PACIFIC GAS AND ELECTRIC COMPANY

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JAMES D. SHIFFER
VICE PRESIDENT
NUCLEAR POWER GENERATION

July 26, 1985

PGandE Letter No.: DCL-85-251

Mr. John B. Martin, Regional Administrator
U. S. Nuclear Regulatory Commission, Region V
1450 Maria Lane, Suite 210
Walnut Creek, CA 94596-5368

ATTN: Mr. D. F. Kirsch

Re: Docket No. 50-275, OL-DPR-80
Docket No. 50-323, OL-DPR-81
Diablo Canyon Units 1 and 2
Additional Information on QA Program Description

Dear Mr. Martin:

Enclosed is the response to your letter of May 9, 1985 requesting additional information regarding some of the changes to Chapter 17 of the Diablo Canyon Power Plant Final Safety Analysis Report (FSAR) Update, submitted to you by PGandE letter DCL-85-133 dated March 29, 1985.

The enclosed information provides responses to each of your questions, followed by PGandE's proposed revision to its applicable page of Chapter 17 of the FSAR Update. These revisions were made as a result of a meeting with NRC Region V on July 3, 1985. If no comments are received by September 24, 1985, PGandE will assume these changes are acceptable. Accordingly, PGandE will revise the appropriate documents.

Kindly acknowledge receipt of this material on the enclosed copy of this letter and return it in the enclosed addressed envelope.

Sincerely,

J. D. Shiffer

Enclosure

cc: R. T. Dodds
G. W. Knighton
M. M. Mendonca
H. E. Schierling
Service List

1/1
IE-01

ENCLOSURE

Section 17.1 Organization

NRC Comment:

Item a. "Page 17.1-3, paragraph 6 defines the responsibilities of the Chief, Engineering Research. His responsilities for the development and qualification of any and all metallurgical process procedures (e.g., welding and heat treating) and nondestructive examination procedures required by PGandE, has been deleted. Please identify the person delegated this responsibility and where located in Chapter 17."

PGandE Response:

PGandE will withdraw the proposed wording for the responsibilities of the Chief, Engineering Research, submitted to you March 29, 1985.

However, to more accurately describe the responsibilities of the Chief, Engineering Research, PGandE propose the following wording to replace the third sentence of page 17.1-3 of FSAR Update (Attachment 1):

> "In addition, he has been specifically charged with development, evaluation, qualification, testing, and improvement of welding, brazing, heat treating, and nondestructive examination procedures required by PGandE and evaluation of these procedures used at Diablo Canyon Power Plant by other organizations."

Section 17.1 Organization

NRC Comment:

Item b. "Page 17.1-7 the last paragraph addresses the responsibilities of the General Office Nuclear Plant Review and Audit Committee. The third sentence has been changed from 'The Committee performs reviews and audits...' to 'The Committee has the authority to have reviews and audits performed...' This appears to be a reduction in your Quality Assurance Program commitments in that the change implies that review and audits are at the discretion of the Committee and, therefore, may not be performed."

PGandE Response:

The change in the third sentence of the last paragraph of page 17.1-7 from "The Committee performs reviews and audits..." to "The Committee has the authority to have reviews and audits performed..." was proposed to better reflect the fact that GONPRAC itself does not generally perform audits, but reviews audits which it requires other organizations to perform. It is also to indicate that on a case-by-case basis, GONPRAC may request other organizations or consultants to perform certain required reviews.

PGandE recognizes its obligation to perform all reviews and audits identified in the Technical Specifications of the Diablo Canyon Operating License. This change was in no way meant to suggest that the GONPRAC review and audit requirements would henceforth be considered discretionary.

Section 17.2 Quality Assurance Program

NRC Comment:

Item a. "Page 17.2-1. The third noted change states 'The structures, systems, and components to be covered by the Quality Assurance Program described in the Quality Assurance Manual shall be identified.' A description as to what this statement applies to needs to be addressed. As a minimum, it should include those structures, systems, and components classified as Design Class I given in Table 3.2-3 of Section 3.2 of the FSAR."

PGandE Response:

PGandE will revise Section 17.2, first paragraph, to state that PGandE's Quality Assurance Manual requirements, as a minimum, apply to those structures, systems, and components classified as Design Class 1 in Section 3.2 of the FSAR as discussed in page 17.2-1 of FSAR Update (Attachment 2).

