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## PACIFIC GAS AND ELECTRIC COMPANY

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OFFICE OF SECRETARY  
OF ENERGY  
WASHINGTON, D.C.

November 10, 1982

Mr. Samuel S. Chilk  
Secretary of the Commission  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Re: Docket No. 50-275, OL-DPR-76  
Diablo Canyon Unit 1  
Comments on October 20, 1982  
NRC Staff Briefing to the Commissioners

Dear Mr. Chilk:

In response to the Secretary of the Commission's October 21, 1982 notification, attached are PGandE's comments on the October 20, 1982 Commission Meeting and associated Staff Presentation.

Very truly yours,

Philip A. Crane, Jr.

PAC:LS  
Attachment

cc: NRC Commissioners  
H. R. Denton, NRR  
D. G. Eisenhut, NRR  
R. H. Engelken, Region V  
R. A. Parrish, OGC  
W. E. Cooper, Teledyne  
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NOVEMBER 10, 1982 NRC COMMISSION MEETING

SUBJECT: Pacific Gas and Electric Company's Comments on the October 20, 1982 NRC Staff Briefing to The Commissioners and SECY 82-414

Docket No. 50-275  
Diablo Canyon Unit No. 1  
License No. DPR-76

PURPOSE: As notified by Memorandum dated October 21, 1982 from the Secretary of the Commission, PGandE is providing its comments on the October 20, 1982 NRC Staff Presentation to the Commission regarding the Diablo Canyon Design Verification Program Phase II Recommendations.

BACKGROUND: On October 19, 1982, the NRC Staff, PGandE, and participants in the Independent Design Verification Program (IDVP) met in Bethesda, Maryland to discuss the status of this case and to characterize the findings to date of the IDVP and PGandE's Internal Technical Program (ITP).

On October 20, 1982, the NRC Staff briefed the NRC Commissioners on SECY 82-414. The Staff's paper described the IDVP and ITP, and presented recommendations with respect to both Phase I and Phase II of the programs. The Staff recommended that the Commission approve the Phase II Program Plan and contractors with certain modifications and recommended that certain of the Phase II efforts be completed prior to restoration of the low power license.

The Staff concluded in that meeting that completion of the activities identified in its presentation would provide reasonable assurance that no major deficiencies remain undetected and would demonstrate that the plant is designed and constructed in accordance with the license application.

DISCUSSION: PGandE supports the Phase II Program recommendations made by the Commission Staff in SECY 82-414 and presented to the Commission on October 20, 1982. PGandE believes that it is fully responsive to the Commission's Order of November 19, 1981, mandating an independent review of Diablo Canyon Nuclear Power Plant. Additionally, PGandE supports the Staff recommendations specifying the requirements which should be completed prior to restoration of the low power license and issuance of a full power license. A description of PGandE's request for a stepwise licensing approach, which is consistent with Staff recommendations, is summarized.

I. Introduction

PGandE is in agreement with the recommendations of the Staff on the Phase II Program Plan and the requirements for restoration and issuance of the low power and full power licenses, respectively. PGandE also agrees with the Staff's characterization of the status and findings of the Phase I and Phase II programs.

Pursuant to the Staff recommendations for licensing, we request that the Commission adopt a stepwise licensing schedule for fuel loading, low power testing, and full power licensing. This process will provide sufficient flexibility to complete the remaining work by PGandE, the independent design verification program (IDVP), and the Staff without unnecessary delay.

II. Status of Verification Activities and Summary of Findings to Date

The Phase I efforts related to seismic design are nearly complete. PGandE's efforts have been documented in its Phase I Final Report which has been, and continues to be, submitted in installments since September 1, 1982. This report describes the seismic reanalysis and includes the scope, criteria, methodology, and analysis results pertaining to structures, piping, supports, HVAC, electrical and mechanical equipment, and instrumentation tubing. The findings related to seismic design are being addressed and resolved by the PGandE corrective action program. These corrective actions, as required by the Phase I program plan, will be verified by the IDVP and the NRC Staff.

The Phase II efforts which concentrate on non-seismic design are nearing completion. Although this effort has identified specific findings, preliminary evaluations by the IDVP as stated by Dr. Cooper to the Staff on October 19, 1982 have indicated that generic concerns similar to those in seismic design are not being found.

