PG&E Letter DCL-96-176
Replacement Attachment F
for DCL-95-276, LAR 95-08

MARKED-UP FSAR UPDATE PAGES

(Note: These proposed FSAR changes are provided for review and approval as part of LAR 95-08. The changes will appear in the FSAR as part of the normal FSAR update process.)

CHANGES TO ATTACHMENT F FROM PREVIOUS SUBMITTAL

INSERT H

On page 17.5-1a, added the following to the end of the last sentence in paragraph (3):

"and shall be approved, prior to implementation, by the Plant Manager or his designee, as identified in administrative procedures."

Reason for addition: The previous submittal required the Plant Manager to approve proposed tests, experiments, and modifications, but did not specifically require Plant Manager approval of procedures.

Added a new paragraph (4) that reads as follows, and renumbered existing paragraphs (4) through (7):

"A responsible organization shall be assigned for each program or procedure required by paragraph (1), above. The responsible organization shall assign reviews of proposed procedures, programs, and changes to qualified personnel of the appropriate discipline(s)."

Reason for addition: This addition reflects present practice and assigns responsibility for ensuring reviews are performed by qualified individuals of the appropriate discipline(s).

On page 17.5-1b, paragraph (7) has been renumbered as paragraph (8) and sub-paragraph b) has been revised as follows. (Underlined words have been added. Strike-outs have been deleted.)

The change is approved by at least two ~~members of the plant~~ management staff members who meet applicable qualification requirements of ANSI/ANS 3.1, 1978, and are knowledgeable in the procedure's subject area. For changes to procedures listed below, at least one ~~of the~~ approvers shall hold a Senior Reactor Operator's license ~~on the unit affected~~.

1. All Operations Section procedures
2. Surveillance Test Procedures
3. Emergency Plan Implementing Procedures
4. Any other procedure if the proposed change affects equipment or system operating status.

If the approving Senior Reactor Operator is not the Shift Foreman of the affected unit, that individual shall determine whether the Shift Foreman should be notified of the change immediately, and shall notify him/her if appropriate.

Reasons for changes: Changed "members of the plant management staff" to "management staff members" because Engineering personnel on site technically are not members of the plant staff. They report to the Vice President, Nuclear Technical Services, not the Plant Manager. Some Temporary Changes need Engineering reviews.

Added the last paragraph to ensure that the Shift Foreman is informed of changes that could affect shift operating activities.

INSERT J

Revised item (7) on page 17.18-1a as follows. (Underlined words have been added. Strike-outs have been deleted.)

The ~~Environmental~~ Radiological Environmental Monitoring Program, implementing procedures, ~~Procedure~~ and program results ~~its implementing procedures~~.

Reason for the change: The Radiological Environmental Monitoring Program (REMP) has been added because it was inadvertently left off of the list of audit areas in the previous submittlal. The Environmental Radiological Monitoring Procedure has been removed because it is a subsection of the REMP and need not be listed separately.

INSERT K

In first paragraph, changed "Senior Operator license" to "Senior Reactor Operator's license". Added paragraph number, (8), after "Section 17.5".

Reason: Uses Diablo Canyon-specific terminology and clarifies reference.

13.4 REVIEW AND AUDIT

13.4.1 Review and Audit - Construction Phase

The independent review and audit of construction activities was incorporated into the quality assurance program during design, construction, and preoperational testing as prescribed by the Quality Assurance Manual for Nuclear Power Plants (QA Manual).

13.4.2 Review and Audit - Operation Phase

Review and audit during the operation phase is accomplished by senior members of the plant staff, independent review and audit groups, and management oversight groups as discussed below. In addition the Nuclear Quality Services Department independently audit operation phase activities in accordance with FSAR Update Chapter 17.

INSERT A

13.4.2.1 Plant Staff Review Committee

A Plant Staff Review Committee (PSRC) has been established at the plant. It meets on a regular basis, and on special occasions as required, to review overall plant operating and maintenance experience, training programs, adequacy of procedures, and other pertinent items. Items requiring PSRC review are delineated in Section 6.5.2.6 of the plants Technical Specifications.

The committee satisfies the requirements of the plant's Technical Specifications sand the applicable requirements of ANSI N18.7-1976. The regular members of the committee are specified in an administrative procedure.

Further information regarding the committee is given in Section 6.5.1 of the plant Technical Specifications.

13.4.2.2 Nuclear Safety Oversight Committee

A program of independent review and audit of nuclear plant operations has been in effect since the initial operation of Pacific Gas and Electric Company's Humboldt Bay Power Plant Unit 3 in 1963. This program, which was applied to the preoperational testing, startup testing, and operation of Diablo Canyon, has been reviewed and appropriately modified so that it conforms to the requirements and recommendations of ANSI N18.7-1976, Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants.

This committee satisfies the requirements of Sections 4.3 and 4.5 of ANSI N18.7-1976. Further information regarding the Nuclear Safety Oversight Committee (NSOC) is provided in Section 6.5.3 of the plant Technical Specifications and in Chapter 17 of the FSAR Update.

INSERT B

INSERT A

13.4.2.1 Plant Staff Review Committee

A Plant Staff Review Committee (PSRC) has been established at the plant site to advise the Plant Manager on all matters related to nuclear safety. The PSRC's functions and responsibilities are detailed in Section 17.2 of this FSAR Update.

INSERT B

This committee satisfies the requirements of Sections 4.3 and 4.5 of ANSI 18.7-1976. NSOC's functions and responsibilities are detailed in Section 17.2 of this FSAR Update.

to assess their effectiveness and compliance with requirements. The Committee periodically reviews the Corporate Emergency Response Plan for adequacy and investigates or reviews other areas having nuclear safety significance, as directed by the President.

PNAC membership is controlled by the Committee Charter, which is approved by the President.

THE NUCLEAR SAFETY OVERSIGHT COMMITTEE (NSOC) reports to the Senior Vice President and General Manager, Nuclear Power Generation. The Committee is responsible to provide independent review and audit of activities occurring during the operational phase of PG&E's nuclear power facilities. The Committee has the authority to have reviews and audits performed in such areas as nuclear power plant operations, nuclear engineering, chemistry and radiochemistry, metallurgy, instrumentation and control, radiological safety, nondestructive testing, mechanical and electrical engineering, administrative controls, security, and QA practices to independently verify that the performance of activities in these areas is satisfactory. In addition, the Committee reviews the activities of the PSRCs. NSOC membership requirements are specified in the Technical Specifications, and the members are appointed by the Senior Vice President and General Manager, Nuclear Power Generation.

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THE PLANT STAFF REVIEW COMMITTEE (PSRC) reports to the Senior Vice President and General Manager, Nuclear Power Generation, and is responsible to advise the Vice President, Diablo Canyon Operations and Plant Manager on matters related to nuclear safety. The Committee is responsible for providing timely and continuing monitoring of operating activities to assist the Vice President, Diablo Canyon Operations and Plant Manager in keeping aware of general plant conditions and to verify that day-to-day operating activities are conducted safely and in accordance with applicable administrative controls. The Committee performs periodic reviews of plant operating activities to evaluate plant operations and to plan future activities. In addition, the Committee performs special reviews, investigations or analyses, and screen subjects of special concern as requested by NSOC.

INSERT D

Included among the PSRC's responsibilities is the review of proposed changes to the facilities and proposed changes to specified programs to determine if such changes involved an unreviewed safety question, as defined in 10 CFR 50.59. A PSRC review is required for certain classes of procedures (administrative, emergency, security) and changes thereto and for safety evaluations for changes to procedures completed under the provision of 10 CFR 50.59. The PSRC review compliments the independent reviews performed by qualified reviewers in accordance with Section 6 of the Technical Specifications.

INSERT E

THE DIABLO CANYON INDEPENDENT SAFETY ENGINEERING GROUP (ISEG) reports to the Manager, Nuclear Quality Services through the Director, Nuclear Safety Engineering. The group is responsible for implementing the independent technical review functions as described in the Technical Specifications, Section 6.5.4, and shall encompass review of unit operating characteristics, NRC issuances, industry advisories, Licensee Event Reports, and other sources of plant design and operating experience information that may indicate areas for improving plant safety. The ISEG is responsible for providing independent verification that safety-related plant activities are performed correctly and that human errors are reduced as much as practicable. The ISEG is responsible for making detailed recommendations for improving plant safety.

Administrative procedures or charters for the above committees and group provide detailed responsibilities and functions for each committee/group as well as their membership, authority, and reporting requirements.

INSERT C

NSOC functions, responsibilities, and meeting requirements are described in this FSAR Update Section 17.2.

INSERT D

PSRC functions, responsibilities, and meeting requirements are described in this FSAR Update Section 17.2.

INSERT E

as described in this FSAR Update, Section 17.2.

17.2 QUALITY ASSURANCE PROGRAM

17.2.1 Program Applicability

← INSERT HEADING

The quality of the safety-related aspects of the design, construction, and operation of PG&E nuclear power plants shall be assured through the Quality program prescribed by the Quality Assurance (QA) Manual for Nuclear Power Plants (QA Manual), Quality Related Program Directives (PDs) and administrative procedures. The QA Program requirements, as a minimum, apply to those structures, systems, and components classified as Design Class 1 in Section 3.2 of the FSAR Update. The QA Program also applies to the following:

(1) The design, construction, and operation of structures, systems, and components that prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public. The structures, systems and components that serve these functions are Design Class 1. In addition, certain QA Program requirements apply to the non-safety-related programs listed in (1) through (10) below to provide additional assurance that these objectives are satisfied.

(2) The design, construction, and operation of those portions of structures, systems, or components whose function is not required as above but whose failure could reduce the functioning of the above plant features to an unacceptable level or could incapacitate control room occupants. Certain of these structures, systems, and components are conservatively designated as Design Class I. Other non-safety-related structures, systems and components with seismic qualification requirements are subject to the seismic configuration control program listed below. Seismically induced system interaction (SISI) program requirements are governed by quality-related procedures.

(3) Activities affecting the above plant features.

In addition, the QA Program includes requirements that apply to non-safety-related programs for:

(1) Fire Protection

(2) Emergency Plan

(3) Security

(4) Radiation Protection

(5) Environmental Monitoring

(6) Radioactive Waste Management

(7) Fitness for Duty

(8) Regulatory Guide 1.97, Category 2 and 3 Instrumentation

(9) Seismic Configuration Control

(10) Anticipated Transient without Scram Mitigation System Actuation Circuitry (AMSAC) Equipment

17.2.2 Program Control

← INSERT HEADING

The status and adequacy of this program shall be regularly monitored, and it shall be revised as necessary to improve its effectiveness or to reflect changing conditions. The Manager, Nuclear Quality Services, is responsible for the preparation, issue, interpretation, and control of the QA Manual and for concurring with changes to Program Directives and administrative procedures that propose a change to the QA Program as it is described in a commitment to a regulatory agency. The Manager, Nuclear Quality Services, is responsible to assure the requirements set forth in the QA Manual and Quality Related PDs and administrative procedures are in compliance with current regulatory requirements and Pacific Gas and Electric Company (PG&E) commitments to the U. S. Nuclear Regulatory Commission (NRC) as shown in Table 17.2.

