-related systems (HPSI, AFWS, 125V DC system, and the Emergency DGs) for vigorous examination. The sample appeared representative of all management controls, testing, methodology and documentation for other safety-related administrative controls at the Diablo Canyon Nuclear Power Plant.

The inspection involved 719 hours onsite by ten NRC inspectors, and 14 hours at the Corporate Offices in San Francisco.

Results: Of the areas inspected, three violations of NRC requirements were identified in the areas of 1) control of measuring and test equipment, 2) radiation protection procedure implementation, and, 3) personnel qualification required by technical specifications.

## DETAILS

### 1. Persons Contacted

Listed below are the names of individuals who were the principal points of contact for the inspection team.

- \*J. D. Townsend, Assistant Plant Superintendent
- \*J. A. Sexton, Manager, Operations Department
- \*R. Patterson, Assistant Plant Manager
- \*W. A. Raymond, Assistant to the Vice President, Nuclear Power Generation
- \*T. J. Martin, Manager, Training
- \*W. G. Crockett, Manager, I&C Department
- \*W. T. Rapp, Senior Nuclear Generation Engineer
- \*D. A. Taggart, Quality Support Manager
- \*R. P. Flohaug, Quality Support Supervisor
- \*W. B. Kaefer, Assistant Plant Manager, Support Services
- \*R. G. Todar, Supervisor, Security Department
- \*J. C. Walker, Supervisor, Quality Support Group
- \*W. T. Agerter, Senior Staff Consultant, Quality Support Group
- \*R. A. Carvel, QA Engineer
- \*C. L. Eldridge, Quality Control Manager
- \*T. L. Grebel, Compliance Engineer
- \*J. W. Warriak, Supervising Biologist
- \*R. P. Powers, Senior Chem. and Rad Protection Engineer
- \*L. F. Womack, Manager, Engineering Department
- \*D. B. Miklush, Manager, Maintenance Department
- \*E. M. Conway, Personnel/General Services Manager
- \*K. A. Levitt, Materials Superintendent
- \*W. B. McLane, Manager, Materials and Project Coordination Department
- \*J. M. Gisclon, Assistant Plant Manager, Technical Services
- \*R. S. Weinberg, News Services Representative
- V. R. Foster, Senior Power Production Engineer
- R. B. Cameron, Quality Support Supervisor
- J. P. Franks, Senior Quality Control Engineer
- J. M. Rappa, Electrical Maintenance Foreman
- C. M. Seward, Senior Power Production Engineer
- W. R. Ryan, General Maintenance Foreman, Mechanical
- M. W. Stephens, General Maintenance Foreman, I&C
- \*J. D. Shiffer, Vice President, Nuclear Power Generation
- J. C. Carroll, Acting Manager,
- T. A. Moula, Technical Assistant
- R. C. Thornberry, Plant Manager
- E. M. Conway, Manager, Personnel and General Services
- C. E. Hartz, QC Specialist
- C. L. Meyers, Records Analyst
- J. M. Neill, Document Control Supervisor
- \*J. V. Boots, Manager, Chem and Rad Protection
- W. G. Heggli, Senior Engineer, Internal Auditing
- \*J. C. Nolan, Design Control Coordinator
- \*B. Morowski, Onsite Assistant Project Engineer
- \*M. R. Tressler, Project Engineer
- \*D. B. Hardie, Assistant Project Engineer, Quality
- \*R. Oman, Assistant Project Engineer, Systems

\*Designates those persons attending the exit interviews on either June 21, 1985 or June 28, 1985.

The members of the team also obtained information from several other licensee and contractor employees.

## 2. Corporate Policy Definition and Implementation

The inspector reviewed documents which define corporate goals and which reflect implementation of these goals at the Diablo Canyon nuclear plant. The purpose of this review was to ascertain the inclusion of safety and quality concerns, and provisions for development of staff qualifications and competence. In addition to the NRC required quality assurance manual and Technical Specifications, the inspector examined other documents and records which might reasonably be expected to reflect such policies. Such documents reviewed included:

- Statement of Corporate Goals
- Corporate Business Plan
- Excerpts from Corporate Staff Newsletter Articles to Plant Staff
- Pay for Performance Booklet (Issued to each employee)
- Management Merit Pay Program Description
- Performance Recognition System Description
- Records of Performance Awards Issued
- Suggestion Award Plan Description
- Records of Suggestion Awards Issued
- Quality Support Organization Description
- Position Plans for Plant Management
- Typical Job Expectations Worksheets

These documents adequately included the objectives of safety, quality and superior personnel performance as principal elements. Personnel performance evaluation criteria typically incorporated mandates for the managers such as, "achieve safety and compliance with NRC regulations", "training of staff, staff development and development of staff unity and interfacing", "preplanning of work and assurance that personnel understand and accept task assignments." The Plant Manager 1985 position plan charges him with assuring that responsibilities and duties are clearly communicated to employees and employees are held accountable for their responsibilities defined in the position plans, action plans, and job expectation worksheets. The position plan requires the Plant Manager to assure that lower level plant management is continuously aware of the quality of work activities, and that quality problems as well as their causes are identified and corrected in a timely manner. It further requires that he assure that his managers inspect the plant weekly and are knowledgeable of activities and conditions that impact safe operation. It also requires that he assure corrective action is taken to deal with observed performance discrepancies that is decisive, timely, and in relation to the importance of the discrepancy.

The inspector found various initiatives, with obvious corporate support of budget and resources, to implement the above responsibilities. These included the inclusion of a special quality support organization onsite to perform special inquiries, staffing of the quality assurance



organization with personnel having significant prior nuclear power experience, dedication of resources to develop management abilities of plant staff, and the implementation of highly visible programs to solicit employee views on safety/quality concerns and of improved work methods. Staff responsiveness to the above initiatives was noted; technical improvements had been identified through the suggestion plan and management's publicized monetary awards for such items should serve as a motivation for continued response of this nature.

A highly publicized "Hotline" for anonymously reporting quality concerns was also in effect. The initiatives and provisions were in addition to the problem identification methods provided under the formal quality assurance program, such as audit and inspection findings, nonconformance reports, plant problem reports, design change requests, and procedure change requests (which may be initiated by any employee).

The inspectors selected names of technicians and foremen who had signed technical specification surveillance records associated with four safety related systems. A total of 22 names were identified, in the instrumentation, electrical, mechanical and operations surveillance areas. The payroll data sheets were reviewed for the time periods that the individuals were found to have performed safety related functions. The overtime recorded was compared to the governing procedure (NPAP A-8) and the applicable Technical Specification section 6.2.2, which limit amount of personnel overtime. With consideration of shift turnover and paid travel time for union workers, no discrepancies were identified. Also, the overtime statistics were reported in the April and May reports to the project manager, who was conservative on the subject when interviewed by the inspector, and who had issued an April 1985 mandate to the plant staff departments to reduce overtime worked in the future, defining specific limits. The management involvement was apparent in this area; no violations were identified.

The inspection team concluded that the corporate definition and implementation of safety and quality goals was apparent, and this is generally supported by data elsewhere in this report.

No violations or deviations were identified.

### 3. Quality Control Organization and Staffing

The inspector examined the quality control department Policies and Objectives (OCP-1.2), interviewed the quality control manager and three quality control engineers performing work planning functions, examined shopwork follower quality control review checklists in the electrical and mechanical areas, and examined management briefing material which the quality control organization had used.

The policy (OCP-1.2) stated quality control objectives and provided useful guidance to the PG&E quality control inspectors for planning and conducting inspections and interfacing with other plant personnel. The management briefing material summarized that the current department staff of forty includes an average of 13 years nuclear experience, with 17 people holding prior navy nuclear training.

Four of the QC department staff were involved in prioritizing and planning inspection activities for the QC inspectors. These personnel reviewed each shopwork follower, using a checklist, to select hold points and assign supplementary surveillance actions for the inspectors. They also reviewed the documents for appropriate quality class and inclusion of quality control provisions. The completed checklists demonstrated a thorough review in the mechanical area, with several examples of documents which were recycled for additional clarification. The statistical results of these reviews was included in the April and May monthly reports to the project manager. Such reports are routinely distributed to the managers of plant departments.

The licensee was responsive to the inspector's observation that QC staff had not been provided plant specific systems training, and initiated action to schedule the quality control staff (40 persons) into a four-hour per week six month program of training of this type. Such training would supplement the current experience and qualification level of the staff. (Open Item 50-275/85-23-01)

The staffing, work planning and reporting activities demonstrated management support of the implementation of the quality assurance program for safety-related activities.

No violations or deviations were identified.

4. General Office Nuclear Plant Review and Audit Committee (GONPRAC)

The purpose of this portion of the inspection was to verify that the offsite safety review committee has been established and is functioning in conformance with Technical Specification (TS) requirements and commitments in the Final Safety Analysis Report. The GONPRAC is the offsite review group required by Technical Specification 6.5.2. GONPRAC guidance and responsibilities are contained in the Nuclear Power Generation Department's Administrative Procedure No. NPG-5.13, Revision 1, dated March 1, 1985. The inspector examined the minutes of four meetings held since January 1, 1985, to determine if the GONPRAC was meeting all of its responsibilities. The committee meets monthly rather than every six months as required by the TS. It has a permanent secretary and activities are well documented. From an examination of the minutes it was determined that the GONPRAC is meeting its regulatory requirements, including oversight of the QA audit program. Strengths noted were the activity of the committee and the involvement of this level of management in the day to day operation of the plant.

No violations or deviations were identified.

5. Quality Assurance Audit Program (Onsite)

Records and procedures of the Quality Assurance (QA) Audit Program by the onsite audit organization were examined. The inspector examined the following documents.