Section 17.2 Quality Assurance Program

NRC Comment:

Item b. "Page 17.2-3. This page appears to have been deleted. The President's Nuclear Advisory Committee (PNAC) Quality Assurance Program functions are addressed on this page. Please explain the reason for this deletion."

PGandE Response:

Page 17-2.3 of FSAR Update has not been deleted. It appears a printing error was made on the copy of Chapter 17. Page 17.2-3 has not been revised and a copy of this page is enclosed (Attachment 3).

Section 17.2 Quality Assurance Program

NRC Comment:

Item c. "Table 17.2, Sheet 3 of 4, exceptions to Regulatory Guide 1.64. In order to take advantage of the 'exceptional circumstances as described in NUREG-0800,' we recommend that you add the words 'and with the controls' after 'circumstances.'"

PGandE Response:

PGandE accepts the recommended additional words "and with the controls" and will revise the appropriate pages. Page 17.3-2 of FSAR Update, third paragraph, states the controls from NUREG-0800 (Attachment 4).

Section 17.3 Design Control

NRC Comment:

"Page 17.3-1, third paragraph. Deletion of quality control review of design drawings and specifications and the subsequent replacement of this quality assurance function by the design organization is an unacceptable reduction in the Quality Assurance Program commitments. Justification based on the Company philosophy that procedural adequacy and the determination of quality aspects related to technical work are the responsibility of the design engineer does not meet the intent of Section 17.2.3 (3E2) of NUREG-0800 'Standard Review Plan.' This attitude, that the engineering organization is comprised of professionals capable of doing what is right without overlaying a stringent formal Quality Assurance Program beyond the normal controls considered part of good engineering practice, is identified in NUREG-1055, page A.16, as one of the contributing factors to the quality failures experienced by the licensee in the Case C study."

PGandE Response:

PGandE will revise FSAR Update Section 17.3, page 17.3-1, third paragraph, to state that, "...quality control shall sample and review specifications and design drawings..." and add two closing sentences stating that, "Quality Assurance audits are performed to verify compliance with these procedures. This Quality Assurance audit process is described in Section 17.18" (Attachment 5).

Section 17.5 Instructions, Procedures, and Drawings

NRC Comment:

> "The deletion of elements to be included in procedures or instructions represents a reduction in your Quality Assurance Program commitments. Please provide justification for this change."

PGandE Response:

The elements deleted relate to the required format of procedures and instructions. Establishing a single format that could be applied to the many and diverse procedure types generated under the PGandE Quality Assurance Program is not necessary or practical at the policy level of the FSAR. This consideration was recognized in the FSAR Update by use of the term "as appropriate" in describing application of the format "elements." Specific requirements addressing format and contents are more appropriately included in the procedures issued by PGandE organizational units as committed to in Section 17.5, paragraph 2.

Section 17.7 Control of Material, Equipment, and Services

NRC Comment:

> "In the first paragraph of page 17.7-1, the words 'in accordance with implementing procedure' was deleted. Please explain the reason for this deletion or leave as worded in the FSAR Update."

PGandE Response:

Deletion of the words "in accordance with implementing procedures" from the first sentence was an editorial change and was necessary because the sentence was not clear as written. The commitment to have implementing procedures to control the procurement process is still present and is contained in Section 17.7, second paragraph.

Section 17.9 Specific Processes

NRC Comment:

> "Additional justification is requested for deletion of 'calibration, fluid flushing systems, application of protective coatings, and concrete batch plant operations' from the list of special processes. These activities appear to fall under the definition of a special process addressed in the second paragraph of Section 17.9. As a minimum, it is expected that if any of these special processes have a safety-related function the applicable controls of this section would apply."

PGandE Response:

Under Item 5, second sentence, PGandE proposes replacing the word "painting" with "protective coating applications" as described in page 17.9-1 of FSAR Update (Attachment 6).

Concrete batch plant operations has not been removed from the list. It is now under Item (5).

Calibration and fluid system flushing can easily be verified by inspection or test after the process is complete; therefore, they do not meet the definition of a special process.

- Calibration is a test itself, and the results that are recorded are the final results; there is no in-process check required or necessary during the calibration process. The final results are what determines the accuracy of the instrument, and the accuracy can be verified by a test (e.g., a subsequent recalibration using a different procedure and standards).

- Fluid system flushing is a construction test, and no special intermediate verification is necessary in order to satisfy the test objectives (cleanliness of the line). Additionally, the test is not highly dependent upon the skill and performance of the person doing the work.

Additionally, both activities fall under the Quality Assurance Program; calibration is discussed in Section 17.12, and fluid system flushing is covered in Section 17.10.