The QA Program documents, including any changes, supplements, or appendices, are issued and maintained as controlled documents. Proposed changes to the Policy Sections of the QA Manual are reviewed and concurred with in writing by the Manager, Nuclear Quality Services, are reviewed by the President's Nuclear Advisory Committee (PNAC), and are approved by the Senior Vice President and General Manager, Nuclear Power Generation. Proposed changes to PDs are also approved by the Senior Vice President and General Manager, Nuclear Power Generation.

Changes to the QA Program that constitute a reduction in commitments from those in the QA Program description of the current FSAR Update shall be submitted to and approved by the NRC in accordance with 10 CFR 50.54 prior to issue for use. The Manager, Nuclear Quality Services, shall identify to the Senior Vice President and General Manager, Nuclear Power Generation, any changes which constitute a change to the QA Program described in a plant FSAR Update and request such changes be reflected in the next periodic update required by 10 CFR 50.71.

Implementation of the QA Program is accomplished through separately issued procedures, instructions, and drawings. Each Vice President and Manager is responsible for the establishment and implementation of detailed procedures and instructions prescribing the activities for which he is responsible. Such documents are derived from the requirements and reflect the responsibilities specified in the QA Program. Activities affecting quality are accomplished in accordance with these instructions, procedures, and drawings; and all personnel are instructed that compliance with their requirements, and the requirements of the QA Program, are mandatory.

Questions or disputes involving interpretations of QA Program requirements or of the commitments and requirements upon which it is based, are referred to the Manager, Nuclear Quality Services, for resolution. Questions or disputes involving the responsibilities defined in the policy sections of the QA Manual and PDs are referred to the Senior Vice President and General Manager, Nuclear Power Generation. Questions or disputes involving other quality matters are resolved by referring the matter in a timely manner to successively higher levels of management until, if necessary, the matter reaches that level which has direct authority over all contesting parties.

Personnel who perform functions addressed by the QA Program are responsible for the quality of their work. They are indoctrinated, trained, and appropriately qualified to assure that they have achieved and maintained suitable proficiency to perform those functions. Qualifications of such personnel are in accordance with applicable codes, standards, and regulatory requirements.

The Manager, Nuclear Quality Services, or his designated representative, regularly reports to the responsible Company management and the Nuclear Safety Oversight Committee, (NSOC) on the effectiveness of the QA Program as it relates to the design, maintenance, and operation of DCPP nuclear power plants. Such reports are based on the results of audits, inspections, tests, and other observations of activities as prescribed by the QA Program.

The President's Nuclear Advisory Committee (PNAC) regularly assesses and reports to the President on the overall status and adequacy of PG&E's QA Program for nuclear power plants. Such assessments shall include overview of the NSOC and effectiveness of PG&E's QA Program.

Annually, the Manager, Nuclear Quality Services Department, shall report to the PNAC on the effectiveness of the QA Program and the Nuclear Quality Service's activities and operations. The assessment shall include an evaluation of Nuclear Power Generation's compliance with current regulatory requirements and commitments to the NRC.

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17.2.3 Nuclear Safety Oversight Committee (NSOC)

The QA Program also includes an independent review and audit function, directed by the Nuclear Safety Oversight Committee (NSOC). The NSOC shall function to provide independent review and audit of designated activities in the areas of:

(1) Nuclear power plant operations,

(2) Nuclear engineering,

(3) Chemistry and radiochemistry,

(4) Metallurgy,

(5) Instrument and control,

(6) Radiological safety,

(7) Mechanical and electrical engineering, and

(8) Quality assurance practices.

NSOC shall report to and advise the Senior Vice President and General Manager, Nuclear Power Generation on those areas of responsibility specified in the REVIEW and AUDITS sections below.

COMPOSITION - NSOC shall be composed of a chairman and a minimum of four members. The NSOC Chairman and members shall be appointed in writing by the Senior Vice President and General Manager, Nuclear Power Generation. The NSOC Chairman shall have a minimum of six years of professional level managerial experience in the power field and NSOC members shall have a minimum of five years of professional level experience in the field of their specialty. The NSOC Chairman and all members shall have qualifications that meet or exceed the requirements and recommendations of Section 4.7 of ANSI/ANS 3.1-1978.

CONSULTANTS - Consultants shall be utilized as determined by the NSOC Chairman to provide expert advice to NSOC.

MEETING FREQUENCY - NSOC shall meet at least once per 6 months.

QUORUM - A quorum of NSOC is necessary for the performance of the NSOC functions of this FSAR Update section and shall be a majority (one-half or more) of the members, but no less than four. No more than a minority of the quorum shall have line responsibility for operation of the plant.

INSERT F (Continued)

REVIEW - NSOC shall review:

(1) The safety evaluations for: (1) changes to procedures, equipment or systems, and (2) tests or experiments completed under the provision of 10 CFR 50.59, to verify that such actions did not constitute an unreviewed safety question;

(2) Proposed changes to procedures, equipment or systems which involve an unreviewed safety question as defined in 10 CFR 50.59;

(3) Proposed tests or experiments which involve an unreviewed safety question as defined in 10 CFR 50.59;

(4) Proposed changes to Diablo canyon Power Plant's Technical Specifications or Operating License;

(5) Violations of Codes, regulations, orders, Technical Specifications, license requirements, or of internal procedures or instructions having nuclear safety significance;

(6) Significant operating abnormalities or deviations from normal and expected performance of plant equipment that affect nuclear safety;

(7) All REPORTABLE EVENTS;

(8) All recognized indications of an unanticipated deficiency in some aspect of design or operation of safety-related structures, systems, or components that could affect nuclear safety; and

(9) Reports and meeting minutes of the Plant Staff Review Committee and the Independent Technical Review Program.

AUDITS - Audits of plant activities shall be performed under the cognizance of NSOC. See FSAR Update Section 17.18 for minimum audit frequency details.

RECORDS - Records of NSOC activities shall be prepared, approved and distributed as indicated below:

(1) Minutes of each NSOC meeting shall be prepared, approved and forwarded to the Senior Vice President and General Manager, Nuclear Power Generation within 14 working days following each meeting;

(2) Reports of reviews encompassed by the REVIEWS section, above, shall be prepared, approved and forwarded to the Senior Vice President and General Manager, Nuclear Power Generation within 14 working days following completion of the review; and

INSERT F (Continued)

(3) Audit reports encompassed by the AUDITS section, above, shall be forwarded to the Senior Vice President and General Manager, Nuclear Power Generation and to the management positions responsible for the areas audited within 30 days after completion of the audit.

17.2.4 Plant Staff Review Committee (PSRC)

A Plant Staff Review Committee (PSRC) has been established at the plant. The committee satisfies applicable requirements of ANSI N18.7, 1976, and its activities are controlled as described below.

PSRC FUNCTION - The PSRC shall function to advise the Plant Manager on all matters related to nuclear safety.

COMPOSITION - The PSRC shall be chaired by the Plant Manager and shall be composed of a minimum of 8 senior management individuals whose responsibilities include the functional areas of: operations, maintenance, radiation protection, support services, technical services, and quality control. All members shall be appointed in writing by the PSRC Chairman. The qualifications of each PSRC member shall meet or exceed the requirements and recommendations of Section 4.7 of ANSI/ANS 3.1-1978.

ALTERNATES - The Chairman may designate in writing other regular members who may serve as the Acting Chairman of PSRC meetings. All alternate members shall be appointed in writing by the PSRC Chairman. Alternates may be designated for specific PSRC members and shall have expertise in the same general area as the regular PSRC member they represent. No more than two alternates shall participate as voting members in PSRC activities at any one time.

MEETING FREQUENCY - The PSRC shall meet at least once per calendar month and as convened by the PSRC Chairman or his designated alternate.

QUORUM - The minimum quorum of the PSRC is necessary for the performance of the PSRC responsibility and authority provisions of this FSAR Update section shall be a majority (more than one-half) of the members of the PSRC. For purposes of the quorum, this majority shall include the Chairman or his designated alternate and no more than two alternate members.

RESPONSIBILITIES - The Plant Staff Review Committee shall be responsible for:

(1) Reviewing the documents listed below to verify that proposed actions do not constitute , an unreviewed safety question or require a change to the Technical Specifications and recommending approval or disapproval in writing to the appropriate approval authority.

a) Safety evaluations of proposed procedures and procedure changes, to be completed under the provisions of 10CFR50.59;

INSERT F (Continued)

b) Safety evaluations of proposed tests or experiments to be completed under the provisions of 10CFR50.59;

c) Safety evaluations of proposed changes or modifications to plant structures, systems or equipment to be completed under the provisions of 10CFR50.59.

d) Safety evaluations of proposed changes to the following plans and programs completed under the provisions of 10CFR50.59:

1. Security Plan
2. Emergency Plan
3. Process Control Program
4. ODCP
5. ERMP
6. Fire Protection Program

(2) Reviewing all proposed changes to DCPP's Technical Specifications and advising the Plant Manager on their acceptability;

(3) Investigating all violations of the Technical Specifications including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence to the Senior Vice President and General Manager, Nuclear Power Generation and to the Chairman of the Nuclear Safety Oversight Committee (NSOC); the assessment shall include an assessment of the safety significance of each violation.

(4) Reviewing all REPORTABLE EVENTS in order to advise the Plant Manager on the acceptability of proposed corrective actions, and forwarding of reports covering evaluation and recommendations to prevent recurrence to the Chairman of NSOC;

(5) Reviewing significant plant operating experience or events that may indicate the existence of a nuclear safety hazard, and advising the Plant Manager on an appropriate course of action;

(6) Reviewing any accidental, unplanned, or uncontrolled radioactive release including the preparation and forwarding of reports covering evaluation, recommendations and disposition of the corrective action to prevent recurrence to the Senior Vice President and General Manager, Nuclear Power Generation, and to the Chairman of NSOC;

(7) Recommending in writing to the appropriate approval authority, approval or disapproval of the items considered under (1) and (2), above.

(8) Rendering determinations in writing with regard to whether or not each item considered under (1) through (4), above, constitutes an unreviewed safety question; and

INSERT F (Continued)

(9) Providing written notification within 24 hours to the Senior Vice President and General Manager, Nuclear Power Generation of disagreement between the PSRC and the Plant Manager; however, the Plant Manager shall have responsibility for resolution of such disagreements.

RECORDS - The PSRC shall maintain written minutes of each PSRC meeting that, at a minimum, document the results of all PSRC activities performed under the responsibility and authority provisions of this FSAR Update section. Copies shall be provided to the Senior Vice President and General Manager, Nuclear Power Generation and to the Nuclear Safety Oversight Committee.