- QADP - 18.1 Audit Scheduling
- QADP - 18.2 Quality Assurance Audits
- QADP - 16.3 Audit Finding Reports
- QAA-WI-201 (Draft) Technical Specification Surveillance Audits
- \*Audits and Audit Finding Reports (AFR)
- Audits 8500IT, 85017T, 85052T, 85072T, 85100T (Draft)
- AFR 85-26, 85-27, 85-28
- \*Technical Specification Section 6.5.2.8. "AUDITS"

The following observations and findings resulted.

a. Scope and Schedule of Audits

The onsite QA Auditors schedule, plan, perform, document and report the results of QA Audits on the implementation of technical specification requirements. The licensee's program in this area has been established to audit all the provisions in section 3/4 of the technical specifications over a three year schedule. The licensee had identified one deficiency in 36 items thus far reviewed. The licensee had taken immediate action to correct this deficiency and had added the deficient requirement (Surveillance Requirement 4.1.1.1.2) to the next Audit Schedule. (Open Item 50-275/85-23-02)

b. Documentation and Resolution of Audit Findings

The reports examined indicated that the auditors went into adequate depth, taking a large sample size to evaluate proper completion of technical specification surveillances. The findings and conclusions contained in the report were adequately presented and the deficiencies identified as a result of the audits, were placed in the proper perspective. An AFR was issued when review of the follow-up corrective actions was required. The inspector noted that the licensee's compliance organization was not on distribution for QA Audits and AFR's concerning the performance of the technical specification surveillance requirements. The licensee's representative stated that all audits and AFR's on surveillances would be reviewed by the compliance group for possible discrepancies which could require a report to the NRC for a missed or invalid surveillance.

c. Quality Support Group

The licensee recently added a Quality Support Group to the onsite staff to monitor the effectiveness of management control systems, in-process controls, and Quality Assurance activities. The organization is staffed with senior engineers, and assists management as a consulting/advisory staff to provide for early detection of deficiencies in the above areas.

No violations or deviations were identified.

\*Procedures

6. QA Program for Measuring and Test Equipment

The licensee's QA Program relating to the control of measuring and test equipment was inspected to determine whether procedures were established and implemented to assure that tools, gauges, instruments, and other measuring and testing equipment used in activities affecting quality are properly controlled, calibrated and adjusted to maintain precision and accuracy with specified limits.

The following QA/QC procedures were examined to evaluate the proper establishment of the QA program:

- QADP-18.1, Audit Scheduling
- QADP-18.2, Quality Assurance Audits
- QAP-8.1, Control of Measuring and Test Equipment
- QCP-10.3, Surveillance Activities

The implementation of the QA program was evaluated by reviewing the following audit and QC surveillance activity reports.

Audit Reports

- 84-127A Mechanical Maintenance Department Control of Measuring and Test Equipment.
- 85-05IP Control of Measuring and Test Equipment.

QC Surveillance/Inspection Reports

- QCS 84-0056 Measuring and Test Equipment Calibration Surveillance (Electrical Department).
- QCS 84-0129 Calibration Check of Fluke 8810A Digital Multimeter.
- QCS 84-0141 Calibration Program for STP Instruments.
- QCS 84-0168 Calibration for F Channel 431 and 432; Protection Set III Per STP I-5B, Revision 1.
- QCI 84-0813 Control of Electric Maintenance Test Equipment.
- QCI 84-0857 Control of Mechanical Maintenance Measuring Tools.
- QCI 84-0864 Calibration of Keithley #602 Electrometer Co 550.8.

Three audit finding reports (84-191, 192 and 193) resulting from Audit Report 84-127A were examined. This report had identified deficiencies in the control of Measuring and Test Equipment (M&TE). Audit Finding Report 84-192 identified six additional deficiencies in the control of measuring and test equipment in the mechanical maintenance tool room. Measures to correct these deficiencies were proposed and scheduled by the mechanical maintenance department in response to this audit finding report. However, it was apparent that timely and sufficiently broad corrective action had not been taken on the first audit report (84-127A). The



inspector concluded that an adequate QA/QC program has been established; however, it is apparent that implementation has some weaknesses which are worthy of management attention. (Open Item 50-275/85-23-03)

No violations or deviations were identified.

## 7. Surveillance Testing and Calibration Control

The control programs for surveillance testing, calibration and inspection required by Section 4 of the Technical Specifications were reviewed. Since the control programs for inservice inspection of ASME Code Class 1, 2 and 3 components, and inservice testing of ASME Code Class 1, 2 and 3 pumps and valves had recently been inspected and are addressed in Inspection Report Numbers 85-11 and 85-21 respectively, this inspection was restricted to the examination of the control programs for surveillance testing and calibration of components associated with safety-related systems.

The surveillance testing and calibration programs were inspected to determine whether procedures were established and implemented for control of surveillance testing and calibration as required by the Technical Specifications.

### a. Surveillance Testing

Administrative Procedure C-3S1, "Surveillance Testing and Inspection", which established the control program for surveillance testing as required by the Plant Technical Specifications was examined in detail.

Implementation of control programs for surveillance testing was examined by reviewing the following surveillance testing procedures (STP) for four safety-related systems:

#### Auxiliary Feedwater System

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|----|-----------|--|
| 1) | STP P-5B  | Routine Surveillance Test of Motor Driven Auxiliary Feedwater Pumps.   |
| 2) | STP P-6B  | Routine Surveillance Test of Steam Driven Auxiliary Feedwater Pump.  |
| 3) | STP M-16E | Operation of Slave Relays K609A and K633A (SI and Auxiliary Feedwater Pump Start).                                 |
| 4) | STP M-16F | Operation of Slave Relays K609B and K633B (SI and Auxiliary Feedwater Pump Start).                                 |
| 5) | STP M-16N | Operation of Slave Relays K632A/B and K634A/B (Turbine Auxiliary Feedwater Pump Start and S/G Blowdown Isolation). |



### Diesel Generators

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- 1) STP M-9D Diesel-Generator Load Rejection Test.
- 2) STP M-9G Diesel-Generator 24 hour Load Test.
- 3) STP M-15 Integrated Test of Engineered Safeguards and Diesel-Generator.

### 125 Volt Vital DC System

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- 1) STP M-11A Measurement of Station Battery Pilot Cell Voltage and Specific Gravity.
- 2) STP M-11B Measurement of Station Battery Voltage and Specific Gravity.
- 3) STP M-11C Battery Terminal Resistance Measurement and Inspection.
- 4) STP M-12A Battery Performance Test.
- 5) STP M-12B Battery Charger Performance Test.
- 6) STP M-12C Station Battery Service Test.

### HPSI, Charging Pump

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- 1) STP M-89 ECCS System Venting.
- 2) STP I-1A Routine Shift Checks.
- 3) STP I-1D Routine Monthly Checks.

The licensee's computer program, the Preventive Maintenance and Test Schedule (PMTS), used in the surveillance testing control program was examined. The program produced periodically (as required) a master surveillance printout identifying all surveillance tests required by Plant Technical Specifications. The computer also produced a weekly/bi-weekly surveillance test schedule which was distributed to all departments. A daily surveillance test schedule was produced for the control room. A new computer program, the Plant Information System (PIMS) was expected to replace PMTS program in August and September 1985.

It was concluded from examination of the above procedures and programs that adequate controls had been established and implemented to ensure proper and timely surveillance testing.

b. Technical Specification Surveillance Records - Diesel Generators

The inspector examined implementing procedures and completed records for diesel generator operability confirmations specified in Technical Specifications sections 4.8.1.1.1, 4.8.1.1.2.a, 4.8.1.1.2.b (items 1 through 5 and item 11), 4.8.1.1.2.d, 4.8.1.1.3.a and b, and 4.8.1.1.3.d. These involved weekly, monthly, quarterly and 18-month repetitive testing cycles. Procedures reviewed included I-1C, M-13A, M-15, M-9A, M-81, M-13B, M-9D, M-9G, M-10A, M-10B. The records showed that testing frequency had been increased to a three-day cycle, due to test failures during previous testing, as required by the technical specification section 4.8.1.1.2.1. Other tests also appeared to meet the required test frequency for the last two test cycles.

The procedures appeared thorough and included appropriate precautions, contingencies for expected occurrences, and discussions of technical performance details. Detailed checklists were also included. One minor discrepancy was identified. The completed checklist for procedure M-13B included two steps to verify reset of two relays and their associated alarms (Targets) prior to proceeding with subsequent steps. The technician had marked the steps "NA, Targets Removed", apparently due to implementation of a design change without correction of the associated surveillance procedure. The licensee apparently needs to strengthen the procedures to assure that plant procedures are reviewed and revised as necessary to adequately reflect as-built condition changes accomplished by the Design Change process. A procedure revision had failed to remove or correct the two questionable steps, and the subsequent use of the procedure again simply used "NA" and a note that the "Targets" do not exist.

Although several administrative procedures were in effect for employees to initiate corrections to procedures, neither the technicians nor the data reviewers had initiated such action.

At the exit meeting, the plant manager acknowledged the need to improve the data review process, and identified August 1, 1985 as his target date for completing management action in this regard. (Open Item 50-275/85-23-04)

No violations or deviations were identified.

c. Calibration

The following administrative procedures which establish the control programs for calibration of components associated with safety-related systems were examined:

NPAP D-5	Control of Mechanical, Electrical and Instrument and Controls Measurement and Test Equipment.
AP C-450	Routine Preventive Maintenance I&C Department.

- AP D-450 Control of Instrument and Controls Department  
Measurement and Test Equipment.
- AP D-752 Calibration and Control of Measuring and Test  
Equipment (Electrical and Mechanical Maintenance).

The following specific equipment calibration procedures were also examined:

- MP E-54.4 Calibration of Hill Model W4-15/60-IP High Voltage  
DC Tester.
- MP E-54.8 Calibration of Wire Strippers and Crimpers.
- MP M-53.1 Calibration of Torque Wrenches and Torque Wrench  
Testers.
- MP M-53.2 Calibration of Micrometer Calipers.