A construction quality assurance (CQA) verification effort was voluntarily undertaken to provide added confidence in the adequacy of the plant's construction. Consistent with NRC Region V recommendations, about 250 attributes of construction activities were selected for quality verification. A plan was developed to evaluate two of the major contractors' QA programs and to sample various equipment, structures, and contractors' records for documentary evidence of adherence to approved procedures as well as physical evidence of conformance with design intent. The sample was specifically chosen to include the reactor coolant system pressure boundary and the containment structure, two of the major barriers that prevent radioactivity from reaching the environment.

These CQA evaluations are now nearing completion. The potential findings to date are minor in nature and, while some are still being evaluated, fall into the following categories:

1. Potential findings that can be resolved as additional information is located. For example, ultrasonic testing records on some tubing did not show a type of testing which appeared to be required. Further investigation revealed that the requirement was deleted by a change order not in the site file.
2. Minor documentation discrepancies that, nevertheless, meet design document requirements. For example, records of inspections being documented in a manner different from procedure or items that do not meet requirements in a contractor's procedure that, nevertheless, comply with design document requirements.
3. Deviations from a procedure or specification without a record of Engineering concurrence. For example, the case of surface imperfections in structural concrete which exceed the requirements of construction specifications. In such a case, a simple engineering evaluation can be performed and documented to resolve the issue.

None of the CQA findings to date appear to have any significant safety impact or to require significant plant modifications.

In summary, the seismic, non-seismic and construction quality assurance verification activities are nearing completion. When the verification aspects of these programs are sufficiently complete and appropriate corrective actions for fuel loading are taken, reasonable assurance will exist that fuel load activities can proceed without any undue risk to the public health and safety.

### III. PGandE's Stepwise Licensing Schedule

The original licensing concept, as contemplated by the Commission's November 19, 1981 Order (Phase I) and the NRC Staff's November 19, 1981 Letter (Phase II), was comprised of a two-phase licensing process, with Phase I activities to be completed prior to restoration of the low power license and Phase II activities to be completed prior to issuance of a full power license. In the Staff's presentation, this concept was somewhat modified with the result that total separation between the two phases as originally envisioned is no longer appropriate. The Staff has recommended a modified version of stepwise licensing for low power testing and full power operation. Additionally, the Staff has concurred with PGandE's proposal to complete prior to fuel loading the review, analysis, and modifications for those systems required for fuel load. The basic changes proposed by the Staff are the expansion of Phase II activities and the addition of a requirement that the review and evaluation effort for Phase II activities be sufficiently complete prior to restoration of the low power license to provide reasonable assurance that no major deficiencies remain undetected.

A literal adoption of this proposal would delay fuel loading with ut commensurate benefit to the public health and safety. While PGandE agrees with the scope of the Staff's recommended activities for restoration of the low power license, we believe that not all of these activities are necessarily required for fuel load and cold system testing. To avoid unnecessary delay, we request that only a subset of these activities need be completed prior to restoration of the license with the remainder to be completed prior to initial criticality and low power testing. This proposed course of action could save as much as twenty weeks based upon the typical startup experience of recently licensed PWR's. We submit that this is a reasonable scheduling refinement which comports with the Staff's recommendations. We agree, however, that the Phase II findings would have to be sufficiently complete prior to restoration of the low power license to give reasonable assurance that no major deficiencies remain undetected.

Accordingly, we request that the Commission adopt a three-step schedule which provides the flexibility for completing remaining work by PGandE, the IDVP and the Staff without a penalty in terms of unnecessary delay. Specifically, the steps would be:

- A. Complete requirements to allow for restoration of the low power license and authority for loading fuel and cold system testing.
- B. Complete the remaining requirements for initial criticality and low power testing under the authority of the low power license.
- C. Complete requirements for issuance of a full power license.

Licensing Step A - Requirements for Restoration of Low Power License and Authority for Loading Fuel and Cold System Testing

PGandE requests that the low power license be restored when the following requirements have been accomplished. The license would allow fuel loading and cold system testing and require specific additional conditions to be satisfied prior to initial criticality and low power testing.