17.2.5 Independent Technical Review Program

An Independent Technical Review Program has also been established at the plant site and shall include the following, as a minimum:

(1) Reviews of NRC issuances, industry advisories, Licensee Event Reports, and other sources that may indicate areas for improving plant safety;

(2) Reviews of internal and external operating experience information that may indicate areas for improving plant safety;

(3) Reviews of plant operating characteristics, plant operations, modifications, maintenance, and surveillance to verify independently that these activities are performed safely and correctly and that human errors are reduced as much as practical; and

(4) Making of detailed recommendations to the Senior Vice President and General Manager, Nuclear Power Generation for revising procedures, equipment modifications or other means of improving nuclear safety and plant reliability.

The Independent Technical Review Program shall utilize several on-site personnel who are independent of the plant management chain to perform the reviews.

RECORDS - Written records of technical reviews shall be maintained. As a minimum, these records shall include the results of the activities conducted, the status of recommendations made, and an assessment of plant operations related to the reviews performed.

QUALIFICATIONS - Personnel performing reviews pursuant to this program shall have at least 3 years of related experience and a bachelors degree in engineering or a related field; or shall have at least eight years of related experience.

17.3 DESIGN CONTROL

Design activities shall be performed in an orderly, planned, and controlled manner directed to achieving the plant design which best serves the needs of Pacific Gas and Electric Company (PGandE) and its customers without posing an undue risk to the health and safety of the public.

Design activities shall be controlled to assure that design, technical, and quality requirements are correctly translated into design documents and that changes to design and design documents are properly controlled. Design control procedures shall address responsibilities for all phases of design including:

(1) Responsibilities.

(2) Interface control

(3) Design input

(4) Design performance

(5) Design verification

(6) Design change.

Nuclear Quality Services shall sample and review specifications and design drawings to assure that the documents are prepared, reviewed, and approved in accordance with PGandE procedures and that the documents contain the necessary quality assurance (QA) requirements, acceptance requirements, and quality documentation requirements. Quality Assurance audits are performed to verify compliance to these procedures. This Quality Assurance audit process is described in Section 17.18.

Systematic methods shall be established and documented for communicating needed design information across the external and internal design interfaces, including changes to the design information as work progresses. The interfaces between PGandE's Nuclear Technical Services Department and other organizations, either internal or external to PGandE, performing work affecting quality of design shall be identified and documented. This identification shall include those organizations providing criteria, designs, specifications, technical direction, and technical information and shall be in sufficient detail to cover each structure, system, or component and the corresponding design activity.

Provisions for design input shall define the technical objectives for structures, systems, and components being designed or analyzed. For the structure, system, or component being designed, or for the design services being provided (e.g., design verification), design input requirements shall be determined, documented, reviewed, approved, and controlled.

Required design analyses (such as physics, stress, thermal, hydraulic and accident analysis; material compatibility; accessibility for inservice inspection, maintenance, and repair; and ALARA considerations) shall be performed in a planned, controlled, and correct manner. PGandE procedures shall identify the review and approval responsibilities for design analysis.

The preparation and control of design documents (such as specifications, drawings, reports, and installation procedures) shall be performed in a manner to assure design inputs are correctly translated into design documents (e.g., a documented check to verify the dimensional accuracy and completeness of design drawings and specifications).

PGandE shall provide for reviewing, confirming, or substantiating the design to assure that the design meets the specified design inputs. Design verification shall be performed by competent individuals or groups other than those who performed the original design, but who may be from the same department. Individuals performing the verification shall not:

(1) Have immediate supervisory responsibility for the individual performing the design. In exceptional circumstances, the designer's immediate supervisor can perform the verification provided:

a) The supervisor is the only technically qualified individual, and
b) The need is individually documented and approved in advance by the supervisor's management, and
c) QA audits cover frequency and effectiveness of use of supervisors as design verifiers to guard against abuse.

(2) Have specified a singular design approach

(3) Have ruled out certain design considerations

(4) Have established the design inputs for the particular design aspect being verified.

The results of the design verification efforts shall be documented with the identification of the verifier clearly provided. Design verification methods may include, but not be limited to, the following: design reviews, use of alternate calculations, and qualification testing. The design verification shall be identified and documented. The design verification shall be completed prior to relying upon the component system or structure to perform its function. Procedures shall assure that verified computer codes are certified for use and that their applicability is specified.

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Procedures for effecting design changes, including field changes, shall assure that the impact of the change is carefully considered, required actions documented, and information concerning the change transmitted to all affected persons and organizations. These changes shall be subjected to design control measures commensurate with those applied to the original design. Design changes shall be reviewed and approved by the same organization or group that was responsible for the original design.

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Proposed changes or modifications to plant systems or equipment that affect nuclear safety shall be designed by a qualified individual or organization, and reviewed by a qualified individual/group other than the individual/group who prepared the change or modification, but who may be from the same organization. These reviews shall include a determination as to whether additional cross-discipline reviews are necessary. If deemed necessary, they shall be performed by review personnel of the appropriate discipline(s). These reviews shall also determine whether a safety evaluation per 10CFR50.59 is necessary. If necessary, one shall be prepared and presented to the Plant Staff Review Committee for review prior to approval.

Each change or modification shall be approved by the Plant Manager or his designee, as specified in administrative procedures, prior to implementation.

Document Control measures shall be established for design documents that reflect the commitments of the FSAR Update. These design documents shall include, but are not limited to, specifications, calculations, computer programs, system descriptions, the FSAR Update when used as a design document, and drawings including flow diagrams, piping and instrument diagrams, control logic diagrams, electrical single line diagrams, structural drawings for major facilities, site arrangements, and equipment locations.

Nonconforming activities such as procedure violations, deviations, or errors and deficiencies in approved design documents, including design methods (such as computer codes) shall be controlled as described in Sections 17.15 and 17.16.

17.5 INSTRUCTIONS, PROCEDURES, AND DRAWINGS

Activities affecting quality shall be prescribed by and accomplished in accordance with documented procedures, instructions, and drawings.

The Vice President in charge of each PGandE organizational unit which performs activities affecting quality is responsible for the establishment and implementation of instructions, procedures, or drawings prescribing such activities. Standard guidelines for the format, content, and review and approval processes shall be established and set forth in a procedure or instruction issued by that organizational unit.

The method of performing activities affecting quality shall be prescribed in documented instructions, procedures, or drawings of a type appropriate to the circumstances. This may include shop drawings, process specifications, job descriptions, planning sheets, travelers, quality assurance (QA) manuals, checklists, or any other written or pictorial form provided that the activity is described in sufficient detail such that competent personnel could be expected to satisfactorily perform the work functions without direct supervision.

Within the constraints, limitations, or other conditions as may be imposed by the specific plant Technical Specifications and other license requirements or commitments, procedures prescribing a preplanned method of conducting the following aspects of plant operations shall be established in accordance with the applicable regulations, codes, standards, and specifications: preoperational tests; systems operations; general plant activities; startup; shutdown; power operations and load changing; process monitoring; fuel handling; maintenance; modifications; radiation control; calibrations and tests; chemical-radiochemical control; abnormal or alarm conditions; emergency plan; tests and inspections; emergencies; and significant events.

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In addition to the above, plant procedures and programs shall be established and controlled as described below.

(1) Written procedures shall be established, implemented, and maintained covering the activities referenced in Specification 6.8.1 of the Diablo Canyon Power Plant's Technical Specifications.

(2) Each procedure of paragraph (1) above, and changes thereto, and all proposed tests or experiments that affect nuclear safety shall be reviewed and approved prior to implementation in accordance with the review and approval requirements below. Each procedure of paragraph (1) above, as modified by Table 17.2, shall also be reviewed periodically as set forth in administrative procedures.

These procedure review and approval requirements apply when approving plant programs and procedures, or changes to plant programs and procedures. They also apply when approving or changing corporate procedures and procedures used by support organizations if they can have an immediate effect on plant operations or the operational status of safety-related structures, systems, or components. They do not apply to editorial or typographical changes.

(3) Each procedure or program required by paragraph (1), above, and other procedures, tests, and experiments that affect nuclear safety or the treatment of radwaste, and changes thereto, shall be prepared by a qualified individual/group. Each procedure, program, test, or experiment, and changes thereto, shall be reviewed by an individual/group other than the individual/group who prepared the proposed document or change, but who may be from the same organization as the individual/group who prepared it, and shall be approved, prior to implementation, by the Plant Manager or his designee, as identified in administrative procedures.

(4) A responsible organization shall be assigned for each program or procedure required by paragraph (1), above. The responsible organization shall assign reviews of proposed procedures, programs, and changes to qualified personnel of the appropriate discipline(s).

(5) Individuals responsible for the above reviews shall be knowledgeable in the document's subject area, shall meet or exceed the qualification requirements of Section 4.7.2 of ANSI/ANS 3.1-1978, and shall be designated as qualified reviewers by the Plant Manager or his designee.

(6) The reviews specified in paragraph 3, above, shall include a determination as to whether additional cross-discipline reviews are necessary. If deemed necessary, they shall be performed by review personnel of the appropriate discipline(s).

(7) The reviews specified in paragraph 3, above, shall also determine whether a safety evaluation per 10CFR50.59 is necessary. If necessary, one shall be prepared and presented to the Plant Staff Review Committee for review prior to approval.

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(8) Temporary changes to procedures of paragraph (1) above, may be made provided:

a) The intent of the original procedure is not altered,

b) The change is approved by at least two management staff members who meet applicable qualification requirements of ANSI/ANS 3.1, 1978, and are knowledgeable in the procedure's subject area. For changes to procedures listed below, at least one approver shall hold a Senior Reactor Operator's license.

1. All Operations Section procedures
2. Surveillance Test Procedures
3. Emergency Plan Implementing Procedures
4. Any other procedure if the proposed change affects equipment or system operating status.

If the approving Senior Reactor Operator is not the Shift Foreman of the affected unit, that individual shall determine whether the Shift Foreman should be notified of the change immediately, and shall notify him/her if appropriate.

c) The change is documented, reviewed as described above, and approved by the appropriate approval authority within 14 days of implementation.

17.18 AUDITS

The adequacy and effectiveness of the Quality Assurance (QA) Program shall be continually monitored through a comprehensive system of internal and supplier audits. The audit system implemented by the Nuclear Quality Services Department includes all aspects of the QA Program. The audit system shall:

(1) Verify, through examination and evaluation of objective evidence, that this QA Program has been implemented as required

(2) Identify any deficiencies or nonconformances in this QA Program

(3) Verify the correction of any identified deficiencies or nonconformances

(4) Assess the adequacy and effectiveness of this QA Program.

A comprehensive plan for the audit system shall be established and documented. This plan shall identify: the scope of individual audits which are to be performed; the aspects of this QA Program covered by each audit; and the schedule for performing audits. The audit system plan shall be reviewed at least semiannually, and revised as necessary, to assure that coverage and schedule reflect current activities and that audits of plant operational phase activities are being accomplished in accordance with the requirements of the applicable Technical Specifications. Other associated activities included as part of the audit program are: indoctrination and training programs; the qualification and verification of implementation of QA programs of contractors and suppliers; interface control among the applicant and the principal contractors; audits by contractors and suppliers; corrective action, calibration, and nonconformance control systems; FSAR Update commitments; and activities associated with computer codes.