The control of calibration of components and equipment is administered by three departments; Instrument and Control, Electrical and Mechanical.

The licensee's computer program is utilized in the control of calibration of components and equipment in that a master list of equipment requiring calibration is maintained, and a bi-weekly schedule of equipment identifying calibration due-dates is furnished to each department (I&C, Mechanical and Electrical).

It is concluded from examination of the above procedures and programs, that adequate controls have been established to ensure the proper and timely calibration of components associated with safety-related systems.

During the examination of logs and records for Measuring and Test Equipment (M&TE) in the three departments (I&C, Mechanical and Electrical) problems were identified with the implementation of the program. As a result of samples examined in the three departments, the following findings were identified:

1. Item No. 127, Torque Wrench 3/8" drive, 30-250 ft-lbs had exceeded its calibration due date of June 2, 1985 (Mechanical Department).
2. Equipment No. 1100.1.1, IRD Mechanical Model 306 vibration meter had exceeded its calibration due date of February 25, 1985 (I&C Department).

The above operations were not controlled in accordance with Diablo Canyon Administrative Procedure; NPAP D-5 which states in paragraph E.2, "Whenever a measuring or testing device which was being used in a safety-related activity is discovered to be out of calibration it shall be removed from service and a Nuclear Plant Problem Report issued."

3. Equipment No. 1100.1.1, IRD Mechanical Model 306 vibration meter could not be located, and there was no record of its whereabouts (I&C Department).
4. Equipment No. 1004.1.1, a WAHL 2000 temperature probe could not be located, and there was no record of its whereabouts (I&C Department).

The licensee apparently had not sufficiently pursued the equipment inventory at the issue area and, thus, had not identified these discrepancies.

5. Item No. 130, Torque Wrench 3/8" drive 15-100 ft-lbs was in the tool issuing room, but there was no M&TE check-out log sheet for this item (Mechanical Department).
6. Item No. 3, Torque Wrench 3/8" drive 30-250 in-lbs checked out March 21, 1985, but not returned to the tool issuing room (Mechanical Department).
7. Item No. 71, Torque Wrench, 1/2" drive 300-2500 in-lbs checked out April 23, 1985, but not returned to the tool issuing room (Mechanical Department).
8. Item No. 500.0.101, WAHL heatspy was in equipment issuing room, but had not been logged as returned to the issuing room (Electrical Department).
9. Item No. 116, Pyrocon pyrometer, 140°-1700°F, checked out May 20, 1985, but not returned to the tool issuing room (Mechanical Department).
10. Item No. 134, Torque Wrench, 3/8" drive 30-250 ft-lbs checked out April 12, 1985, but not returned to the tool issuing room (Mechanical Department).

The above M&TE were apparently not controlled in accordance with Diablo Canyon Administrative Procedure; AP D-752 which states in paragraph G.2.b/c, "Each item of M&TE will have an M&TE CHECK-OUT LOG (Form 69-10695-1). The toolroom attendant shall assure that all information on the M&TE CHECK-OUT LOG (Form 69-10695-1) is completed and that the "Description of Task" section is sufficiently detailed to allow accurate historic review" and "Test equipment should be returned to the M&TE storage area at the end of each shift."

These failures to control calibration components and equipment in accordance with approved procedures are considered to be an apparent violation of 10 CFR 50, Appendix B, Criterion XII "Control of Measuring and Test Equipment". (Open Item 50-275/85-23-05)

No other violations of NRC requirements were identified in this area.

## 8. Technical Specification Compliance

The inspectors examined the licensee's compliance with Technical Specifications (TS) associated with the following listed systems:

- Auxiliary Feedwater System
- Diesel Generators
- 125V Vital DC System
- High Pressure Safety Injection System

The inspectors reviewed the licensee's administrative procedure AP C-3SI Rev. 5, "Surveillance Testing and Inspection." This procedure includes a TS-Surveillance Test cross reference attachment and a Master Schedule which references surveillances required by TS. During this review, the inspectors identified several typographical and procedure reference errors. The licensee's Quality Support Group had previously identified these errors. At the time of the inspection, the licensee was in the progress of updating the administrative procedure to reflect the proper test procedures required to implement TS requirements.

The inspectors reviewed, on a sample basis, approximately seven surveillances for each surveillance procedure. The surveillance records were examined using the following criteria:

- Frequency requirements were being complied with
- Variables were within acceptable limits
- Records were complete with appropriate levels of management review
- Records were retrievable

The following surveillances were reviewed:

### Surveillance - Auxiliary Feedwater System

<u>Surveillance Procedure No.</u>	<u>Title</u>
STP I-1A	Routine Shift Checks
STP I-1D	Routine Monthly Checks
STP I-15B	Calibration of Containment Pressure Channels
STP I-5b	Calibration Auxiliary Feedwater Flow Channels 50, 77, 78, 79
STP P-5B	Aux Feedwater Pump Motor Driven Routine Test
STP P-6B	Aux Feedwater Pump STM Driven Routine Test
STP M-16(E,F,N)	Safety Injection/Aux FWP Slave Relay Tests

### Surveillance - High Pressure Safety Injection System



<u>Surveillance Procedure No.</u>	<u>Title</u>
STP P-2B	Centrifugal Charging Pump Routine Test (CCP 1-1, CCP 1-2)
STP P-17B	Reciprocating Charging Pump Routine Test
STP M-89	ECCS System Venting

Surveillance - 125V DC System

<u>Surveillance Procedure No.</u>	<u>Title</u>
STP M-11B	Battery Volts and Specific Gravity (Battery 1-1, 1-2, 1-3)
STP M-11C	Battery Terminal Resistance (Battery 1-1, 1-2, 1-3)
STP M-12C	Battery Service Test (Battery 1-1, 1-2, 1-3)
STP M-12A	Battery Capacity Performance Test (Battery 1-1, 1-2, 1-3)
STP M-12B	Battery Charge Performance Test (Charger 131, 132, 121, 11, 12)

Surveillance - Diesel Generators

<u>Surveillance Procedure No.</u>	<u>Title</u>
STP M-13A	Offsite Power to 4KV Vital Buses
STP M-15	Test of Engineered Safeguards and Diesel Generators
STP M-9A	Diesel Engine Generator Routine Surveillance Test
STP M-81	Diesel Engine Generator Inspection
STP M-13B	Engineered Safeguards Automatic Timers Setting Verification
STP M-9D	Surveillance Test Procedure Diesel Generator Load Rejection Test
STP M-9G	Diesel Generator 24 Hour Load Test
STP M-10A	Diesel Fuel Oil Storage Tank Inventory
STP M-10B	Diesel Fuel Oil Analyses

Paragraph 7.b, above, discusses surveillance records for Diesel Generator testing.

The inspector identified a weakness in management reviews of surveillance data sheets. In four separate surveillances, instances were found such

that an instrument was documented on the data sheet as being used with an out-of-calibration date. Although further investigations by the inspector revealed that this was not the case, final review by the appropriate level of management did not identify this error. The licensee stated that action to increase management awareness of the importance of adequate surveillance data review would be completed by August 1, 1985. (Open Item 50-275/85-23-06)

No violations or deviations were identified.

9. Plant Procedures

The inspector examined the following administrative, operating and surveillance procedures to ascertain whether or not the procedures were adequate for use by a licensed reactor operator.

NPAP	A-1	Plant Staff Organization and Responsibilities for Normal Operations
NPAP	A-3	Availability and Notification of On-Call Personnel
NPAP	A-100	General Authorities and Responsibilities of Nuclear Plant Operators
NPAP	A-101	Relieving the Watch (Shift Turnover)
NPAP	A-104	Shift and Control Room Manning Requirements
AP	B-1	Qualifications of Personnel on the Plant Staff
AP	C-12	Identification and Resolution of Problems and Nonconformances
NPAP	C-3	Conduct of Plant and Equipment Tests
AP	C-3S1	Surveillance Testing and Inspection
NPAP	C-4	Bypass of Safety Functions and Control of Jumpers
NPAP	C-6	Clearances
AP	C-6S3	Post Maintenance Testing
NPAP	C-7	Tagging Requirements
AP	C-104	Independent Verification of Operating Activities
AP	C-104S1	Independent Verification of Operating Activities Supplement 1
NPAP	E-4	Procedures
NPAP	E-6	Plant Logs

NPAP	E-6S1	Operator Logs
OP	L-0	Mode Transition Checklist
OP	L-1	Plant Heatup from Cold Shutdown to Hot Standby
OP	L-2	Hot Standby to Minimum Load
OP	L-4	Normal Operation at Power
OP	L-5	Plant Cooldown from Minimum Load to Cold Shutdown

a. Administrative Procedures

Based upon the inspectors review of the Administrative procedures (A,C and E Series) included in the above list and observation of the implementation of these procedures, the inspector concluded that the procedures appeared to be well written and adequate for use by qualified individuals. The inspector did note a discrepancy related to Procedure A-104, "Shift and Control Room Manning Requirements." This procedure allows fewer SRO licensed individuals on shift during certain plant conditions than the Technical Specifications required. Licensee representatives stated that the procedure will be revised to reflect the Technical Specification shift manning requirements. (Open Item 50-275/85-23-17)

b. Operating Procedures

The inspectors review of the Operating procedures (L series) and discussions with responsible licensee personnel resulted in the following observations.

Operating procedures appeared to be adequate and flowcharts describing step by step performance of the procedure were an aid to the operator.