Section 17.12 Control of Measuring and Test Equipment

NRC Comment:

> "Page 17.12-1, the fifth paragraph, third sentence, regarding calibration accuracy is being changed from 'when this is not possible' to 'when this not practical.' Your justification that the four to one ratio is in many cases possible, but may not be economically feasible and/or even desirable, is satisfactory. However, the responsible management, by position or positions that can authorize the basis of acceptance needs to be identified."

PGandE Response:

It is the responsibility of the department manager (e.g., Manager, Station Construction, Chief, Engineering Research, or Plant Manager-Diablo Canyon), who is responsible for the work being conducted with the M&TE, to provide this authorization. Therefore, to clarify our position, PGandE proposes adding to the last sentence of the fifth paragraph of Section 17.12 the following phrase "...of the PGandE organization performing that activity" as described in page 17.12-1 of FSAR Update (Attachment 7).

Attachments (1-7)

THE SENIOR VICE PRESIDENT AND GENERAL COUNSEL is responsible to the Chairman of the Board and Chief Executive Officer for PGandE legal and other corporate matters. Reporting to him through the Vice President and General Attorney are the Attorney (Corporate Law) and the Manager of Safety, Health and Claims.

THE ATTORNEY (CORPORATE LAW) is responsible to the Vice President and General Attorney for all legal matters involving the U.S. Nuclear Regulatory Commission. The Attorney's direct responsibility and authority is limited to the legal aspects of the situation. The technical and quality information for such matters is provided by the appropriate technical group within PGandE, such as Engineering or QA.

THE MANAGER OF SAFETY, HEALTH AND CLAIMS is responsible to the Vice President and General Attorney for the development and administration of PGandE's industrial safety program.

THE EXECUTIVE VICE PRESIDENT, FACILITIES AND ELECTRIC RESOURCES DEVELOPMENT, is responsible for the design and construction of all PGandE power plants and for the operation of PGandE's nuclear power plants. The Executive Vice President reports to the President for all power plant development projects except for the Diablo Canyon Power Plant; for Diablo Canyon he reports to the Chairman of the Board and Chief Executive Officer. Reporting directly to the Executive Vice President are the Vice Presidents of Engineering, Planning and Research, General Construction, and Nuclear Power Generation and the Manager, Quality Assurance. In addition, the General Office Nuclear Plant Review and Audit Committee (GONPRAC) also reports to the Executive Vice President. Also reporting to the Executive Vice President may be one or more Project Managers.

THE VICE PRESIDENT, PLANNING AND RESEARCH, is responsible for providing siting, research and development, and environmental plans and programs; environmental permits and certificates; and specialized engineering, technical, and scientific services to support the construction and operation of nuclear power plants.

THE CHIEF, ENGINEERING RESEARCH, is responsible to the Vice President, Planning and Research, for providing technical investigations, tests, analyses, examinations, and calibration services and for directing PGandE's research and development program. He also provides environmental, radiological and health physics investigations, analyses, monitoring, and mitigation services. In addition, he has been specifically charged with development, evaluation, qualification, testing, and improvement of welding, brazing, heat treating, and nondestructive examination procedures required by PGandE and evaluation of these procedures used at Diablo Canyon Power Plant by other organizations.

THE CHIEF, SITING, is responsible to the Vice President, Planning and Research, for identifying suitable nuclear power plant sites. He is also responsible for assisting in obtaining required environmental permits and certificates for the construction and operation of PGandE nuclear power plants.

17.2 QUALITY ASSURANCE PROGRAM

The quality of the safety-related aspects of the design, construction, and operation of PGandE nuclear power plants shall be assured through the program prescribed by the Quality Assurance (QA) Manual for Nuclear Power Plants (QA Manual). The QA Manual 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 Manual shall also apply 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.

(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.

(3) Activities affecting the above plant features.

In addition, the QA Manual requirements apply to the programs for:

(1) Fire Protection

(2) Emergency Plan

(3) Security

(4) Radiation Protection

(5) Environmental Monitoring

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, Quality Assurance, is responsible for the preparation, issue, interpretation, and control of the QA Manual. The Manager, Quality Assurance, is responsible to assure the requirements set forth in the QA Manual are in compliance with current regulatory requirements and Pacific Gas and Electric Company (PGandE) commitments to the U. S. Nuclear Regulatory Commission (NRC) as shown in Table 17.2.