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Auditors shall be independent of direct responsibility for the performance of the activities that they audit; have experience or training commensurate with the scope and complexity of their audit responsibility; and be qualified in accordance with applicable standards.

Auditing shall be initiated as early in the life of an activity as is practicable and consistent with the schedule for accomplishing the activity. In any case, auditing shall be initiated early enough to assure that this QA Program is effectively implemented throughout each activity. Individual audits shall be regularly scheduled on the basis of the status and importance of the activities which they address. These audits may be supplemented by additional audits at the discretion of the Manager, Nuclear Quality Services (NQS).

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applicable requirements.

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Audits are performed either biennially or annually. The audits are regularly scheduled on a formal audit schedule prepared by Nuclear Quality Services (NQS). The audit schedule is reviewed regularly by the Manager NQS and the Nuclear Safety Oversight Committee (NSOC) and revised as necessary to assure adequate coverage as commensurate with activities and past performance. Audits are performed by trained personnel not having direct responsibilities in the area being audited and in accordance with approved audit plans. Additional audits may be performed as requested by NSOC, the Senior Vice President & General Manager, Nuclear Power Generation, or the Manager, NQS.

The following areas shall be audited at least once per 24 months:

(1) The conformance of plant operation to provisions contained within the Technical Specifications and applicable licenses.

(2) The performance, training, and qualifications of the entire plant staff.

(3) The results of actions taken to correct deficiencies occurring in plant equipment, structures, systems, or method of operation that affect nuclear safety.

(4) The performance of activities required by the Quality Assurance Program to meet the criteria of Appendix B, 10CFR50.

(5) The Fire Protection and Loss Prevention Program, in accordance with the annual and biennial audit and inspection requirements of NRC Generic Letter 82-21.

(6) The Fire Protection and Loss Prevention Program, in accordance with the annual and triennial requirements of NRC Generic Letter 82-21. This audit is usually performed in alternate years from 5. above.

(7) The Radiological Environmental Monitoring Program, implementing procedures, and program results.

(8) The Offsite Dose Calculation Procedure and its implementing procedures.

(9) The Process Control Program and implementing procedures for processing and packaging radioactive wastes.

(10) The Nonradiological Environmental Monitoring Program - at least once per 24 months.

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The following activities shall be audited at least once per 12 months unless specified otherwise. However, if the audit frequencies required by the governing regulations are changed, audit frequencies shall at least meet the revised minimum requirements.

(11) The performance of activities required by the Quality Assurance Program for effluent monitoring

(12) The Security Program in accordance with 10CFR73.55(g)(4) and 10CFR73.56(g).

(13) The Access Authorization Program in accordance with 10CFR73.56(g)(1) -at least once per 24 months. If a contractor's or vendor's Access Authorization Program is accepted, that contractor's or vendor's Access Authorization Program shall be audited in accordance with 10CFR73.56(g)(2) - at least once every 12 months.

(14) The Emergency Response Program in accordance with 10CFR50.54(t).

(15) The Fitness for Duty Program in accordance with 10CFR26.80.

(16) The Radiation Protection Program in accordance with 10CFR20.

(17) Any other area of operation considered appropriate by the NSOC; the Senior Vice President and General Manager, Nuclear Power Generation; or the Manger, NQS, at a frequency determined by NSOC or the requesting individual.

TABLE 17.2

CURRENT REGULATORY REQUIREMENTS AND PGandE COMMITMENTS
PERTAINING TO THE QUALITY ASSURANCE PROGRAM

The Quality Assurance Program described in the Quality Assurance Manual for Nuclear Power Plants complies with the requirements set forth in the Code of Federal Regulations. In addition, it complies with the regulatory documents and industry standards listed below. Changes to this list are not made without the review and concurrence of the Quality Assurance Manager.

Reg. Guide	Date	Standard No.	Rev.	Title/Subject	Exceptions
(R.G.) 1.28	6/72	ANSI N45.2	1971	Quality Assurance Program Requirements for Nuclear Power Plants	
1.37	3/73	ANSI N45.2.1	1973	Quality Assurance Requirements for Cleaning Fluid Systems and Associated Components of Water-Cooled Nuclear Power Plants	
1.38	5/77	ANSI N45.2.2	1972	Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Water-Cooled Nuclear Power Plants	
1.39	9/77	ANSI N45.2.3	1973	Housekeeping Requirements for Water-Cooled Nuclear Power Plants	Housekeeping zones established at the power plants differ from those described in the standard; however, PGandE is in compliance with the intent of the standard.
1.30	8/72	ANSI N45.2.4	1972	Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electric Equipment	

Guide	Date	Standard No.	Rev.	Title/Subject	Exceptions
.94	4/76	ANSI N45.2.5	1974	Quality Assurance Requirements for Installation, Inspection, and Testing of Structural Concrete and Structural Steel During the Construction Phase of Nuclear Power Plants.	Except PG&E will not require manufacturer's certification for material suitability as inferred in ANSI N45.2.5, Sections 3.1 and 3.2 when PG&E procures: (a) material from a supplier that has a QA program that meets the relevant requirements of ASME Section III (NCA-3800/NCA-4000) or 10CFR50, Appendix B and the supplier is included on the PG&E Qualified Suppler List; or (b) material as a Commerical-Grade" item and dedicates it in accordance ith PG&E's Commercial-Grade Dedication Program.
.29	9/78	--	--	Seismic Design Classification	
.58	9/80	ANSI N45.2.6	1978	Qualification of Nuclear Power Plant Inspection, Examination and Testing Personnel	ANSI N45.2.6 applies to individuals conducting-independent QC inspections, examinations, and tests. ANSI/ANS 3.1-1978 applies to personnel conducting inspections and tests of items or activities for which they are responsible (e.g., plant surveillance tests, maintenance tests, etc.). ASME Code Case N-356 applies to Level III NDE personnel certifications for ASME Section XI, Division 1. The code case extends Level III NDE Personnel qualifications from three to five years. NDE personnel shall be qualified and certified in accordance with SNT-TC-1A 1980 Edition. "Should" shall be interpreted as "shall" to comply with the intent of ASME Section XI.

Reg. Guide	Date	Standard No.	Rev.	Title/Subject	Exceptions
1.116	5/77	ANSI N45.2.8	1975	Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems	
1.88	10/76	ANSI N45.2.9	1974	Collection, Storage, and Maintenance of Nuclear Power Plant Quality Assurance Records	Except PGandE will comply with the 2-hour rating of Section 5.6 of ANSI N45.2.9 issued July 15, 1979.
1.74	2/74	ANSI N45.2.10	1973	Quality Assurance Terms and Definitions	
1.64	6/76	ANSI N45.2.11	1974	Quality Assurance Requirements for the Design of Nuclear Power Plants	Except PGandE will allow the designer's immediate supervisor to perform design verification in exceptional circumstances and with the controls as described in NUREG-0800, Revision 2, July 1981.
1.144	1/79	ANSI N45.2.12	1977	Auditing of Quality Assurance Programs for Nuclear Power Plants	
1.123	7/77	ANSI N45.2.13	1976	Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Power Plants	In addition to ANSI N45.2.13, Section 10.3.3 PG&E will accept items and services which are complex or involve special processes, environmental qualification, or critical characteristics which are difficult to verify upon receipt by suppliers' Certificate of Conformance if and only if the supplier has been evaluated and qualified utilizing Performance Based Supplier Audit techniques.
1.146	8/80	ANSI N45.2.23	1978	Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants	

Reg. Guide	Date	Standard No.	Rev.	Title/Subject	Exceptions
.33	2/78	ANSI N18.7	1976	Quality Assurance Program Requirements (Operation)	Except that PG&E will not perform biennial review of plant procedures. DCPP has programmatic controls procedures in place that replaces the biennial review process except under the conditions described in note below. These controls are described in PG&E letter to NRC No. DCL-92-204. INSERT K → Except for temporary changes to procedures, PG&E will follow the approved Technical Specification requirements, Section 6.
1.8	2/79	ANSI/ANS 3.1	1978	Personnel Selection and Training	Except that the one year of qualifying nuclear power plant experience in the overall implementation of the Quality Assurance program can be obtained outside the Quality Assurance organizations. Except certain personnel are trained and qualified to the Institute of Nuclear Power Operations (INPO) criteria as described in FAR Update Chapter 13. Except that a retraining and replacement training program for the plant staff meet or exceed the requirements and recommendations of Section 5.5 of ANSI N18.1-1971 and 10 CFR Part 55. This exception is based on the NRC letter to PG&E, dated July 19, 1989, issuing License Amendments No. 43 and 42.
4.15	2/79	--	--	Quality Assurance for Radiological Monitoring Programs (Normal Operations) - Effluent Streams and the Environment	

Note: The following additional controls shall be conformed with as requested by the NRC in response to our PG&E letter DCL-92-204. These controls were requested by the NRC in letter of March 2, 1993, Chron No. 204099.

1. All applicable plant procedures shall be reviewed following an unusual incident, such as an accident, unexpected transient, significant operator error, or equipment, as specified by Section 5.2 of ANSI N18.7/ANS 3.2.
2. Non-routine procedures (e.g. emergency operating procedures, procedures which implement the emergency plan, and other procedures whose usage may be dictated by an event) shall be reviewed at least every two years and revised as appropriate.
3. Routine plant procedures that have not been used for two years shall be reviewed before use to determine if changes are necessary or desirable.

INSERT K

Except for temporary changes to procedures, PG&E will require a review by an individual who holds a Senior Reactor Operator's license only if the procedure is one of the types listed in Section 17.5 (8) of this FSAR Update. Furthermore, this individual need not be the supervisor in charge of the shift.

Except that audit frequencies specified in Regulatory Guide 1.33, Revision 2, need not be met. Audits shall be performed at the frequencies specified in Section 17.18 of this FSAR Update.

Reg. Guide	Date	Standard No.	Rev.	Title/Subject	Exceptions
BTP CSB 9.5-1 Appendix A	5/76	--	--	Guidelines for Fire Protection for Nuclear Power Plants	Supplemented by SER, Supplement 13, April 1981, that endorses 10 CFR 50, Appendix R, Section III, Parts G, J, and O. Application of Appendix R, Section III, Parts G, J, and O is clarified and modified by SER Supplement 23, June 1984.
1.26	2/76	--	--	Quality Group Classifications and Standards for Water, Steam, and Radioactive Waste Containing Components of Nuclear Power Plants	Design and construction of Diablo Canyon Power Plant started in 1965 and most of the work cannot comply with the specific requirements of Regulatory Guide 1.26, February 1976. The intent of the Reg. Guide has been followed as shown by comparing the Reg. Guide with Tables 3.2-2 and 3.2-3 in the FSAR.
---	--	NCIG-01	2	Visual Weld Acceptance Criteria for Structural Welding at Nuclear Power Plants	
---	--	NCIG-02	2	Sampling Plan for Visual Reinspection of Welds	
---	--	NCIG-03	1	Training Manual for Inspection of Structural Weld at Nuclear Power Plants Using the Acceptance Criteria of NCIG-01	
1.97	05/83	ANSI/ANS 4.5	1980	Instrumentation for Light-Water-Cooled Nuclear Power Plants To Assess Plant And Environs Conditions During And Following An Accident.	