The inspector noted that during the examination of completed L-2 (Hot Standby to Minimum Load) procedure, started at 0817, March 22, 1985, that the operator did not perform step 10.e (Page 8 of 18) and marked the step N/A. The inspector determined that this change to the procedure by the operator changed the intent of procedure L-2 and that this action by the operator also violated procedure A-100, which states in step 4 "Changes to procedures...which change the intent of established procedures, shall not be carried out..." As a result of deleting the required step, during the plant startup on March 22, 1985, criticality was achieved with control rods greater than 120 steps beyond ECC position, which is contrary to OP L-2. The licensee stated that this violation of procedure L-2 and A-100 had been previously identified and corrective action taken and documented in Nonconformance Report (NCR) DC1-85-OP-N030, dated April 16, 1985 and Nuclear Plant Problem Report (NPPR) DC1-85-TN-P0042 (initiated on March 22, 1985). The inspector noted that operations department management, in acknowledging and reviewing the violation of the procedure, strongly emphasized the

technical and documentation errors of the problem, but did not specifically address the point that the operator inappropriately used the "N/A" and changed the intent of the procedure, although this was implied by the review. The inspector determined that since the violation was previously identified and effective corrective action taken by the licensee, that no enforcement action is warranted.

The inspector noted that the use of "Not Applicable (N/A)" in procedures by the operators had become routine in deleting steps in procedures, based on the review of completed L series procedures. The inspector concluded by the review of completed procedures L-1, L-2 and L-4 that the use of "N.A." is not adequately controlled. The inspector determined that the use of "N/A" is not described in the two Administrative procedures A-100 and E-4. The description of the use of N/A was found to be contained in the introduction section of several procedures, but only in those procedures which served as a guidance checklist. The licensee presented a memo dated April 12, 1985 which identified the inconsistent use of "N/A", on steps not performed. However, the author of the memo did not address the fact that the use of "N/A" is not covered in any plant administrative procedure. The licensee in response to the inspector's concern, issued a new memo on June 20, 1985, revising the April 12, 1985 memo, clarifying the use of N/A as an interim measure, and committed to revising procedures A-100 and E-4 (as applicable) within one month. (Open Item 50-275/85-23-07)

c. Surveillance Procedures

In addition to reviewing the I, M and P series surveillance test procedures (STP) listed previously, the inspector examined the Auxiliary Feedwater (AFW) system drawings to verify that the applicable STP accomplished the required technical specification surveillance requirements for the AFW system. The inspector noted, during the review of the AFW system STP, that procedures M-16E, 16F, 16N and P-5B and P-6B did not have independent verification by a second operator of the applicable steps, required by I.C.6 of NUREG-0737, documented in some completed procedures. The inspector noted that procedures P-5B and P-6B had revisions in progress, which would require documented evidence of independent verification by a second operator of the applicable steps. The licensee's program to update procedures in accordance with I.C.6 of NUREG-0737 (license condition in Unit 1 & 2 licenses) is included in the first biannual program review of plant procedures and this initial review should be completed in April 1986 (the license was reinstated in April 1984). The licensee's implementation of the requirements of I.C.6 of NUREG-0737 into plant procedures will be reviewed during a future inspection. Open Item (50-275/85-23-08)

No violations or deviations were identified.



## 10. Maintenance Program

The licensee's maintenance program was examined by reviewing the following administrative procedures that define and control maintenance activities at the plant.

A-750	Work Planning Center for the Maintenance Department
C-653	Post Maintenance Testing
C-6S4	Control of Equipment Required by the Plant Technical Specifications
C-40	General Requirements for Plant Maintenance Programs
C-40S1	Use of Maintenance Shopwork Follower
C-40S2	Plant Equipment Failure Tracking and Trending
C-750	Maintenance Department Preventive Maintenance Program
E-750	Maintenance Records

The procedures above appear adequate to administratively control the maintenance program. The inspector noted, however, that procedure C-40S2, "Plant Equipment Failure Tracking and Trending" has been in place for approximately two years but is not being implemented. At the time of the inspection the licensee indicated that informal plant equipment trending was being conducted but that a formal tracking and trending program is not yet in use.

Subsequent to the inspection on July 22, 1985, the inspector was informed by telephone that the plant equipment failure tracking and trending responsibility had been transferred from QC to the Plant Information Management System (PIMS). A new procedure has been written and submitted to the Plant Staff Review Committee for approval and implementation. (Open Item 50-275/85-23-09)

The inspector examined the implementation of the licensee's maintenance program by reviewing 51 corrective and preventive maintenance packages associated with the centrifugal charging pumps, diesel generators, auxiliary feedwater system and the 125 VDC system. The sample was comprised of 23 mechanical maintenance, 16 electrical maintenance and 12 instrumentation and control packages. The packages were evaluated for completeness and sufficient detail of work instructions, proper clearances and housekeeping measures, proper system restoration, and the use of appropriate QC inspection coverage and hold points. In addition, the equipment history records of selected components associated with these four systems were reviewed to assess the adequacy of the equipment for service. The inspector also reviewed the Preventive Maintenance Master Tracking List to ensure that the proper PM frequencies were being met. No discrepancies were identified.

The following mechanical, electrical, and instrumentation and controls maintenance procedures for performing work activities were reviewed for format, technical adequacy and conformance with the administrative program.



M-3.2 Steam Generator Auxiliary Feed Pump Maintenance  
 M-21.6 Diesel Engine Turbocharger Maintenance  
 E-21 Maintenance of Diesel Generator Voltage Regulator Equipment  
 E-55.3 Maintenance of Plant Storage Batteries and Racks  
 I-2.5-1 Calibration Check of Plant Pressure Gauges  
 I-2.9-1 Testing Barton Capillary Systems

Based on the above reviews, the inspector concluded that the licensee's maintenance program appears to be adequate and the administrative controls for the program function properly.

No violations or deviations were identified.

#### 11. Design Change Control

As part of the team inspection effort an evaluation was made of the licensee's program for control of design changes used to modify plant systems, structures and components. The primary objectives of this evaluation were two fold: 1) ascertain whether the licensee had developed and established a program for managing design changes to safety-related systems in conformance with regulatory requirements, industry standards and the FSAR, and 2) verify that design changes which modified safety related systems (in particular AFW, DG, 125 V DC, and high pressure SI) were implemented in accordance with written program procedures.

Regulations allow license holders of commercial facilities to make changes in nuclear power plant systems, structures and components described by the FSAR without prior Commission approval provided these changes do not involve a change in the TS or an "unreviewed safety question" as prescribed in 10 CFR 50.59, and are controlled in a fashion commensurate with measures applied to the original design as prescribed in 10 CFR 50 Appendix B. PSRC "review of all proposed changes or modifications to unit systems or equipment that affected nuclear safety" is required by TS section 6.5.1. Furthermore, the licensee has committed to a design change control program which conforms to FSAR section 17.3 and to industry standards ANSI N18.7 - 1976 and ANSI N45.2.11 - 1974.

The following procedures constitute the principal guidance for controlling design changes at the Diablo Canyon nuclear power plant. These program procedures were reviewed in detail by the inspector and assessed using the previously identified regulations and commitments.

- Nuclear Plant Administrative Procedure (NPAP) C-1 Revision 5, "Nuclear Power Plant Modification Program"
- NPAP C-1 S1 Revision 4, "Onsite Plant Modification Administration"
- NPAP C-1 S2 Revision 2, "Requesting Design Changes and Information from General Office Engineering Department"
- NPAP C-1 S3 Revision 0, "Design Change/Plant Modification Safety Evaluations"

- o PG&E QA Program Section III Revision 0, "Design Control"
- o PG&E Procedure 2.1 Revision 1, "Design Responsibilities and Interfaces"
- o PG&E QA Procedure 1.2 Revision 1, "Design Control"
- o PG&E Nuclear Engineering Procedure No. 3.6 on Revision 4/22/85, "Operating Nuclear Power Plant Design Changes"

Based upon procedural reviews and evaluations, the inspector has determined the licensee's design change control program, established by the above written procedures, meets and generally exceeds commitments and regulatory requirements. There were only two areas perceived by the inspector to lack the complete procedure guidance necessary to effectively implement measures to control design changes:

- a) The control of "field changes" as identified in 10 CFR 50 Appendix B, chapter 17 of the FSAR, and ANSI N45.2.11 section 8 has not been developed or established by written procedure. Plant management stated that personnel of the Nuclear Plant Operations (NPO) organization have not implemented any field changes, and will not until an approved procedure is available. The plant Engineering Manager stated such a procedure would be developed as soon as personnel resources allow. (Open Item 50-275/85-23-10)
- b) Procedure section Q of NPAP C-1 S1 states "The Engineering Manager shall determine that adequate testing, drawing revisions, verifications, and required training have been completed and required operating procedures have been issued prior to concurring with release of the modified equipment for operation. When this determination has been made the Engineering Manager shall notify the Shift Foreman that release of the modified equipment is acceptable to Technical Services." This requirement for Engineering Manager concurrence and notification of the Shift Foreman, prior to release of equipment for operation, has not been reflected in parallel procedures for equipment and clearance control. Furthermore, there is no specific procedural guidance on how to coordinate the various departmental activities required by section "Q" of the procedure during actual plant modifications. (Open Item 50-275/85-23-11)

This subject and its resolution by plant management is discussed, in more detail, later in this section.