1. IDVP Reports

- a) A status report demonstrating that the activities required by the Commission's November 19, 1981 Order (Phase I) are sufficiently complete to provide reasonable assurance that no major deficiencies remain undetected. This report would document the completion of verification efforts related to the initial sample and any additional verification or sampling activities, document closure of all issued findings, and concur with the corrective actions for systems required for fuel loading and cold system testing. (SECY 82-414, Fig. 3, Item A.1)

- b) A status report demonstrating that the activities required by the Staff's November 19, 1981 Letter (Phase II) are sufficiently complete to provide reasonable assurance that no major deficiencies remain undetected. (SECY 82-414, Fig. 3, Items B.1-B.3)
- c) A status report on the review of the PGandE/ Bechtel Quality Assurance Program for engineering and design. (SECY 82-414, Fig. 3, Item C.1)
- d) A status report on the PGandE Quality Assurance Construction Review. A status report is required by the Staff prior to issuance of a full power license and a final report is required by the Staff during full power operation. (SECY 82-414, Fig. 3, Item C.2)
- e) A status report which verifies that the as-built modifications conform with the design (as-built walk-down) for systems required for fuel load and cold system testing. A status report is required by the Staff prior to issuance of a full power license and a final report is required by the Staff during full power operation. (SECY 82-414, Fig. 3, Item C.3)
- f) A final report which verifies the PGandE and Westinghouse interface controls for the transfer of design information. (SECY 82-414, Fig. 3, Item C.5)
- g) A final report which verifies PGandE's control and application of the Hosgri spectra. (SECY 82-414, Fig. 3, Item C.6)
- h) A status report by the IDVP which verifies PGandE's control and application of non-Hosgri Spectra for the design earthquake and the double design earthquake. A final report is required by the Staff prior to the issuance of a full power license. (SECY 82-414, Fig. 3, Item C.7)

## 2. PGandE Reports

- a) A final report on the activities of the PGandE Internal Technical Program related to the Commission's November 19, 1981 Order (Phase I). (SECY 82-414, Fig. 3, Item B.1-3)

## 3. Modifications

- a) Completion of those modifications necessary to assure that systems specifically identified as required for fuel load and cold system testing are seismically qualified and operational. In addition, systems identified as supportive for fuel load and cold system testing will be operational. (SECY 82-414, Fig. 3, Item C.4)

#### 4. NRC Concurrence

- a) NRC Staff concurrence that fuel load and cold system testing may proceed.

These steps will provide reasonable assurance for the protection of the public health and safety during fuel loading and cold system testing. The IDVP status reports will respond to the Staff's recommendations that Phase I and II and other expanded verification activities should be sufficiently complete to provide assurance that no major deficiencies remain undetected.

The status reports will provide comprehensive information concerning findings associated with these ongoing activities and the necessary basis for making an informed licensing decision. In particular, these status reports would:

1. summarize the review activities completed,
2. describe any findings to date and their significance,
3. discuss their apparent causes, and
4. summarize PGandE actions which are planned to resolve those findings associated with required systems and equipment.

Additionally, the reports describe the activities which remain to be completed, provide an evaluation of possible generic concerns and assess the potential significance of these generic concerns.

#### Licensing Step B - Requirements for Initial Criticality and Low Power Testing under the Authority of the Low Power License

The following items would be included as conditions of the restored low power license. Criticality would not be initiated until these items have been completed.

##### 1. IDVP Reports

- a) A final report as required by the Commission's November 19, 1981 Order (Phase I) (SECY 82-414, Fig. 3, Item A.1)
- b) A status report which verifies that the as-built modifications conform with the design (as-built walk-down) for systems required for initial criticality and low power testing. A status report is required by the Staff prior to the issuance of a full power license and a final report is required by the Staff during full power operation. (SECY 82-414, Fig. 3, Item C.3)

2. Modifications

- a) Completion of those modifications necessary to assure that systems required for initial criticality and low power testing are seismically qualified and operational. These systems are identified in the Technical Specifications as required for operating modes 2 through 6. (SECY 82-414, Fig. 3, Item C.4)

3. NRC Concurrence

- a) NRC Staff concurrence that initial criticality and low power testing may proceed.