PG&E Letter DCL-96-176
Replacement Attachment G
for DCL-95-276, LAR 95-08

PROPOSED REVISED FSAR UPDATE PAGES

(Note: These proposed FSAR changes are provided for review and approval as part of LAR 95-08. The changes will appear in the FSAR as part of the normal FSAR update process.)

CHANGES TO ATTACHMENT G FROM PREVIOUS SUBMITTAL

SECTION 17.5

On page 17.5-2, added the following to the end of the last sentence in paragraph (3):

"and shall be approved, prior to implementation, by the Plant Manager or his designee, as identified in administrative procedures."

Reason for addition: The previous submittal required the Plant Manager to approve proposed tests, experiments, and modifications, but did not specifically require Plant Manager approval of procedures.

Added a new paragraph (4) that reads as follows, and renumbered existing paragraphs (4) through (7):

"A responsible organization shall be assigned for each program or procedure required by paragraph (1), above. The responsible organization shall assign reviews of proposed procedures, programs, and changes to qualified personnel of the appropriate discipline(s)."

Reason for addition: This addition reflects present practice and assigns responsibility for ensuring reviews are performed by qualified individuals of the appropriate discipline(s).

Paragraph (7) has been renumbered as paragraph (8) and sub-paragraph b) has been revised as follows. (Underlined words have been added. Strike-outs have been deleted.)

The change is approved by at least two ~~members of the plant~~ management staff members who meet applicable qualification requirements of ANSI/ANS 3.1, 1978, and are knowledgeable in the procedure's subject area. For changes to procedures listed below, at least one ~~of the~~ approvers shall hold a Senior Reactor Operator's license ~~on the unit affected~~.

1. All Operations Section procedures
2. Surveillance Test Procedures
3. Emergency Plan Implementing Procedures
4. Any other procedure if the proposed change affects equipment or system operating status.

If the approving Senior Reactor Operator is not the Shift Foreman of the affected unit, that individual shall determine whether the Shift Foreman should be notified of the change immediately, and shall notify him/her if appropriate.

Reasons for changes: Changed "members of the plant management staff" to "management staff members" because Engineering personnel on site technically are not members of the plant staff. They report to the Vice President, Nuclear Technical Services, not the Plant Manager. Some Temporary Changes need Engineering reviews.

Added "and are knowledgeable in the procedure's subject area" to ensure reviews are performed by knowledgeable individuals.

Eliminated "on the unit affected" because all of Diablo Canyon's licensed operators are licensed on both units.

Added the last paragraph to ensure that the Shift Foreman is informed of changes that could affect shift operating activities.

SECTION 17.18

Revised item (7) on page 17.18-2 as follows. (Underlined words have been added. Strike-outs have been deleted.)

The ~~Environmental~~ Radiological Environmental Monitoring Program, implementing procedures, ~~Procedure~~ and program results ~~its implementing procedures~~.

Reason for the change: The Radiological Environmental Monitoring Program (REMP) has been added because it was inadvertently left off of the list of audit areas in the previous submittlal. The Environmental Radiological Monitoring Procedure has been removed because it is a subsection of the REMP and need not be listed separately.

TABLE 17.2

Under Exceptions to Reg. Guide 1.33 and ANSI N18.7/ANS 3.2, changed "Senior Operator license" to "Senior Reactor Operator's license" in the second paragraph. Also added paragraph number. (8), after "Section 17.5".

Reason: Uses Diablo Canyon-specific terminology and clarifies reference.

13.4 REVIEW AND AUDIT

13.4.1 Review and Audit - Construction Phase

The independent review and audit of construction activities was incorporated into the quality assurance program during design, construction, and preoperational testing as prescribed by the Quality Assurance Manual for Nuclear Power Plants (QA Manual).

13.4.2 Review and Audit - Operation Phase

Review and audit during the operation phase is accomplished by senior members of the plant staff, independent review and audit groups, and management oversight groups as described below. In addition, the Nuclear Quality Services Department independently audits operation phase activities in accordance with FSAR Update Chapter 17.

13.4.2.1 Plant Staff Review Committee

A Plant Staff Review Committee (PSRC) has been established at the plant site to advise the Plant Manager on all matters related to nuclear safety. The PSRC's functions and responsibilities are detailed in Section 17.2 of this FSAR Update.

13.4.2.2 Nuclear Safety Oversight Committee

A program of independent review and audit of nuclear plant operations has been in effect since the initial operation of Pacific Gas and Electric Company's Humboldt Bay Power Plant.Unit 3 in 1963. This program, which was applied to the preoperational testing, startup testing, and operation of Diablo Canyon, has been reviewed and appropriately modified so that it conforms to the requirements and recommendations of ANSI N18.7-1976, Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants.

This committee satisfies the requirements of Sections 4.3 and 4.5 of ANSI 18.7-1976. NSOC's functions and responsibilities are detailed in Section 17.2 of this FSAR Update.

Department to assess their effectiveness and compliance with requirements. The Committee periodically reviews the Corporate Emergency Response Plan for adequacy and investigates or reviews other areas having nuclear safety significance, as directed by the President.

PNAC membership is controlled by the Committee Charter, which is approved by the President.

THE NUCLEAR SAFETY OVERSIGHT COMMITTEE (NSOC) reports to the Senior Vice President and General Manager, Nuclear Power Generation. The Committee is responsible to provide independent review and audit of activities occurring during the operational phase of PG&E's nuclear power facilities. The Committee has the authority to have reviews and audits performed in such areas as nuclear power plant operations, nuclear engineering, chemistry and radiochemistry, metallurgy, instrumentation and control, radiological safety, nondestructive testing, mechanical and electrical engineering, administrative controls, security, and QA practices to independently verify that the performance of activities in these areas is satisfactory. NSOC functions, responsibilities, and meeting requirements are described in this FSAR Update Section 17.2.

THE PLANT STAFF REVIEW COMMITTEE (PSRC) reports to the Senior Vice President and General Manager, Nuclear Power Generation, and is responsible to advise the Vice President, Diablo Canyon Operations and Plant Manager on matters related to nuclear safety. The Committee is responsible for providing timely and continuing monitoring of operating activities to assist the Vice President, Diablo Canyon Operations and Plant Manager in keeping aware of general plant conditions and to verify that day-to-day operating activities are conducted safely and in accordance with applicable administrative controls. The Committee performs periodic reviews of plant operating activities to evaluate plant operations and to plan future activities. In addition, the Committee performs special reviews, investigations or analyses, and screen subjects of special concern as requested by NSOC.

PSRC functions, responsibilities, and meeting requirements are described in this FSAR Update Section 17.2.

THE DIABLO CANYON INDEPENDENT SAFETY ENGINEERING GROUP (ISEG) reports to the Manager, Nuclear Quality Services through the Director, Nuclear Safety Engineering. The group is responsible for implementing the independent technical review functions as described in this FSAR Update, Section 17.2, and shall encompass review of unit operating characteristics, NRC issuances, industry advisories, Licensee Event Reports, and other sources of plant design and operating experience information that may indicate areas for improving plant safety. The ISEG is responsible for providing independent verification that safety-related plant activities are performed correctly and that human errors are reduced as much as practicable. The ISEG is responsible for making detailed recommendations for improving plant safety.

Administrative procedures or charters for the above committees and group provide detailed responsibilities and functions for each committee/group as well as their membership, authority, and reporting requirements.

17.2 QUALITY ASSURANCE PROGRAM

17.2.1 Program Applicability

The quality of the safety-related aspects of the design, construction, and operation of PG&E nuclear power plants shall be assured through the Quality program prescribed by the Quality Assurance (QA) Manual for Nuclear Power Plants (QA Manual), Quality Related Program Directives (PDs) and administrative procedures. The QA Program requirements, as a minimum, apply to those structures, systems, and components classified as Design Class 1 in Section 3.2 of the FSAR Update. The QA Program also applies to the following:

(1) The design, construction, and operation of structures, systems, and components that prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public. The structures, systems and components that serve these functions are Design Class 1. In addition, certain QA Program requirements apply to the non-safety-related programs listed in (1) through (10) below to provide additional assurance that these objectives are satisfied.

(2) The design, construction, and operation of those portions of structures, systems, or components whose function is not required as above but whose failure could reduce the functioning of the above plant features to an unacceptable level or could incapacitate control room occupants. Certain of these structures, systems, and components are conservatively designated as Design Class I. Other non-safety-related structures, systems and components with seismic qualification requirements are subject to the seismic configuration control program listed below. Seismically induced system interaction (SISI) program requirements are governed by quality-related procedures.

(3) Activities affecting the above plant features.

In addition, the QA Program includes requirements that apply to non-safety-related programs for:

(1) Fire Protection
(2) Emergency Plan
(3) Security
(4) Radiation Protection
(5) Environmental Monitoring
(6) Radioactive Waste Management
(7) Fitness for Duty
(8) Regulatory Guide 1.97, Category 2 and 3 Instrumentation
(9) Seismic Configuration Control
(10) Anticipated Transient without Scram Mitigation System Actuation Circuitry (AMSAC) Equipment

17.2.2 Program Control

The status and adequacy of this program shall be regularly monitored, and it shall be revised as necessary to improve its effectiveness or to reflect changing conditions. The Manager, Nuclear Quality Services, is responsible for the preparation, issue, interpretation, and control of the QA Manual and for concurring with changes to Program Directives and administrative procedures that propose a change to the QA Program as it is described in a commitment to a regulatory agency. The Manager, Nuclear Quality Services, is responsible to assure the requirements set forth in the QA Manual and Quality Related PDs and administrative procedures are in compliance with current regulatory requirements and Pacific Gas and Electric Company (PG&E) commitments to the U. S. Nuclear Regulatory Commission (NRC) as shown in Table 17.2.

The QA Program documents, including any changes, supplements, or appendices, are issued and maintained as controlled documents. Proposed changes to the Policy Sections of the QA Manual are reviewed and concurred with in writing by the Manager, Nuclear Quality Services, are reviewed by the President's Nuclear Advisory Committee (PNAC), and are approved by the Senior Vice President and General Manager, Nuclear Power Generation. Proposed changes to PDs are also approved by the Senior Vice President and General Manager, Nuclear Power Generation.

Changes to the QA Program that constitute a reduction in commitments from those in the QA Program description of the current FSAR Update shall be submitted to and approved by the NRC in accordance with 10 CFR 50.54 prior to issue for use. The Manager, Nuclear Quality Services, shall identify to the Senior Vice President and General Manager, Nuclear Power Generation, any changes which constitute a change to the QA Program described in a plant FSAR Update and request such changes be reflected in the next periodic update required by 10 CFR 50.71.