Implementation of the design change control program in accordance with previously identified plant administrative, nuclear engineering, and QA procedures was examined by the inspector. Listed below are the more significant inspection activities used to verify the adequacy of the program as it has been applied to Unit 1 since the latest procedure revisions. The inspection scope also included, to a lesser degree, the complementary project engineering activities conducted at the general office in San Francisco. This examination was constrained by the limited number of safety-related design changes associated with Unit 1 since the program was revised. Since the design change program applies without

differentiation to both units, similar Unit 2 material was selected on occasion to improve the sample size. This evaluation included:

- ° Interviews of the Engineering Manager, Design Control Coordinator, Onsite Assistant Project Engineer, General Office Project Engineer, General Office Assistant Project Engineers for Systems and Quality, I&C and Maintenance Work Planners, Clearance Coordinators, Document Control Supervisor, Senior Document Control Analyst, Shift Technical Advisors, Senior Operations Engineer, QC Supervisor, Senior I&C Engineer, and I&C General Foreman;
- ° Examination of six design change notices (DCN) "accepted" by Project Engineering as complete, and fifteen DCNs "approved" by Project Engineering for progress. All DCNs selected were associated with principal safety-related systems (AFW, high pressure SI, DG, and 125V DC) of Units 1 and 2 (note approximately half of all DCNs examined were from Unit 2);
- ° Examination of the safety evaluations required by 10 CFR 50.59;
- ° Review of letters of delegation for "design authority" and "design change control" responsibilities;
- ° Verification of incorporation of temporary up-date sketches and permanent revisions of priority one drawings by Document Control;
- ° A cross check of actual DCN status against the system 38 computer tracking system;
- ° Follow up and verification of effectiveness of interface transmittals used to delegate specific tasks between departments (i.e., operating procedure revisions, post maintenance testing, drawing up-dates, training, etc.);
- ° Review of clearances associated with DCNs;
- ° Examination of the process for DCN scheduling by the work planning center;
- ° Examination of several shop work follower packages used to perform the actual plant modifications described by DCN;
- ° Review of design evaluations for applicable DCNs.

After completing an evaluation of the inspection effort listed above, the inspector concluded the Unit 1 design change control program has been effectively implemented, both onsite and by project engineering, in accordance with applicable procedures. However, a few areas of minor observation were addressed to plant and project engineering management for resolution. These observations are discussed below:

- ° Final close out of DCN files by NPO at the site would benefit from an established frequency of audits to assure design change responsibilities are being appropriately dispositions by the various

departments. Many "important to safety" DCN files appear to be languishing for an inordinate period of time awaiting final completion of some step(s) listed on the "Plant Modification Follower-Onsite" (an internal administrative tracking tool). Plant management is pursuing this observation.

- o Priority I drawings were not always issued within the 30 days required by paragraph 4.9.6.d of Nuclear Engineering Procedure No. 3.6 ON. Closer scrutiny of this requirement reveals the problem is primarily one of interpretation, compounded by poor procedural description. The Project Engineer has committed to clarify the 30 day requirement for "priority I" drawings in the next procedure revision.
- o Many temporary "priority I" drawings of a multi-month vintage (some even issued in 1984) were still in effect and attached to controlled drawings. These temporary drawings had been issued prior to the latest design change control program procedure revisions, and as such were outside the scope of this inspection. However, this situation of long lived temporary drawings was discussed with the plant management responsible for document/record control. Plant management stated that some review of these outstanding drawings would be considered in order to assure all required priority I drawing revisions are being processed appropriately.
- o Some inherent aspects of the overall design change process make implementation of plant modifications difficult to achieve in the manner required by item (a) above. Of particular concern were the timely coordination of operations procedure revisions, operating valve identification drawing (OVID) revisions, project engineering acceptance of "as-built" drawings (required by engineering procedure No. 3.6 ON), and issuance of temporary drawings. All these are required to be accomplished prior to the release of affected equipment for operation. There does not appear to be any evidence that these activities have not been coordinated according to section "Q" of NPAP C-1 S1 (with the possible exception of OVID revisions) for the safety-related systems inspected. This accomplishment in the past was most probably due to the high level of personnel involvement and intensive management attention focused on Unit 1 during the recent outage. The inspector has discussed with plant management the difficulty in maintaining this level of control without the help of more prescriptive procedural guidance. This observation was presented as a potential area for program improvement.

Subsequently, the plant Engineering Manager has committed to write a new procedure which will specify NPO actions necessary to adequately implement plant modifications and support the requirements of the overall design change control process.

No violations or deviations were identified.



12. Temporary Mods, Lifted Leads and Jumper Program

a. Program Review

The inspector reviewed the licensee's program for "Bypass of Safety Functions and Control of Jumpers" (Nuclear Plant Administrative Procedure C-4) and the implementing procedure, "Mechanical Bypass, Jumper and Lifted Circuit Log..." (Nuclear Plant Administrative Procedure C-4 Supplement 1).

Nuclear Plant Administrative Procedure C-4 requires approved procedures for a bypass of any safety function during normal or emergency operations and testing or maintenance activities. This procedure states that no change shall be authorized if it constitutes an unreviewed safety question, a change to Final Safety Analysis Report, or a change to the Technical Specification. Further, it specifies that the use of safety function bypasses shall be minimized in number and duration. Nuclear Plant Administrative Procedure C-4 requires appropriate controls to assure return to service. It also allows for emergency bypasses outside the normal approval and review process with the approval of the Senior License Operator in charge of the shift. Nuclear Plant Administrative Procedure C-4 specifies that if the bypass of the function is done under an approved procedure, normal system configuration controls (e.g., clearances) are acceptable and no jumper log is required. The procedure also specifies an acceptable process for jumper control if equipment is out of service, or if there is no approved procedure and the affected equipment is in service. Finally, the program requires jumper log sheet retention for one year.

Nuclear Plant Administrative Procedure C-4 Supplement 1 implements requirements of C-4. When a jumper is necessary, the responsible department must fill out a jumper log sheet that basically follows the requirements of the controlling procedure, NPAP C-4. Once the log sheet is filled out, cognizant supervisor approval is required, and the filled out log is forwarded to operations (Shift Foreman and Control Operator) for review and approval. The control operator then assigns a number for the bypass log. The Control Operator is informed on installation of the jumper and the "Jumper Installed" portion of the log sheet is then completed and returned to the Control Operator. The jumper must be installed within one working day of issuance of the log. The jumper must be information tagged and affected controls and indicators must be "caution" tagged. On removal, the Control Operator is notified and the "Jumper Removal" portion of the log sheet is completed. The Control Operator documents installation and removal of the jumper in his log. Independent verification of jumper installation and removal is required. Finally, the Operations Department reviews the jumper log book on a weekly basis and documents this review in Shift Foreman log.

These procedures acceptably address the requirements of 10 CFR 50.59, that any change to the facility must not involve a revision to Technical Specifications or be an "unreviewed safety



question." Further, the requirements of American National Standards Institute N18.7-1976 (that jumpers be controlled by approved procedures, including requirements for independent verification and a jumper status log) are acceptably addressed by the licensee's program. This program acceptably specifies a comprehensive system for the control of temporary modifications, lifted leads and jumpers.

b. Implementation

The inspector reviewed all the jumper logs for Unit 1, approximately 83. These logs were acceptably controlled and approved. The license, in many instances, conservatively established a jumper as being a safety function bypass. Further, the inspector physically verified all six safety function bypass jumpers (the jumpers were properly installed and tagged and there were no uncontrolled jumpers in these areas). The jumper implementation appears to be a strong point of the licensee program. There were no significant jumpers in the log and none in the four critical systems examined for this inspection.

No violations or deviations were identified.

13. Vendor Field and Technical Manual Change Notices

The inspector examined the organization for Support Services, Document Control and Corporate Engineering to determine whether the licensee is effectively identifying, controlling, scheduling and implementing vendor technical changes for modifications required to equipment and whether technical manuals are controlled and maintained current in accordance with an adequate document control program.

The inspector reviewed Administrative Procedure E-2S2, Vendor Service Bulletins, Vendor Technical manual changes and Design Change Notice (DCN) Packages. The inspector verified that management controls are in place to implement changes identified by the vendors who supplied equipment. It was found, however, that the license is presently addressing an INPO concern for changes to plant equipment which is specific to Diablo Canyon. Vendor service bulletin type of changes are effectively addressed in the plant drawings, maintenance, operation and surveillance procedures, but usually do not cause a change to the existing vendor technical manuals. In response to the INPO concern the Corporate Engineering Department is tasked with determining how the technical manual changes will be entered into document control system.

The inspection team also found a few isolated instances where controlled copies of the technical manuals did not have all the current changes entered, and a few instances of lost documents that were not accounted for. When identified to the licensee staff appropriate action was taken to correct these deficiencies. It was also noted that the licensee has not audited the technical manual document control system.

When these observations were discussed with the Assistant Plant Manager for Support Services, he outlined their plans to coordinate with the

Corporate Engineering Department to determine how site specific changes will result in technical manuals changes, how revisions will be made to the document control system and how to conduct an audit of the site technical manuals. This item will be followed as an open item, and the licensee progress will be documented in future inspections. (Open Item 50-275/85-23-12)

No violations or deviations were identified.

#### 14. Training

##### a. General

The inspector reviewed the organization for the Technical Training Department, the general methods of operation, and the status of the maintenance and non-licensed training programs, including the licensee progress towards achieving INPO accreditation of the Training Department. The inspector examined the licensee's administrative procedures regarding personnel training to verify that a documented training program has been established consistent with the requirements of the Technical Specifications, FSAR Chapter 13, Regulatory Guide 1.8, and ANSI N18.1 requirements.

The following procedures were reviewed:

- B-52 Site Training Organization
- B-54 Guideline for the Systems Approach to Training
- B-73 Training Department Evaluation
- B-5S1 Instructional Course Development
- B-72 Instructor Training and Qualification
- B-71 On-The-Job Training Requirements
- B-2S1 Personnel Training Records
- B-151 Operator Training Records
- B-150 Non-Licensed Operator Training Program
- B-100S1 Licensed Operator and Senior Operator Training Program
- B-101S1 NRC Licensed Operator Requalification Training Program
- B-2S2 General Employee Training
- B-450 Instrumentation and Control Technician Training
- B-750 Maintenance Personnel Training
- B-350 Associate Engineer Training Program

- B-50      Emergency Plan Training
- Training Department Action Plan
- INPO Accreditation Plan and Schedule
- Proposed QC Department Training Plan

PG&E has made a strong commitment to the training programs offered to employees. The training facilities are quite adequate, and provide an independent environment for conducting training. The licensee has a dedicated professional training staff, adequate control systems and good training records that make it quite simple to retrieve documentation for the training which has been conducted. The training programs meet and often exceed the requirements of the Technical Specifications, FSAR Commitments and Industry Standards.

b. General Employee Training

The inspector reviewed the training program in this area, which included Controlled Access and Security, Administrative Controls, Emergency Plan, Industrial Safety, Fire Fighting, Radiological Health and Safety (including instructions to female employees concerning prenatal radiation exposure). Some training sessions scheduled during the inspection period were attended by the inspector and selected employees were interviewed to verify documented training was actually conducted.