The QA Manual, including any changes, supplements, or appendices, is issued and maintained as a controlled document. Proposed changes to the policy sections of the QA Manual are reviewed and concurred with in writing by the Manager, Quality Assurance, and by the

DCPP UNITS 1 & 2 FSAR UPDATE

PNAC annually performs, or causes to be performed, an independent audit of the overall QA Program prescribed by the QA Manual and of the PGandE QA Department and its activities and operations. The purpose of this audit is to evaluate the adequacy and effectiveness of the QA Department's functions, and to verify implementation of, and compliance with current regulatory requirements and PGandE commitments to the NRC.

PNAC regularly assesses and reports to the President on the overall status and adequacy of PGandE's QA Program for nuclear power plants. Such assessment shall include consideration of the results of their overview activities related to GONPRAC and of the independent audit specified above. It may also include consideration of such other objective information and data as PNAC considers relevant and appropriate.

TABLE 17.2

Reg. Guide	Date	Standard No.	Rev.	Title/Subject	Exceptions
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. 50.54
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	
1.146	8/80	ANSI N45.2.23	1978	Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants	
1.33	2/78	ANSI N18.7	1976	Quality Assurance Program Requirements (Operation)	

Attachment 4

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.

These procedures require that quality control 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 requirements such as inspection and test requirements, acceptance requirements, and the extent of documenting inspection and test results. 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 Engineering 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.

17.9 SPECIAL PROCESSES

Special processes shall be controlled and performed by qualified personnel using qualified procedures or instructions in accordance with applicable codes, standards, specifications, criteria, or other special requirements.

A special process is an activity in which the quality of the result is highly dependent upon either process variables or the skill and performance of the person doing the work and the specified quality is difficult to verify by inspection and test after the process is completed.

Special processes include, but are not limited to:

(1) Welding

(2) Heat treating

(3) Nondestructive examination

(4) Chemical cleaning

(5) Others as specified in design and procurement documents. Examples are certain protective coating applications and concrete batch plant operations, which are controlled by specifications on a case-by-case basis.

The implementing instructions shall contain the criteria for assuring proper process control and shall be qualified and controlled to assure compliance with applicable codes, standards, quality assurance (QA) procedures, and design specifications. Substantiating records of qualifications and controls shall be maintained. The QA Department shall audit the departments that qualify personnel and procedures to assure that the process qualification activity, records, and personnel meet the applicable requirements. QA shall also audit the organizations implementing special processes to provide assurance that the processes are carried out in accordance with approved procedures by qualified personnel using qualified equipment and that required records are properly maintained.

17.12 CONTROL OF MEASURING AND TEST EQUIPMENT

Organizational responsibilities shall be delineated for establishing, implementing, and assuring the effectiveness of the calibration program for measuring and test equipment (M&TE). This program shall include the generation, review, and documented concurrence of calibration procedures; the calibration of measuring and test equipment; and the maintenance and use of calibration standards.

M&TE, including reference standards, used to determine the acceptability of items or activities shall be strictly maintained within prescribed accuracy limits.

M&TE, including reference standards, shall be of suitable range, type, and accuracy to verify conformance with requirements.

Procedures for control of M&TE shall provide for the identification (labeling, codes, or alternate documented control system), recall, and calibration (including documented precalibration checks) of the M&TE. The calibration procedures shall delineate any necessary environmental controls, limits, or compensations in excess of those which may be inherent to the general program.

The calibrations shall utilize documented valid relationships to nationally recognized standards or accepted values of natural physical constants. Where national standards do not exist, the basis for the calibration shall be documented. Calibration of M&TE shall be against standards that have an accuracy of at least four times the required accuracy of the equipment being calibrated or, when this is not practical, have an accuracy that assures the equipment being calibrated will be within required tolerance and that the basis of acceptance is documented and authorized by responsible management of the PGandE organization performing that activity.

Calibrating standards have greater accuracy than standards being calibrated. Calibrating standards with the same accuracy may be used if it can be shown to be adequate for the requirements and the basis of acceptance is documented and authorized by responsible management.

The calibration intervals, whether calendar- or usage-based, shall be predetermined and documented. Indication of expiration, if feasible, will be displayed on or with the M&TE. Significant environmental or usage restrictions will be indicated on or with the equipment or be factored into the documented system used to control the issuance of the M&TE. Special calibration shall be required whenever the accuracy of the equipment is suspect.

Records shall be maintained to show that established schedules and procedures for the calibration of the M&TE have been followed. M&TE shall be identified and traceable to the