Implementation of the QA Program is accomplished through separately issued procedures, instructions, and drawings. Each Vice President and Manager is responsible for the establishment and implementation of detailed procedures and instructions prescribing the activities for which he is responsible. Such documents are derived from the requirements and reflect the responsibilities specified in the QA Program. Activities affecting quality are accomplished in accordance with these instructions, procedures, and drawings; and all personnel are instructed that compliance with their requirements, and the requirements of the QA Program, are mandatory.

Questions or disputes involving interpretations of QA Program requirements or of the commitments and requirements upon which it is based, are referred to the Manager, Nuclear Quality Services, for resolution. Questions or disputes involving the responsibilities defined in the policy sections of the QA Manual and PDs are referred to the Senior Vice President and General Manager, Nuclear Power Generation. Questions or disputes involving other quality matters are resolved by referring the matter in a timely manner to successively higher levels of management until, if necessary, the matter reaches that level which has direct authority over all contesting parties.

Personnel who perform functions addressed by the QA Program are responsible for the quality of their work. They are indoctrinated, trained, and appropriately qualified to assure that they have achieved and maintained suitable proficiency to perform those functions. Qualifications of such personnel are in accordance with applicable codes, standards, and regulatory requirements.

The Manager, Nuclear Quality Services, or his designated representative, regularly reports to the responsible Company management and the Nuclear Safety Oversight Committee, (NSOC) on the effectiveness of the QA Program as it relates to the design, maintenance, and operation of DCPP nuclear power plants. Such reports are based on the results of audits. inspections, tests, and other observations of activities as prescribed by the QA Program

The President's Nuclear Advisory Committee (PNAC) regularly assesses and reports to the President on the overall status and adequacy of PG&E's QA Program for nuclear power plants. Such assessments shall include overview of the NSOC and effectiveness of PG&E's QA Program.

Annually, the Manager, Nuclear Quality Services Department, shall report to the PNAC on the effectiveness of the QA Program and the Nuclear Quality Service's activities and operations. The assessment shall include an evaluation of Nuclear Power Generation's compliance with current regulatory requirements and commitments to the NRC.

17.2.3 Nuclear Safety Oversight Committee (NSOC)

The QA Program also includes an independent review and audit function, directed by the Nuclear Safety Oversight Committee (NSOC). The NSOC shall function to provide independent review and audit of designated activities in the areas of:

(1) Nuclear power plant operations,

(2) Nuclear engineering,

(3) Chemistry and radiochemistry,

(4) Metallurgy,

(5) Instrument and control,

(6) Radiological safety,

(7) Mechanical and electrical engineering, and

(8) Quality assurance practices.

NSOC shall report to and advise the Senior Vice President and General Manager, Nuclear Power Generation on those areas of responsibility specified in the REVIEW and AUDITS sections below.

COMPOSITION - NSOC shall be composed of a chairman and a minimum of four members. The NSOC Chairman and members shall be appointed in writing by the Senior Vice President and General Manager, Nuclear Power Generation. The NSOC Chairman shall have a minimum of six years of professional level managerial experience in the power field and NSOC members shall have a minimum of five years of professional level experience in the field of their specialty. The NSOC Chairman and all members shall have qualifications that meet or exceed the requirements and recommendations of Section 4.7 of ANSI/ANS 3.1-1978.

CONSULTANTS - Consultants shall be utilized as determined by the NSOC Chairman to provide expert advice to NSOC.

MEETING FREQUENCY - NSOC shall meet at least once per 6 months.

QUORUM - A quorum of NSOC is necessary for the performance of the NSOC functions of this FSAR Update section and shall be a majority (one-half or more) of the members, but no less than four. No more than a minority of the quorum shall have line responsibility for operation of the plant.

REVIEW - NSOC shall review:

(1) The safety evaluations for: (1) changes to procedures, equipment or systems, and (2) tests or experiments completed under the provision of 10 CFR 50.59, to verify that such actions did not constitute an unreviewed safety question;

(2) Proposed changes to procedures, equipment or systems which involve an unreviewed safety question as defined in 10 CFR 50.59;

(3) Proposed tests or experiments which involve an unreviewed safety question as defined in 10 CFR 50.59;

(4) Proposed changes to Diablo canyon Power Plant's Technical Specifications or Operating License;

(5) Violations of Codes, regulations, orders, Technical Specifications, license requirements, or of internal procedures or instructions having nuclear safety significance;

(6) Significant operating abnormalities or deviations from normal and expected performance of plant equipment that affect nuclear safety;

(7) All REPORTABLE EVENTS;

(8) All recognized indications of an unanticipated deficiency in some aspect of design or operation of safety-related structures, systems, or components that could affect nuclear safety; and

(9) Reports and meeting minutes of the Plant Staff Review Committee and the Independent Technical Review Program.

AUDITS - Audits of plant activities shall be performed under the cognizance of NSOC. See FSAR Update Section 17.18 for minimum audit frequency details.

RECORDS - Records of NSOC activities shall be prepared, approved and distributed as indicated below:

(1) Minutes of each NSOC meeting shall be prepared, approved and forwarded to the Senior Vice President and General Manager, Nuclear Power Generation within 14 working days following each meeting;

(2) Reports of reviews encompassed by the REVIEWS section, above, shall be prepared, approved and forwarded to the Senior Vice President and General Manager, Nuclear Power Generation within 14 working days following completion of the review; and

(3) Audit reports encompassed by the AUDITS section, above, shall be forwarded to the Senior Vice President and General Manager, Nuclear Power Generation and to the management positions responsible for the areas audited within 30 days after completion of the audit.

17.2.4 Plant Staff Review Committee (PSRC)

A Plant Staff Review Committee (PSRC) has been established at the plant. The committee satisfies applicable requirements of ANSI N18.7, 1976, and its activities are controlled as described below.

PSRC FUNCTION - The PSRC shall function to advise the Plant Manager on all matters related to nuclear safety.

COMPOSITION - The PSRC shall be chaired by the Plant Manager and shall be composed of a minimum of 8 senior management individuals whose responsibilities include the functional areas of: operations, maintenance, radiation protection, support services, technical services, and quality control. All members shall be appointed in writing by the PSRC Chairman. The qualifications of each PSRC member shall meet or exceed the requirements and recommendations of Section 4.7 of ANSI/ANS 3.1-1978.

ALTERNATES - The Chairman may designate in writing other regular members who may serve as the Acting Chairman of PSRC meetings. All alternate members shall be appointed in writing by the PSRC Chairman. Alternates may be designated for specific PSRC members and shall have expertise in the same general area as the regular PSRC member they represent. No more than two alternates shall participate as voting members in PSRC activities at any one time.

MEETING FREQUENCY - The PSRC shall meet at least once per calendar month and as convened by the PSRC Chairman or his designated alternate.

QUORUM - The minimum quorum of the PSRC is necessary for the performance of the PSRC responsibility and authority provisions of this FSAR Update section shall be a majority (more than one-half) of the members of the PSRC. For purposes of the quorum, this majority shall include the Chairman or his designated alternate and no more than two alternate members.

RESPONSIBILITIES - The Plant Staff Review Committee shall be responsible for:

(1) Reviewing the documents listed below to verify that proposed actions do not constitute , an unreviewed safety question or require a change to the Technical Specifications and recommending approval or disapproval in writing to the appropriate approval authority.

a) Safety evaluations of proposed procedures and procedure changes, to be completed under the provisions of 10CFR50.59;

b) Safety evaluations of proposed tests or experiments to be completed under the provisions of 10CFR50.59;

c) Safety evaluations of proposed changes or modifications to plant structures, systems or equipment to be completed under the provisions of 10CFR50.59.

d) Safety evaluations of proposed changes to the following plans and programs completed under the provisions of 10CFR50.59:

1. Security Plan
2. Emergency Plan
3. Process Control Program
4. ODCP
5. ERMP
6. Fire Protection Program

(2) Reviewing all proposed changes to DCPP's Technical Specifications and advising the Plant Manager on their acceptability;

(3) Investigating all violations of the Technical Specifications including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence to the Senior Vice President and General Manager, Nuclear Power Generation and to the Chairman of the Nuclear Safety Oversight Committee (NSOC); the assessment shall include an assessment of the safety significance of each violation.

(4) Reviewing all REPORTABLE EVENTS in order to advise the Plant Manager on the acceptability of proposed corrective actions, and forwarding of reports covering evaluation and recommendations to prevent recurrence to the Chairman of NSOC;

(5) Reviewing significant plant operating experience or events that may indicate the existence of a nuclear safety hazard, and advising the Plant Manager on an appropriate course of action;

(6) Reviewing any accidental, unplanned, or uncontrolled radioactive release including the preparation and forwarding of reports covering evaluation, recommendations and disposition of the corrective action to prevent recurrence to the Senior Vice President and General Manager, Nuclear Power Generation, and to the Chairman of NSOC;

(7) Recommending in writing to the appropriate approval authority, approval or disapproval of the items considered under (1) and (2), above.

(8) Rendering determinations in writing with regard to whether or not each item considered under (1) through (4), above, constitutes an unreviewed safety question; and

(9) Providing written notification within 24 hours to the Senior Vice President and General Manager, Nuclear Power Generation of disagreement between the PSRC and the Plant Manager; however, the Plant Manager shall have responsibility for resolution of such disagreements.

RECORDS - The PSRC shall maintain written minutes of each PSRC meeting that, at a minimum, document the results of all PSRC activities performed under the responsibility and authority provisions of this FSAR Update section. Copies shall be provided to the Senior Vice President and General Manager, Nuclear Power Generation and to the Nuclear Safety Oversight Committee.

17.2.5 Independent Technical Review Program

An Independent Technical Review Program has also been established at the plant site and shall include the following, as a minimum:

(1) Reviews of NRC issuances, industry advisories, Licensee Event Reports, and other sources that may indicate areas for improving plant safety;

(2) Reviews of internal and external operating experience information that may indicate areas for improving plant safety;

(3) Reviews of plant operating characteristics, plant operations, modifications, maintenance, and surveillance to verify independently that these activities are performed safely and correctly and that human errors are reduced as much as practical; and

(4) Making of detailed recommendations to the Senior Vice President and General Manager, Nuclear Power Generation for revising procedures, equipment modifications or other means of improving nuclear safety and plant reliability.

The Independent Technical Review Program shall utilize several on-site personnel who are independent of the plant management chain to perform the reviews.

RECORDS - Written records of technical reviews shall be maintained. As a minimum, these records shall include the results of the activities conducted, the status of recommendations made, and an assessment of plant operations related to the reviews performed.

QUALIFICATIONS - Personnel performing reviews pursuant to this program shall have at least 3 years of related experience and a bachelors degree in engineering or a related field; or shall have at least eight years of related experience.