Based on this review the inspector concluded that the program is being conducted in conformance with licensee commitments and industry standards.

c. Non-Licensed Operator Training

The inspector reviewed this training program, attended selected training classes and interviewed selected instructors and operators to verify that training which had been documented was actually conducted.

Based on this review the inspector concluded that the licensee is conducting this program in conformance with commitments and industry standards. It was further noted that the licensee is providing courses in mathematics and the basic physical sciences that will help the operators progress into the licensed operator training programs. This additional effort does not appear to interfere with the required training for their current job description.

d. Licensed Operator Training (Initial and Requalification)

The inspector reviewed this training program, attended selected training classes and interviewed selected instructors and operators to verify that training which had been documented was actually conducted.

Based on this review the inspector concluded that the licensee is conducting this program in conformance with their commitments and industry standards. It was also found that there is a significant management involvement in the tracking and assessment of the progress being made by candidates for an operating license. Individual progress is assessed by the Operator Training Supervisor, and the decision regarding who will be allowed to take NRC exams for licensing rests solely with him. This constant monitoring and evaluation has resulted in an unusually high pass rate on the NRC exams.

e. Instructor Training

The inspector reviewed this training program, reviewed training records and interviewed selected instructors to verify that training which had been documented was actually performed.

Based on this review the inspector concluded that the licensee is conducting this program in conformance with their commitments, NRC requirements and industry standards.

f. Maintenance Training

The inspector reviewed this training program for the Mechanical, Electrical and Instrument and Control Divisions, attended select training classes, and interviewed the Maintenance Supervisors, General Foreman and selected Training Instructors to verify that training which had been documented was actually conducted.

Based on this review the inspector concluded that the licensee is conducting this program in conformance with their commitments and industry standards. It was noted that the licensee is committing extensive resources to the development of a maintenance training staff and for the construction of an onsite maintenance training facility. This facility will allow 'hands-on' training on spare and mockup plant system components. It was further noted that some of the mockup training presently being performed is not being documented. This training is performed for work productivity progress and ALARA considerations, and is usually conducted without a lesson plan and by a shop foreman (not a training instructor). Because this type of training does not fit the usual format it is not being documented. Also, some vendor and factory training performed by the maintenance technicians is not documented. Although there is no present requirement to document these types of training, this information is not available to the foreman when he is assigning technicians to specific job assignments or planning special training for upcoming maintenance. The inspector also noted



that the licensee has recently started on the INPO accreditation effort in this area. The Training Manager stated they will consider the inspector's comments on mockup training as they develop the new training program.

g. Quality Control Department Training

The inspector reviewed this training program, attended selected training classes, and interviewed the Quality Control Supervisor, selected engineers, work planners and instructors to verify that training which had been documented was actually performed.

Based on this review the inspector concluded that the licensee is conducting this program in conformance with their commitments and industry standards. To date the personnel in this department are trained utilizing some classroom courses, self-paced reading assignments and industry exams for certification. The inspector reviewed the licensee's efforts in developing a new training program in the format prescribed by the INPO guidelines and utilizing the Training Department. It was noted that significant resources are being expended and there is significant management involvement in this area.

h. Management Training

The inspector initially reviewed training of the managers for the positions they hold within the emergency plan. The inspector verified that the training was completed by reviewing the training records. This area was recently reviewed by the Region V staff and their findings were described in Inspection Report 85-18 dated May 30, 1985.

During the review of the above mentioned training records, it was noted that some of the managers and supervisors have had an extensive amount of management development training while others have not. During further review of these areas, the inspector reviewed the lesson plans for the Zinger-Miller Management course, interviewed the site Management Development Representative, and interviewed selected managers and supervisors to verify that the training documented was actually conducted and to receive input on how effective it was in helping them to meet their job responsibilities.

An additional management training area reviewed was the Behavior Observation Training for Supervisors. The inspector interviewed the Employee Assistance Counselor who conducts the training, and attended one training session with STA's and shift foremen. The review was done as observation of the licensee's efforts to implement a fitness for duty program, and not as an audit of any requirements. The requirements for such a program are still being developed by such industry groups as: The Nuclear Utility Management and Human Resources Committee (NUMARC), INPO and the Edison Electric Institute (EEI), and the observations were shared with the Region V Management that are evaluating this area. This training is

consistent with the style of the Zinger-Miller training. It developed skills that a supervisor can use to identify when co-workers might need the help of the employee assistance group, counseling, or if symptoms of a substance abuse problem exist. It also addresses the PG&E Corporate policies for dealing with these types of problems. The managers and supervisors that were interviewed found the course material interesting and the skills learned quite valuable to them. The inspector observed that the Employee Assistance Program is being used by the supervisors onsite, and has been used in a vital role for resolving personnel problems.

No violations or deviations were identified.

15. Radiation Protection for Startup

a) General

Startup test results, licensee quality assurance audit reports for verifying the effectiveness of the biological shield, radioactive waste systems, radiochemistry, off gas system, and effluent monitoring were examined. The purpose of this examination was to verify that the required tests were conducted in accordance with the test program (e.g., as described in Chapter 14.0 of the FSAR) and that the results were reviewed and approved as required. The examination also included a verification of certain test acceptance criteria.

b) Chemistry and Radiochemistry

Technical Specifications, Section 4.4.7 establishes the reactor coolant chemistry sampling frequency and limits for dissolved oxygen, chloride and fluoride. The sampling frequency and limits for primary and secondary specific activity are established in Sections 4.4.8 and 4.7.1 of the TS.

Implementation of the licensee's chemical and radiochemical analysis procedures for assuring compliance with the above requirements was reviewed. The following documents were examined:

- ° Test Procedure No. 1.17, "Chemistry and Radiochemical Analysis"
- ° Chemical Analysis Procedure (CAP)-1, "Primary Cycle Sampling Schedule"
- ° Startup Test Procedure (TP)-40, "Startup Program Master Document"
- ° Operating Procedure (OP) F-5, "Chemical Control Limits"
- ° FSAR, Chapters 11 and 14
- ° Selected liquid waste discharge permits

Data from the sampling and analysis indicates that the reactor coolant system primary and secondary water quality are well within the limits specified in the TS and are consistent with the licensee's commitments provided in the FSAR. The inspector determined that the sampling frequency requirements were met or exceeded.

Based on the examination, the inspector concluded that the effluent concentration remains well below the regulatory limits.

No violations or deviations were identified.

c) Effluent and Effluent Monitors

Tests had been conducted by the licensee to calculate off gas flow, perform reactor coolant activity studies and to compare the response of process and effluent radiation monitors to the results of effluent radioactivity concentrations obtained from grab sampling analysis. Startup test procedures, chemistry analysis procedures (CAPs) and data obtained by the licensee for verifying the correlation between the applicable (gas and liquid) monitor in the discharge path and the radioactivity concentrations of the discharge medium were examined. Documents reviewed are as follows:

- CAP A-5, "Liquid Radwaste Management
- CAP A-6, "Gaseous Radwaste Discharge Management"
- FSAR, Chapters 11 and 14
- Startup Test Procedure TP-40, "Startup Program Master Document"
- Startup Test Procedure TP 1.16, "Effluents and Effluent Monitors"
- Liquid and gaseous release records
- Effluent monitor alarm set point data
- Semiannual Effluent Release Reports

The examination disclosed that tests conducted to compare the off gas and liquid release monitors response with radioactivity levels established from sampling of the waste stream were not conclusive since sufficient activity was not available at these monitors to produce readings significantly above background. Therefore, the startup test procedure (TP-1.16) was incomplete at the time of this inspection.

Licensee representatives were aware of the need to perform additional studies to verify the correlation of data and stated that station procedure CAP D-19, "Correlation of Rad Monitors to Radioactivity" requires this type of a study be performed on a

continuous basis. A review of the procedure revealed it was satisfactory.

The inspector also reviewed selected records used in the production of the semiannual effluent release report. The data used for the preparation of the report was found to be consistent with plant effluent release data.

No violations or deviations were identified.

#### Alarm Setpoint Calculations

Technical Specification, Sections 4.11.1 and 4.11.2 requires, the licensee to control the dose rates in unrestricted areas, "As Low as is Reasonably Achievable (ALARA)." The dose rate values for liquid and gaseous released to unrestricted areas are specified in Sections 4.11.1, 4.11.2 and 4.11.3. Licensee calculations of liquid and gaseous monitor alarm setpoints to implement this requirement is described in the licensee's Offsite Dose Calculation Procedure (ODCP) or CAP A-8. The monitors alarm set points are calculated so that the dose rate limits prescribed in the TS are not exceeded.

The licensee's methodology for determining instrumentation alarm set points, effluent concentrations, and calculated dose to persons in unrestricted areas were reviewed. The inspector concluded that the licensee had considered all liquid and gaseous release paths and the licensee's methodology for maintaining release ALARA appeared to be consistent with Regulatory Guides 1.109 and 1.21. The inspector also verified that the alarm set points for selected liquid and process monitors were set at the levels provided in the licensee's master alarm set point log and as recorded in the applicable monitor's calibration records.

No violations or deviations were identified.

#### e) Instruments

Maintenance histories, calibration records, including channel check, source check, and channel functional tests of selected area, liquid, and gaseous radiation monitoring instrumentation specified in Technical Specifications, Section 4.3.3 were examined. Applicable administrative, I&C, Chemistry and Radiation Protection, and Operations procedures used for accomplishing the surveillances required by the Technical Specifications were examined. A tour of the licensee's facility was also conducted for the purpose of physically inspecting the monitors.