These items will satisfy both the requirements of the Commission's November 19, 1981 Order and the Staff's recommendations to the Commission in SECY 82-414.

Licensing Step C - Requirements for Issuance of a Full Power License

The following items will be completed prior to the issuance of the full power license.

1. IDVP Reports

- a) A final report as required by the November 19, 1981 Letter (Phase II). (SECY 82-414, Fig. 3, Items B.1-B.3)
- b) A final report on the review of the PGandE/Bechtel Quality Assurance Program for engineering and design. A final report is required by the Staff during full power operation. (SECY 82-414, Fig. 3, Item C.1)
- c) A final report on the PGandE Quality Assurance Construction Review. A final report is required by the Staff during full power operation. (SECY 82-414, Fig. 3, Item C.2)
- d) A status report which verifies that the as-built modifications conform with the design (as-built walk-down) for systems required for full power operation. A final report will be submitted as required by the Staff during full power operation. (SECY 82-414, Fig. 3, Item C.3)
- e) A final report which verifies PGandE's control and application of non-Hosgri spectra for the design earthquake and double design earthquake (SECY 82-414, Fig. 3, Item C.7)



2. PGandE Reports

- a) A final report by PGandE as required by the Staff's November 19, 1981 Letter (Phase II). (SECY 82-414, Fig. 3, Item B.1-3)

3. Modifications

- a) Completion of those modifications necessary to assure that systems required for full power operation are seismically qualified and operational. These systems are identified in the Technical Specifications as required for operating modes 1 through 6. Modifications not required for full power operation will be completed as reasonably practicable (SECY 82-414, Fig. 3, Item C.4)

4. NRC Concurrence

- a) NRC Staff concurrence that ascension above 5% rated power may proceed.

These items will satisfy the Staff's requirements in the November 19, 1981 letter as modified by the Staff's recommendations in their presentation, for issuance of a full power license.

IV. Conclusion

We urge the Commission to approve the Staff's recommendation for the Phase II program plan and contractors and to adopt the specific requirements suggested above for restoration of the low power license, low power testing, and issuance of a full power license.

**PG&E**  
**COMMENTS ON OCTOBER 20**  
**COMMISSION MEETING AND**  
**SECY-82-414**

- 1. RECOMMEND APPROVAL OF PHASE II  
PLAN AS PROPOSED BY STAFF**
- 2. CONCUR THAT THE SCOPE OF ACTIVITIES  
RECOMMENDED BY STAFF PROVIDES  
REASONABLE ASSURANCE THAT DIABLO  
CANYON IS DESIGNED AND CONSTRUCTED  
TO LICENSING CRITERIA**
- 3. ADOPT SPECIFIC REQUIREMENTS FOR  
RESTORATION OF THE LOW POWER  
LICENSE, LOW POWER TESTING, AND  
ISSUANCE OF THE FULL POWER LICENSE**

# **STEPWISE LICENSING SCHEDULE**

**STEP A COMPLETE REQUIREMENTS TO  
ALLOW RESTORATION OF THE LOW  
POWER LICENSE AND AUTHORITY  
FOR FUEL LOAD AND COLD SYSTEM  
TESTING**

**STEP B COMPLETE REMAINING  
REQUIREMENTS FOR INITIAL  
CRITICALITY AND LOW POWER  
TESTING UNDER THE AUTHORITY OF  
THE LOW POWER LICENSE**

**STEP C COMPLETE REQUIREMENTS FOR  
ISSUANCE OF A FULL POWER  
LICENSE**

# **STEP A: RESTORE LOW POWER LICENSE INCLUDING AUTHORITY TO LOAD FUEL AND CONDUCT COLD SYSTEM TESTING**

## **I. IDVP REPORTS:**

- 1. IDVP PHASE I AND PHASE II STATUS REPORTS\***
- 2. STATUS REPORTS\* ON ITP QA, CONSTRUCTION QA,  
AS-BUILT VERIFICATION OF MODIFICATIONS AND  
NON-HOSGRI SPECTRA**
- 3. FINAL REPORTS ON PG&E/W INTERFACE AND HOSGRI  
SPECTRA**