17.3 DESIGN CONTROL

Design activities shall be performed in an orderly, planned, and controlled manner directed to achieving the plant design which best serves the needs of Pacific Gas and Electric Company (PG&E) and its customers without posing an undue risk to the health and safety of the public.

Design activities shall be controlled to assure that design, technical, and quality requirements are correctly translated into design documents and that changes to design and design documents are properly controlled. Design control procedures shall address responsibilities for all phases of design including:

(1) Responsibilities
(2) Interface control
(3) Design input
(4) Design performance
(5) Design verification
(6) Design change

Nuclear Quality Services shall sample and review specifications and design drawings to assure that the documents are prepared, reviewed, and approved in accordance with PG&E procedures and that the documents contain the necessary quality assurance (QA) requirements, acceptance requirements, and quality documentation requirements. Quality Assurance audits are performed to verify compliance to these procedures. This Quality Assurance audit process is described in Section 17.18.

Systematic methods shall be established and documented for communicating needed design information across the external and internal design interfaces, including changes to the design information as work progresses. The interfaces between PG&E's Nuclear Technical Services Department and other organizations, either internal or external to PG&E, performing work affecting quality of design shall be identified and documented. This identification shall include those organizations providing criteria, designs, specifications, technical direction, and technical information and shall be in sufficient detail to cover each structure, system, or component and the corresponding design activity.

Provisions for design input shall define the technical objectives for structures, systems, and components being designed or analyzed. For the structure, system, or component being designed, or for the design services being provided (e.g., design verification), design input requirements shall be determined, documented, reviewed, approved, and controlled.

Required design analyses (such as physics, stress, thermal, hydraulic and accident analysis; material compatibility; accessibility for inservice inspection, maintenance, and repair; and ALARA considerations) shall be performed in a planned, controlled, and correct manner. PG&E procedures shall identify the review and approval responsibilities for design analysis.

The preparation and control of design documents (such as specifications, drawings, reports, and installation procedures) shall be performed in a manner to assure design inputs are correctly translated into design documents (e.g., a documented check to verify the dimensional accuracy and completeness of design drawings and specifications).

PG&E shall provide for reviewing, confirming, or substantiating the design to assure that the design meets the specified design inputs. Design verification shall be performed by competent individuals or groups other than those who performed the original design, but who may be from the same department. Individuals performing the verification shall not:

(1) Have immediate supervisory responsibility for the individual performing the design. In exceptional circumstances, the designer's immediate supervisor can perform the verification provided:

a) The supervisor is the only technically qualified individual, and
b) The need is individually documented and approved in advance by the supervisor's management, and
c) QA audits cover frequency and effectiveness of use of supervisors as design verifiers to guard against abuse.

(2) Have specified a singular design approach

(3) Have ruled out certain design considerations

(4) Have established the design inputs for the particular design aspect being verified.

The results of the design verification efforts shall be documented with the identification of the verifier clearly provided. Design verification methods may include, but not be limited to, the following: design reviews, use of alternate calculations, and qualification testing. The design verification shall be identified and documented. The design verification shall be completed prior to relying upon the component system or structure to perform its function. Procedures shall assure that verified computer codes are certified for use and that their applicability is specified.

Proposed changes or modifications to plant systems or equipment that affect nuclear safety shall be designed by a qualified individual or organization, and reviewed by a qualified individual/group other than the individual/group who prepared the change or modification, but who may be from the same organization. These reviews shall include a determination as to whether additional cross-discipline reviews are necessary. If deemed necessary, they shall be performed by review personnel of the appropriate discipline(s). These reviews shall also determine whether a safety evaluation per 10CFR50.59 is necessary. If necessary, one shall be prepared and presented to the Plant Staff Review Committee for review prior to approval.

Each change or modification shall be approved by the Plant Manager or his designee, as specified in administrative procedures, prior to implementation.

Procedures for effecting design changes, including field changes, shall assure that the impact of the change is carefully considered, required actions documented, and information concerning the change transmitted to all affected persons and organizations. These changes shall be subjected to design control measures commensurate with those applied to the original design. Design changes shall be reviewed and approved by the same organization or group that was responsible for the original design.

Document Control measures shall be established for design documents that reflect the commitments of the FSAR Update. These design documents shall include, but are not limited to, specifications, calculations, computer programs, system descriptions, the FSAR Update when used as a design document, and drawings including flow diagrams, piping and instrument diagrams, control logic diagrams, electrical single line diagrams, structural drawings for major facilities, site arrangements, and equipment locations.

Nonconforming activities such as procedure violations, deviations, or errors and deficiencies in approved design documents, including design methods such as computer codes) shall be controlled as described in Sections 17.15 and 17.16.

17.5 INSTRUCTIONS, PROCEDURES, AND DRAWINGS

Activities affecting quality shall be prescribed by and accomplished in accordance with documented procedures, instructions, and drawings.

The Vice President in charge of each PG&E organizational unit which performs activities affecting quality is responsible for the establishment and implementation of instructions, procedures, or drawings prescribing such activities. Standard guidelines for the format, content, and review and approval processes shall be established and set forth in a procedure or instruction issued by that organizational unit.

The method of performing activities affecting quality shall be prescribed in documented instructions, procedures, or drawings of a type appropriate to the circumstances. This may include shop drawings, process specifications, job descriptions, planning sheets, travelers, quality assurance (QA) manuals, checklists, or any other written or pictorial form provided that the activity is described in sufficient detail such that competent personnel could be expected to satisfactorily perform the work functions without direct supervision.

Within the constraints, limitations, or other conditions as may be imposed by the specific plant Technical Specifications and other license requirements or commitments, procedures prescribing a preplanned method of conducting the following aspects of plant operations shall be established in accordance with the applicable regulations, codes, standards, and specifications: preoperational tests; systems operations; general plant activities; startup; shutdown; power operations and load changing; process monitoring; fuel handling; maintenance; modifications; radiation control; calibrations and tests; chemical-radiochemical control; abnormal or alarm conditions; emergency plan; tests and inspections; emergencies; and significant events.

In addition to the above, plant procedures and programs shall be established and controlled as described below.

(1) Written procedures shall be established, implemented, and maintained covering the activities referenced in Specification 6.8.1 of the Diablo Canyon Power Plant's Technical Specifications.

(2) Each procedure of paragraph (1) above, and changes thereto, and all proposed tests or experiments that affect nuclear safety shall be reviewed and approved prior to implementation in accordance with the review and approval requirements below. Each procedure of paragraph (1) above, as modified by Table 17.2, shall also be reviewed periodically as set forth in administrative procedures.

These procedure review and approval requirements apply when approving plant programs and procedures, or changes to plant programs and procedures. They also apply when approving or changing corporate procedures and procedures used by support organizations if they can have an immediate effect on plant operations or the operational status of safety-related structures, systems, or components. They do not apply to editorial or typographical changes.

(3) Each procedure or program required by paragraph (1) above, and other procedures, tests, and experiments that affect nuclear safety or the treatment of radwaste, and changes thereto, shall be prepared by a qualified individual/group. Each procedure, program, test, or experiment, and changes thereto, shall be reviewed by an individual/group other than the individual/group who prepared the proposed document or change, but who may be from the same organization as the individual/group who prepared it, and shall be approved, prior to implementation, by the Plant Manager or his designee, as identified in administrative procedures..

(4) A responsible organization shall be assigned for each program or procedure required by paragraph (1), above. The responsible organization shall assign reviews of proposed procedures, programs, and changes to qualified personnel of the appropriate discipline(s).

(5) Individuals responsible for the above reviews shall be knowledgeable in the document's subject area, shall meet or exceed the qualification requirements of Section 4.7.2 of ANSI/ANS 3.1-1978, and shall be designated as qualified reviewers by the Plant Manager or his designee.

(6) The reviews specified in paragraph (3) above, shall include a determination as to whether additional cross-discipline reviews are necessary. If deemed necessary, they shall be performed by review personnel of the appropriate discipline(s).

(7) The reviews specified in paragraph (3) above, shall also determine whether a safety evaluation per 10CFR50.59 is necessary. If necessary, one shall be prepared and presented to the Plant Staff Review Committee for review prior to approval.

(8) Temporary changes to procedures of paragraph (1) above, may be made provided:

a) The intent of the original procedure is not altered,

b) The change is approved by at least two management staff members who meet applicable qualification requirements of ANSI/ANS 3.1, 1978, and are knowledgeable in the procedure's subject area. For changes to procedures listed below, at least one approver shall hold a Senior Reactor Operator's license.

1. All Operations Section procedures
2. Surveillance Test Procedures
3. Emergency Plan Implementing Procedures
4. Any other procedure if the proposed change affects equipment or system operating status.

If the approving Senior Reactor Operator is not the Shift Foreman of the affected unit, that individual shall determine whether the Shift Foreman should be immediately notified of the change, and shall notify him/her if appropriate.

c) The change is documented, reviewed as described above, and approved by the appropriate approval authority within 14 days of implementation.

17.18 AUDITS

The adequacy and effectiveness of the Quality Assurance (QA) Program shall be continually monitored through a comprehensive system of internal and supplier audits. The audit system implemented by the Nuclear Quality Services Department includes all aspects of the QA Program. The audit system shall:

(1) Verify, through examination and evaluation of objective evidence, that this QA Program has been implemented as required

(2) Identify any deficiencies or nonconformances in this QA Program

(3) Verify the correction of any identified deficiencies or nonconformances

(4) Assess the adequacy and effectiveness of this QA Program.

A comprehensive plan for the audit system shall be established and documented. This plan shall identify: the scope of individual audits which are to be performed; the aspects of this QA Program covered by each audit; and the schedule for performing audits. The audit system plan shall be reviewed at least semiannually, and revised as necessary, to assure that coverage and schedule reflect current activities and that audits of plant operational phase activities are being accomplished in accordance with applicable requirements. Other associated activities included as part of the audit program are: indoctrination and training programs; the qualification and verification of implementation of QA programs of contractors and suppliers; interface control among the applicant and the principal contractors; audits by contractors and suppliers; corrective action, calibration, and nonconformance control systems; FSAR Update commitments; and activities associated with computer codes.

Auditors shall be independent of direct responsibility for the performance of the activities that they audit; have experience or training commensurate with the scope and complexity of their audit responsibility; and be qualified in accordance with applicable standards.

Auditing shall be initiated as early in the life of an activity as is practicable and consistent with the schedule for accomplishing the activity. In any case, auditing shall be initiated early enough to assure that this QA Program is effectively implemented throughout each activity. Individual audits shall be regularly scheduled on the basis of the status and importance of the activities which they address. These audits may be supplemented by additional audits at the discretion of the Manager, Nuclear Quality Services (NQS).

Audits are performed either biennially or annually. The audits are regularly scheduled on a formal audit schedule prepared by Nuclear Quality Services (NQS). The audit schedule is reviewed regularly by the Manager NQS and the Nuclear Safety Oversight Committee (NSOC) and revised as necessary to assure adequate coverage as commensurate with activities and past performance. Audits are performed by trained personnel not having direct responsibilities in the area being audited and in accordance with approved audit plans. Additional audits may be performed as requested by NSOC, the Senior Vice President & General Manager, Nuclear Power Generation, or the Manager, NQS.