The examination disclosed that all of the required surveillances were accomplished in accordance with the applicable procedures and at the frequencies specified in the TS.

The inspector observed instances of poor maintenance and calibration records which could lead to a violation if improvements are not made. The observations included items such as recording the wrong



units (e.g., cpm in lieu of mr/hr), indications that a recalibration was not performed after the completion of maintenance activities, missing data, and calibration forms which are constantly being changed. These observations were brought to the attention of the cognizant I&C Engineer.

The following procedures and records were reviewed:

<u>Procedure</u>	<u>Title</u>
Surveillance Test Procedure (STP) I-1A, Rev. 8	"Routine Shift Checks Required by Licenses"
STP I-1B	"Routine Daily Checks Required by Licenses"
STP I-1C	"Routine Weekly Checks"
STP I-1D	"Routine Monthly Checks Required by Licenses"
STP T-18B2	"Initial Calibration Curves for Radiation Protection Monitors"
-	"Shift Chem/Rad Technician Turnover Checklist"
CAP-8	"Offsite Dose Calculation Procedure"

No violations or deviations were identified.

f) Audits

A licensee audit was conducted to verify the adequacy and effective implementation of the radiological effluent monitoring program. The audit report, 85081T of May 17, 1985 was reviewed by the inspector. The audit concluded that the licensee's radiological effluent monitoring program had been effectively implemented as required by Regulatory Guide 4.15 and the Technical Specifications.

The audit appeared comprehensive in scope. The audit did not identify any deficiencies.

No violations or deviations were identified.

g) Biological Shield Radiation Surveys

1) General

The licensee's beta-gamma and neutron radiation surveys taken at 50 percent, 75 percent and 100 percent power for the purpose of determining the effectiveness of the biological shield were examined. The following procedures and documents, related to this topic, were examined:

- Temporary Procedure TC-8401, "Biological Shield Survey for DCP, Unit 1."
- Test Procedure No. 1.15, "Radiation Surveys and Shielding Effectiveness."
- Test Procedure No. 40.0, "Startup Program Master Document."
- Diablo Canyon FSAR, Section 12.1, Figures 12.1-1 through 12.1-11 showing 'Radiation Zone Maps'.
- Pacific Northwest Laboratories (Battelle) Report of April 1985 entitled, "Neutron Dose and Energy Spectral Measurements Inside Reactor Containment at Diablo Canyon Unit 1 Power Plant".
- Administrative Procedure AP-C-450, "Routine Preventative Maintenance...I&C Department."
- Shield Survey Instrument Calibration Procedures and related calibration records.

Independent radiation measurements were also obtained inside the containment by the NRC inspector, while the plant was at 100 percent power, for the purpose of verifying the licensee's shield survey data. The independent surveys were obtained with:

- AN/PDR-70 (Snoopy NP-2) Neutron Survey Meter, Serial No. NP581707 due for calibration on October 26, 1985.
- Eberline Model RO-2, ion chamber, survey instrument, Serial No. 837 due for calibration on August 10, 1985.

The results of the reviews and examination disclosed that the licensee's procedures and surveys were consistent with the FSAR commitments and with the criteria provided in Regulatory Guide 1.68, Revision 2 and ANSI/ANS 6.3.1-1980. No problems with shielding effectiveness were identified.

The neutron dose rates taken by the licensee, Battelle, and the NRC were in satisfactory agreement with one another. The measured rates were in general agreement with those specified in the FSAR. However, neutron dose rates were lower than expected and the neutron energy spectra was somewhat greater than initially anticipated. Average neutron energies were found to range between 60 and 115 Kev near the fuel cavity.

The locations chosen for the licensee's and NRC's surveys taken inside the reactor containment were based on frequency of occupation, dose rates, and accessibility. The dose rates obtained appeared to be consistent with and/or lower than that

predicted in the FSAR, Figure 12.1-1 through 12.1-11 radiation zone maps.

Neutron dose rates in normally occupied areas of the containment building did not exceed 20 mrem/hr and were essentially nondetectable (e.g., <0.05 mrem/hr) in normally occupied areas of the turbine and auxiliary building.

No violations or deviations were identified.

2) Portable Radiation Detection Instrument Calibrations  
(50-323/84-12-01) Open

ANSI N323-1978, "Radiation Protection Instrumentation Test and Calibration" establishes calibration methods for portable instruments used for detection and measurement of levels of ionizing radiation fields or levels of radioactive surface contamination.

Licensee procedures and selected calibration records related to the instruments used for performing the biological shield survey were reviewed.

The following licensee documents were reviewed:

- ° FSAR, Chapter 12
- ° Administrative Procedure (AP) C-450, "Routine Preventative Maintenance...I&C Departments"
- ° AP D-450, "Measurement and Test Equipment"
- ° Region V Inspection Report 50-323/84-12
- ° Usage records
- ° Instrument Accountability Logs
- ° Check out Procedures
- ° Overdue Calibration Reports

Administration and implementation of the calibration program related to this topic is primarily the responsibility of the I&C organization. Secondary responsibilities are assigned to the Chemistry and Radiation Protection (C&RP) organization. Discussions with the two organizations were held during the inspection and a tour of the calibration facility, instrument repair shop, usage storage facility, and out of service storage facility was also conducted.

Concerns with respect to this program were identified in paragraph G of Inspection Report 50-323/84-12-01.

The inspector verified that the instruments used for the biological survey were in calibration at the time the surveys were performed. However, the inspection disclosed the same concerns that were identified in Inspection Report 50-323/84-12. It appeared as though no significant improvements were made to resolve the concerns identified in the inspection report. The following was identified:

- Although calibrated instruments were available for use, I&C and C&RP appeared well behind in applying onsite resources to effectively control calibration, inventory, recall, usage, and repair of instruments.
- Calibration records were deficient in necessary data and supervisory reviews.
- Out of calibration and currently calibrated instruments were stored together.
- Missing calibration records.
- Failure to perform meter deflection checks as required by procedures.
- Poor instrument accountability records by both I&C and C&RP.
- Calibration records were not in agreement with the calibration labels affixed on the instrument.
- Lack of calibration data for instruments undergoing maintenance or repair.

The inspection revealed that the calibration facility is as described in the FSAR. It is a "well type" calibrator. Discussions with the I&C and C&RP staff revealed that it is difficult to obtain consistent geometry and reproducibility if the calibration process is rushed. The discussions also revealed that dedicated I&C or C&RP personnel have not been assigned to maintain the calibration of portable instruments.

The inspector performed visual inspections throughout the plant to verify that calibrated instruments were being used. No cases of uncalibrated instruments being used were identified.

The above concerns were brought to the attention of the licensee's staff during the inspection and at the exit interview. Licensee personnel agreed with the findings that were brought to their attention and agreed to take the actions necessary to improve their program at a level that is equivalent to ANSI N323-1978. The corrective actions planned are described in licensee memorandum MWS (69-3717) of June 27, 1985. The licensee's corrective actions will be continued to be followed up as open item (50-275/85-23-13).



16. Radiation Protection Programa) Organization, Qualifications, and Exposure Control

Two separate events involving poor health physics practices were examined. The first event had been reported to the NRC resident inspector staff shortly after it occurred on May 23, 1985. The event was subsequently reported on a Licensee Event Report (LER) No. 85-017 as a violation of TS, Section 6.12.2, 10 CFR 20.201(b)(2) and of radiation control procedures (see paragraphs below). The second event, which occurred on June 13, 1985, was similar to the first event in that they both involved failure to maintain positive exposure control for work performed in a posted high radiation area. It should be noted that the licensee's Chemistry and Radiation Protection Supervisory staff had not informed the NRC resident inspector of the second event and did not consider it reportable pursuant to 10 CFR 50.73(a)(2)(i)(B). An examination of the two events disclosed the following:

- a) The May 23, 1985 event involved entry into a very high radiation area (e.g., greater than 1000 mrem/hr) whereas the event of June 23, 1985 did not.
- b) Both events required continuous surveillance by C&RPT's. The surveillance during May 23, 1985 event was provided by a C&RPT who met ANSI N18.1-1971 qualifications as required by Section 6.3.1 of the TS; whereas the C&RPT providing surveillance over the work performed on June 13, 1985, did not meet the ANSI N18.1-1971 qualifications.
- c) Both technicians failed to perform the surveys specified on the Special Work Permits (SWP) prior to allowing workers to proceed. Radiation levels in the work area on May 23, 1985, ranged up to 6000 mrem/hr and levels ranging from 10 to 300 mrem/hr were experienced in the June 13, 1985 event.
- d) The C&RPT assigned to provide surveillance on May 23, 1985, reported the error upon exiting, whereas the workers involved in the June 13, 1985, event reported the event to the C&RP staff a day or two after the entry was made.

In the examination of the events which was performed by the inspector, applicable procedures, survey records, SWPs, interviews, and resumes of the C&RPTs staff were reviewed. Specific records, procedures, and documents examined were as follows:

- o SWP 85-0503
- o SWP 85-0469, 85-0469A and 85-0469B
- o Chemistry and Radiation Protection Technicians Checklist
- o RCP G-1, "Radiation Work Permits"

- RCP D-2, "Continuous Coverage"
- Administrative Procedure NPAP B-1, "Qualification of Personnel on the Plant Staff"
- AP B-159, "Qualification of Personnel on the Diablo Canyon Plant Staff"
- ANSI N18.1-1971, "Standard for Selection and Training of Personnel for Nuclear Power Plants"
- Chem/Rad Technician List of April 9, 1985
- AP B-250, "Chemical and Radiation Protection Technician Training"
- C&RPT work schedules
- Licensee Intra - office memo's of June 18, 1985, June 25, 1985 and June 27, 1985
- Region V Inspection Reports 50-275/83-32, paragraph 8, Inspection Report 50-275/84-05 paragraph 2 and Inspection Report 50-275/84-37 paragraph 2.
- C&RPT resumes
- Quality Assurance Audit Reports 83108P and 84056P.