## **II. PG&E PHASE I FINAL REPORT**

## **III. MODIFICATIONS FOR FUEL LOAD AND COLD SYSTEM TESTING**

## **IV. NRC STAFF CONCURRENCE TO PROCEED WITH FUEL LOAD AND COLD SYSTEM TESTING**

**\*STATUS REPORTS TO DEMONSTRATE THAT ACTIVITIES ARE SUFFICIENTLY  
COMPLETE TO PROVIDE REASONABLE ASSURANCE THAT NO MAJOR  
DEFICIENCIES REMAIN UNDETECTED.**

# **STEP B: INITIAL CRITICALITY AND LOW POWER TESTING**

## **I. IDVP REPORTS:**

- 1. PHASE I FINAL REPORT**
- 2. STATUS REPORT ON AS-BUILT  
VERIFICATION OF MODIFICATIONS**

## **II. MODIFICATIONS FOR LOW POWER TESTING**

## **III. NRC STAFF CONCURRENCE TO PROCEED WITH INITIAL CRITICALITY AND LOW POWER TESTING**

# **STEP C: ISSUANCE OF FULL POWER LICENSE**

## **I. IDVP REPORTS:**

### **1. PHASE II FINAL REPORT**

### **2. FINAL REPORTS ON ITP QA, CONSTRUCTION QA, AS-BUILT VERIFICATION OF MODIFICATIONS, AND NON-HOSGRI SPECTRA**

## **II. PG&E PHASE II FINAL REPORT**

## **III. MODIFICATIONS FOR FULL POWER**

## **IV. NRC STAFF CONCURRENCE TO PROCEED WITH FULL POWER**

# COMPARISON OF SCHEDULES FUEL LOAD AND LOW POWER TESTING

ACTIVITY	STAFF RECOMMENDATION	PG&E REQUEST	
	FL/LP	FL	LP
A.1 COMMISSION ORDER (PHASE I)	FINAL*	STATUS**	FINAL
B.1-3 STAFF LETTER (PHASE II)	STATUS	STATUS	—
C. OTHER			
1. ITP QA	STATUS	STATUS	—
2. CONSTRUCTION QA	—	STATUS	—
3. AS-BUILT VERIFICATION	—	STATUS	STATUS
4. MODIFICATIONS	(COMPLETE)	(COMPLETE)	(COMPLETE)
5. PG&E/W INTERFACE	FINAL	FINAL	—
6. HOSGRI	FINAL	FINAL	—
7. NON-HOSGRI	STATUS	STATUS	—

\*IDVP FINAL REPORT

\*\*IDVP STATUS REPORT

# COMPARISON OF SCHEDULES FULL POWER

<b>ACTIVITY</b>	<b><u>STAFF RECOMMENDATION</u></b>	<b><u>PG&amp;E REQUEST</u></b>
	<b>FULL POWER</b>	<b>FULL POWER</b>
<b>A.1 COMMISSION ORDER (PHASE I)</b>	(FINAL FL/LP)	(FINAL FL/LP)
<b>B.1-3 STAFF LETTER (PHASE II)</b>	FINAL	FINAL
<b>C. OTHER</b>		
<b>1. ITP QA</b>	FINAL	FINAL
<b>2. CONSTRUCTION QA</b>	STATUS	FINAL
<b>3. AS-BUILT     VERIFICATION*</b>	STATUS	STATUS
<b>4. MODIFICATIONS**</b>	(COMPLETE)	(COMPLETE)
<b>5. PG&amp;E/<u>W</u> INTERFACE</b>	(FINAL FL/LP)	(FINAL FL/LP)
<b>6. CORRECT HOSGRI</b>	(FINAL FL/LP)	(FINAL FL/LP)
<b>7. NON-HOSGRI</b>	FINAL	FINAL

\* A FINAL REPORT WILL BE SUBMITTED AS RECOMMENDED BY THE STAFF DURING FULL POWER OPERATION.

\*\* MODIFICATIONS NOT REQUIRED FOR FULL POWER OPERATION WILL BE COMPLETED AS SOON AS PRACTICABLE.