The following areas shall be audited at least once per 24 months:

(1) The conformance of plant operation to provisions contained within the Technical Specifications and applicable licenses.

(2) The performance, training, and qualifications of the entire plant staff.

(3) The results of actions taken to correct deficiencies occurring in plant equipment, structures, systems, or method of operation that affect nuclear safety.

(4) The performance of activities required by the Quality Assurance Program to meet the criteria of Appendix B, 10CFR50.

(5) The Fire Protection and Loss Prevention Program, in accordance with the annual and biennial audit and inspection requirements of NRC Generic Letter 82-21.

(6) The Fire Protection and Loss Prevention Program, in accordance with the annual and triennial requirements of NRC Generic Letter 82-21. This audit is usually performed in alternate years from (5). above.

(7) The Radiological Environmental Monitoring Program, implementing procedures, and program results.

(8) The Offsite Dose Calculation Procedure and its implementing procedures.

(9) The Process Control Program and implementing procedures for processing and packaging radioactive wastes.

(10) The Nonradiological Environmental Monitoring Program - at least once per 24 months.

The following activities shall be audited at least once per 12 months unless specified otherwise. However, if the audit frequencies required by the governing regulations are changed, audit frequencies shall at least meet the revised minimum requirements.

(1) The performance of activities required by the Quality Assurance Program for effluent monitoring

(2) The Security Program in accordance with 10CFR73.55(g)(4) and 10CFR73.56(g).

(3) The Access Authorization Program in accordance with 10CFR73.56(g)(1) - at least once per 24 months. If a contractor's or vendor's Access Authorization Program is accepted, that contractor's or vendor's Access Authorization Program shall be audited in accordance with 10CFR73.56(g)(2) - at least once every 12 months.

(4) The Emergency Response Program accordance with 10CFR50.54(t).

(5) The Fitness for Duty Program in accordance with 10CFR26.80.

(6) The Radiation Protection Program in accordance with 10CFR20.

(7) Any other area of operation considered appropriate by the NSOC; the Senior Vice President and General Manager, Nuclear Power Generation; or the Manger, NQS, at a frequency determined by NSOC or the requesting individual.

Audit reports shall be prepared, signed by the Audit Team Leader, and issued to responsible management of both the audited and auditing organizations.

Management of the audited organization shall review the audit report and respond to any quality problem reports, investigate any significant findings to identify their cause and determine the extent of corrective action required, including action to prevent recurrence. They shall schedule such corrective action and also take appropriate action to assure it is accomplished as scheduled. They shall respond to NQS regarding each significant finding stating the root cause, immediate, and the corrective action taken or planned to prevent recurrence.

The NQS Department shall: review the written responses to all audit findings; evaluate the adequacy of each response; assure that corrective action to prevent recurrence is identified and taken for each significant finding; and confirm that corrective action is accomplished as scheduled.

Audit records shall be generated and retained by the NQS Department for all audits.

TABLE 17.2

CURRENT REGULATORY REQUIREMENTS AND PGandE COMMITMENTS
PERTAINING TO THE QUALITY ASSURANCE PROGRAM

The Quality Assurance Program described in the Quality Assurance Manual for Nuclear Power Plants complies with the requirements set forth in the Code of Federal Regulations. In addition, it complies with the regulatory documents and industry standards listed below. Changes to this list are not made without the review and concurrence of the Quality Assurance Manager.

Reg. Guide	Date	Standard No.	Rev.	Title/Subject	Exceptions
S.G.) 28	6/72	ANSI N45.2	1971	Quality Assurance Program Requirements for Nuclear Power Plants	
1.37	3/73	ANSI N45.2.1	1973	Quality Assurance Requirements for Cleaning Fluid Systems and Associated Components of Water-Cooled Nuclear Power Plants	
1.38	5/77	ANSI N45.2.2	1972	Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Water-Cooled Nuclear Power Plants	
1.39	9/77	ANSI N45.2.3	1973	Housekeeping Requirements for Water-Cooled Nuclear Power Plants	Housekeeping zones established at the power plants differ from those described in the standard; however, PGandE is in compliance with the intent of the standard.
1.30	8/72	ANSI N45.2.4	1972	Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electric Equipment	

Reg. Guide	Date	Standard No.	Rev.	Title/Subject	Exceptions
1.94	4/76	ANSI N45.2.5	1974	Quality Assurance Requirements for Installation, Inspection, and Testing of Structural Concrete and Structural Steel During the Construction Phase of Nuclear Power Plants.	Except PG&E will not require manufacturer's certification for material suitability as inferred in ANSI N45.2.5, Sections 3.1 and 3.2 when PG&E procures: (a) material from a supplier that has a QA program that meets the relevant requirements of ASME Section III (NCA-3800/NCA-4000) or 10CFR50, Appendix B and the supplier is included on the PG&E Qualified Suppler List; or (b) material as a Commerical-Grade" item and dedicates it in accordance ith PG&E's Commercial-Grade Dedication Program.
1.29	9/78	--	--	Seismic Design Classification	
1.58	9/80	ANSI N45.2.6	1978	Qualification of Nuclear Power Plant Inspection, Examination and Testing Personnel	ANSI N45.2.6 applies to individuals conducting-independent QC inspections, examinations, and tests. ANSI/ANS 3.1-1978 applies to personnel conducting inspections and tests of items or activities for which they are responsible (e.g., plant surveillance tests, maintenance tests, etc.). ASME Code Case N-356 applies to Level III NDE personnel certifications for ASME Section XI, Division 1. The code case extends Level III NDE Personnel qualifications from three to five years. NDE personnel shall be qualified and certified in accordance with SNT-TC-1A 1980 Edition. "Should" shall be interpreted as "shall" to comply with the intent of ASME Section XI.

Reg. Guide	Date	Standard No.	Rev.	Title/Subject	Exceptions
1.116	5/77	ANSI N45.2.8	1975	Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems	
1.88	10/76	ANSI N45.2.9	1974	Collection, Storage, and Maintenance of Nuclear Power Plant Quality Assurance Records	Except PGandE will comply with the 2-hour rating of Section 5.6 of ANSI N45.2.9 issued July 15, 1979.
1.74	2/74	ANSI N45.2.10	1973	Quality Assurance Terms and Definitions	
1.64	6/76	ANSI N45.2.11	1974	Quality Assurance Requirements for the Design of Nuclear Power Plants	Except PGandE will allow the designer's immediate supervisor to perform design verification in exceptional circumstances and with the controls as described in NUREG-0800, Revision 2, July 1981.
1.144	1/79	ANSI N45.2.12	1977	Auditing of Quality Assurance Programs for Nuclear Power Plants	
1.123	7/77	ANSI N45.2.13	1976	Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Power Plants	In addition to ANSI N45.2.13, Section 10.3.3 PG&E will accept items and services which are complex or involve special processes, environmental qualification, or critical characteristics which are difficult to verify upon receipt by suppliers' Certificate of Conformance if and only if the supplier has been evaluated and qualified utilizing Performance Based Supplier Audit techniques.
1.146	8/80	ANSI N45.2.23	1978	Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants	

Reg. Guide	Date	Standard No.	Rev.	Title/Subject	Exceptions
1.33	2/78	ANSI N18.7/ ANS 3.2	1976	Quality Assurance Program requirements (Operation)	Except that PG&E will not perform biennial review of plant procedures. DCPP has programmatic controls for procedures in place that replace the biennial review process except under the conditions described in note below. These controls are described in PG&E letter to NRC No. DCL-92-204. Except for temporary changes to procedures. PG&E will require a review by an individual who holds a Senior Reactor Operator's license only if the procedure is one of the types listed in Section 17.5 (8) of this FSAR Update. Furthermore, this individual need not be the supervisor in charge of the shift. Except that audit frequencies specified in Regulatory Guide 1.33, Revision 2, need not be met. Audits shall be performed at the frequencies specified in Section 17.18 of this FSAR Update.
1.8	2/79	ANSI/ANS 3.1	1978	Personnel Selection and Training	Except that the one year of qualifying nuclear power plant experience in the overall implementation of the Quality Assurance program can be obtained outside the Quality Assurance organizations. Except certain personnel are trained and qualified to the Institute of Nuclear Power Operations (INPO) criteria as described in FSAR Update Chapter 13. Except that a retraining and replacement training program for the plant staff meets or exceeds the requirements and recommendations of Section 5.5 of ANSI N18.1-1971 and 10 CFR Part 55. This exception is based on the NRC letter to PG&E, dated July 19, 1989, issuing License Amendments No. 43 and 42.
4.15	2/79	--	--	Quality Assurance for Radiological Monitoring Programs (Normal Operations) - Effluent Streams and the Environment	

Note: The following additional controls shall be conformed with as requested by the NRC in response to our PG&E letter DCL-92-204. These controls were requested by the NRC in letter of March 2, 1993, Chron No. 204099.

1. All applicable plant procedures shall be reviewed following an unusual incident, such as an accident, unexpected transient, significant operator error, or equipment malfunction, as specified by Section 5.2 of ANSI N18.7/ANS 3.2.

2. Non-routine procedures (e.g. Emergency Operating Procedures, procedures which implement the Emergency Plan, and other procedures whose usage may be dictated by an event) shall be reviewed at least every two years and revised as appropriate.

3. Routine plant procedures that have not been used for two years shall be reviewed before use to determine if changes are necessary or desirable.

Reg. Guide	Date	Standard No.	Rev.	Title/Subject	Exceptions
BTP PCSB 9.5-1 Appendix A	5/76	--	--	Guidelines for Fire Protection for Nuclear Power Plants	Supplemented by SER, Supplement 13, April 1981, that endorses 10 CFR 50, Appendix R, Section III, Parts G, J, and O. Application of Appendix R, Section III, Parts G, J, and O is clarified and modified by SER Supplement 23, June 1984.
1.26	2/76	--	--	Quality Group Classifications and Standards for Water, Steam, and Radioactive Waste Containing Components of Nuclear Power Plants	Design and construction of Diablo Canyon Power Plant started in 1965 and most of the work cannot comply with the specific requirements of Regulatory Guide 1.26, February 1976. The intent of the Reg. Guide has been followed as shown by comparing the Reg. Guide with Tables 3.2-2 and 3.2-3 in the FSAR.
---	--	NCIG-01	2	Visual Weld Acceptance Criteria for Structural Welding at Nuclear Power Plants	
---	--	NCIG-02	2	Sampling Plan for Visual Reinspection of Welds	
---	--	NCIG-03	1	Training Manual for Inspection of Structural Weld at Nuclear Power Plants Using the Acceptance Criteria of NCIG-01	
1.97	05/83	ANSI/ANS 4.5	1980	Instrumentation for Light-Water-Cooled Nuclear Power Plants To Assess Plant And Environs Conditions During And Following An Accident.	