Of significant importance is paragraph 9 of Inspection Report 50-275/83-32. Paragraph 9 is related to an allegation (RV-83-A-0018) that states in part, "1) Licensee Health Physics personnel are not qualified to the American National Standard Institute (ANSI) requirements." Paragraph 9 of 50-275/83-32 provides the following statement: "The licensee was informed that although it was not clear that their interpretation of required experience is correct, it is the licensee's responsibility to ensure that technicians in responsible positions are qualified to do the job." Paragraph 2 of Inspection Report 50-275/84-37 had found that less than 50 percent of the entire C&RPT staff met ANSI N18.1-1971 qualifications.

The examination further revealed:

- a) The C&RPT making the containment entry on June 13, 1985, had no previous health physics experience when hired in February of 1984.
- b) The June 13, 1985 SWP stated the following: "Continuous coverage by radiation protection technician required for containment entry during Modes 1 and 2. The radiation protection technician shall perform continuous gamma and dose rate measurements, including ingress/egress route and work

location." The involved C&RPT signed the SWP certifying she had read, fully understood, and would comply with it.

- c) The C&RPT involved in the June 13, 1985 incident, stated that she did not perform the surveys enroute to and at the work location because she felt it was unsafe at the work site, because steam was escaping from the Steam Generator (secondary side) manway cover and she also assumed that the radiation levels were the same as where she was standing ( 20-40 feet away). This estimate of radiation levels happened to be a fortuitous assumption on her part. Radiation levels taken after the event indicated the dose rates were 10 mrem/hr at the job site and ranged up to 300 mrem/hr on the ingress/egress route. The involved C&RPT failed to stop the work or inform her supervisor of her concerns. The involved workers subsequently reported the event to C&RP management a day or two later.
- d) Both radiation protection technicians involved in the two entries have been reprimanded for their actions. The licensee's investigation was still underway at the time of this inspection.
- e) The review of resumes disclosed that at least 25 percent of the C&RPT staff did not presently meet the ANSI N18.1-1971 qualifications. Approximately 80 percent of the remaining C&RPT that met the ANSI N18.1-1971 qualifications lacked practical experience at an commercial nuclear generation plant. This was consistent with what was found during previous NRC inspections. It should be noted that TS, Section 6.5.2.8.b states that audits shall encompass: "The performance, training, and qualification of the entire unit staff at least once every 12 months." A review of audit reports, referenced herein, revealed that the audits are more oriented towards verifying the qualification training programs and not the qualification of the individual. The lead auditor for audit report was not aware if audit report 84056P was performed for the purpose of satisfying the TS requirement prescribed under Section 6.5.2.8.b.
- f) Both occurrences involved the failure to comply with procedures RCP G-1 and RCP D-2.
- g) None of the workers involved in either event received significant exposures.
- h) Procedures NPAP B-1 and AP B-1S1 only require that a Chemistry and Radiation Protection Technician have a total of two years of working experience for the position. Neither procedure clearly states whether the entire two years of experience can be in chemistry, radiation protection or both chemistry and radiation protection.

- i) Procedures allude to the need for C&RPT to demonstrate his specialized skills and that C&RPTs who have not accomplished this should not be utilized to perform such skills without supervision. A Technicians Skills Checklist (form 69-10514, attachment 2) was developed for this purpose.

The inspection disclosed that the C&RPTs involved in the May 23 and June 13 event had completed a one page skills checklist that was dated prior to July 1984. However, in the interim the checklist has been expanded to twenty pages. Part 1 covers Chemistry Skills and Part 2 is devoted to Radiation Protection Skills. The new checklist included a comprehensive section solely related to radiation control.

The examination disclosed that neither of the involved technicians completed that portion of the new checklist that was related to Radiation Protection skills.

The examination further disclosed that it was not clear if all technicians had to complete the new checklist or just the new technicians.

The examination further disclosed that procedure AP B-250 does provide adequate instructions for controlling the checklists and assuring that they are completed in a timely manner. Nor does the checklist assure that a technician concentrate his efforts in the weakest areas.

- j) The review of procedures established by the licensee for assuring compliance with Sections 6.8.1(a) and 6.11 of the TS, revealed that they include the considerable use of "permissive" terms. The procedures lack specificity and are open for interpretation. It appears that this has lead to a degradation in the implementation of the applicable procedures.

The licensee's evaluation of the events had found that the root causes were personnel performance errors; however, the root causes stemming back to the concerns identified in the previous inspection reports were not clearly identified (e.g., assignment of qualified personnel and weakness with practical experience).

The inspector informed the licensee that it appeared like both events could have been prevented based on the findings discussed herein. Emphasized were: (1) lack of management attention towards the implementation of the new technicians skills checklist, (2) failure of supervision to use discretion in job assignments by individuals who where not qualified, (3) failure of management to learn or take action from previous indicators regarding the qualification and experience level of the C&RPT staff, and (4) the implementation of procedures containing poorly defined requirements.

The above observations were brought to the licensee's attention during the inspection and at the exit interview. The licensee was informed that assigning an unqualified individual in a responsible



position was considered to be a violation of the TS, Section 6.3.1 (Open Item 50-257/85-23-14) and that failure to maintain and adhere to procedures was considered to be a violation of TS, Section 6.11 (Open Item 50-275/85-23-15).

#### Personnel Contaminations

Personnel contamination records for 1985 were reviewed for the purpose of ascertaining the licensee's actions in the following areas:

- ° Determining the need for external or internal dose assessment.
- ° Trending and actions to prevent recurrence.

The examination included a review of the following procedure:

- ° RCP G-4, "Personnel and Clothing Decontamination"
- ° RCS-3, "Personnel Contamination Control"
- ° RCS-8, "Reporting and Recordkeeping"

Discussions related to this topic were held with the licensee's Chemistry and Radiation Protection staff.

The examiner disclosed that there were no significant skin contamination occurrences that would require an adjustment to the individual internal or external dose records. However, current procedures do not require that dose assessments resulting from contamination being deposited on a person's skin be determined. The licensee's staff committed to establish appropriate procedures for assessment of personnel exposures resulting from skin contamination occurrences (Open Item 50-275/85-23-16).

#### c) Licensee Event Reports (LERs)

The licensee reviewed LERs and special reports related to radiation protection and chemistry matters. The inspector verified that the reporting requirements were met, causes were identified or under investigation, that corrective actions appeared appropriate and that the LER forms were complete. The LERs reviewed are as follows:

#### Docket No. 50-275

- 85-008 Failure to perform technical specification surveillances required by Technical Specifications, Section 4.4.8, which requires that a reactor coolant sample be analyzed within 2 to 6 hours if a thermal power change exceeding 15 percent of the rated thermal power occurs within a one-hour period.

- 85-010 Sealed source surveillance test (leak tests) not performed with the specified period of time prescribed in Technical Specifications, Section 4.7.8.1.2.
- 85-017 Failure to maintain positive exposure control pursuant to Technical Specifications, Section 6.12.2, 10 CFR 20.201(b)(2) or Radiation Control Procedures.

The above listed LER's are closed.

No violations or deviations were identified.

#### 17. Exit Meeting

The inspectors conducted an exit meeting on June 21 and June 28, 1985, with the assistant plant manager and other members of plant and corporate management to discuss results of the inspection. Additionally, the team leader met with the plant manager, his designee, and a corporate officer during the course of the inspection to discuss status and progress of the inspection.

On June 21, the team leader summarized the inspection findings and the licensee commitments regarding areas of potential improvements:

- A. By August 1, plant management expects to identify and complete actions to train engineering and plant staff at all levels regarding the need for improved vigor in review of data and completed procedures.
- B. By September 1, plant management expects to complete revision of procedures A-100 and E-4 to clarify use of "NA" (not applicable) designations and use of the "comments" sections of procedures incorporating steps in which data/check-offs are used.
- C. By September 1, plant management expects to complete an assessment of the 'clearance order' release mechanics associated with design changes.
- D. By September 1, plant management expects to issue revision to the shift manning procedure to clarify the procedure and thus avoid any interpretations contrary to Technical Specifications.
- E. By September 1, plant management expects to complete a clerical audit of vendor manuals, define expected engineering involvement in the vendor manual reviews, and issue controlled copies of manuals in lieu of long term checkouts by individuals.
- F. Prior to issuing any design field changes, issue an approved field change control procedure for the plant staff.

Additionally, the team leader conveyed the team's observations regarding certain commendable management initiatives in-progress and planned:

- A. Development of an equipment maintenance trending system.

- B. Upgrading of procedures to improve independent verification provisions.
- C. Support of all levels of management staff in participation in management training and development programs.
- D. Documentation of various informal maintenance training activities routinely conducted.
- E. INPO accreditation, including quality control personnel.
- F. Management monitoring of the jumper and lifted lead controls.
- G. Management monitoring of progress of the three-year cycle scope of the Technical Specification Audit program.
- H. Efforts to reduce the backlog of open design change notices.

The team leader noted the licensee's cooperation in providing facilities, documents, records and access to personnel for the team inspection efforts, and acknowledged the burden this imposed on plant staff in view of a recent 16-member INPO 2-week inspection, a 10-member emergency response NRC inspection, and the current startup activity pressures associated with Diablo Canyon Unit 2. The team leader noted that plant staff appropriately gave priority attention to plant operations, but were effective in providing support for the team inspection efforts.

A second exit meeting was held on June 28, 1985, with licensee representatives to cover the radiation protection findings discussed in paragraphs 15 and 16 of this report. The licensee stated that appropriate corrective actions were being taken with regard to the apparent violations.