ORIGINAL

RELATED CORRESPONDENCE

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OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

In the Matter of	
PACIFIC GAS AND ELECTRIC COMPANY	Docket Nos. 50-275 50-323
(Diablo Canyon Nuclear Power Plant, Units No. 1 and 2)	(Reopened Hearing -- Design Quality Assurance)

APPLICANT PACIFIC GAS AND ELECTRIC COMPANY'S
ANSWERS TO
JOINT INTERVENORS' SECOND SET OF INTERROGATORIES

INTERROGATORY NO. 1:

List all non-Class I structures, systems, and components at Diablo Canyon Nuclear Power Plant ("Diablo Canyon") that are "important to safety," as that term is prescribed and defined in the November 20, 1981 memo from Harold Denton entitled "Standard Definitions for Commonly-Used Safety Classification Items."

8309090270 830901
PDR ADOCK 05000275
G PDR

D503

RESPONSE TO INTERROGATORY NO. 1:

Applicant objects on the grounds that the interrogatory seeks discovery of matters which are beyond the scope of the Board's order of August 26, 1983.

INTERROGATORY NO. 2:

List each and every major contractor and subcontractor for Diablo Canyon, Units 1 and 2, that has been involved in the design of structures and/or systems and/or components important to safety. For PGandE and each such contractor or subcontractor state:

(a) the time period when the subcontractor did design of such structures, systems, and/or components; and

(b) the time period when the subcontractor did not develop and/or implement a QA/QC program that complied fully with 10 C.F.R. Part 50, Appendix B, and Appendix A, GDC-1.

RESPONSE TO INTERROGATORY NO. 2:

Applicant objects on the grounds that the interrogatory seeks discovery of matters which are beyond the scope of the Board's Order of August 26, 1983.

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INTERROGATORY NO. 3:

For PGandE and each of its past or present major Diablo Canyon contractors and subcontractors, state whether you contend that, at all times during their work at Diablo Canyon, each had established and implemented a design QA/QC program that complied fully with 10 C.F.R. Part 50, Appendix B, and Appendix A, GDC-1. If you do not so contend, for each company, contractor, or subcontractor, state:

(a) each and every fact which supports your answer, including a description of the noncompliance;

(b) each 10 C.F.R. Part 50, Appendix A or B criterion not complied with;

(c) the time period in which such noncompliance occurred; and

(d) as to each instance of noncompliance, all measures, if any, taken by you or others to compensate for the noncompliance.

RESPONSE TO INTERROGATORY NO. 3:

As to PGandE, its contractors or subcontractors, for the period prior to November 19, 1981, the interrogatory is irrelevant and asks for matters which are beyond the scope of the Board's Order of August 26, 1983. With regard to the ITP as specified in Contention Number 8 of the same Order, there is full compliance.

INTERROGATORY NO. 4:

List each ITR, with revision number, upon which you intend to rely in the reopened design quality assurance proceeding. As to each ITR, identify specifically the sections upon which you intend to rely.

RESPONSE TO INTERROGATORY NO. 4:

Applicant intends to put into evidence each and every ITR in its latest revision and to rely upon each in its entirety.

INTERROGATORY NO. 5:

State whether you intend to rely upon the IDVP Final Report in the reopened design quality assurance proceeding. If so, identify specifically the sections upon which you intend to rely.

RESPONSE TO INTERROGATORY NO. 5:

Applicant intends to put into evidence the IDVP Final Report and rely upon it in its entirety.

INTERROGATORY NO. 6:

State whether you intend to rely upon the NRC Staff Diablo Canyon SER Supplement 18, in the reopened design quality assurance proceeding. If so, identify specifically the sections upon which you intend to rely.

RESPONSE TO INTERROGATORY NO. 6:

Applicant intends to put the NRC Staff Diablo Canyon SER Supplement 18, into evidence and to rely upon it in its entirety.

INTERROGATORY NO. 7:

State whether you have reviewed the Quality Assurance Review and Audit Reports issued by R.F. Reedy, Inc. in March 1982 regarding design activities of PGandE and various of its contractors or subcontractors. If so, state specifically:

(a) each fact stated therein with which you disagree;

(b) the specific pages of each report where the facts set forth in your answer to subparagraph (a) are located;

(c) each conclusion or opinion stated therein with which you disagree;

(d) the specific pages of each such report where the conclusions or opinions set forth in your answer to subparagraph (c) are located; and

(e) the specific basis for your disagreement with each such fact, conclusion, or opinion.

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RESPONSE TO INTERROGATORY NO. 7:

Applicant objects on the grounds that the interrogatory seeks discovery of matters which are beyond the scope of the Board's Order of August 26, 1983.

INTERROGATORY NO. 8:

List each and every respect in which the DCP Corrective Action Program is not now complete with respect to any corrective action which is necessitated by, arises out of, or relates to a defect, nonconformance, or deficiency in (a) the design of Diablo Canyon or (b) the design QA program of PGandE or any the [sic] design QA programs of its past or present contractors or subcontractors. In addition, identify specifically (a) each and every structure, system, or component important to safety as to which such corrective action is not complete, (b) the specific corrective action, including any modifications, not completed, and (c) the defect, nonconformance, or deficiency necessitating or leading to such corrective action.

RESPONSE TO INTERROGATORY NO. 8:

Applicant objects to the second sentence of Interrogatory No. 8 as being beyond the scope of the Board's Order dated August 26, 1983. In response to the first sentence of the interrogatory, Applicant submits the current

DCP status report. The status previously was reported by the IDVP in section 7.3 of the IDVP Final Report. Further details are given in the referenced sections of the DCP's Phase I and Phase II Final Reports.

INTERROGATORY NO. 9:

List each and every document within your possession, custody, and/or control that describes, documents, outlines, or discusses any deficiency, nonconformance, error, or deviation by PGandE, or any of its Diablo Canyon contractors or subcontractors, in or from compliance with any of the Appendix B criteria, GDC-1 of Appendix A, or applicable QA procedures. With respect to each such document, state:

(1) its date and title;

(2) its author(s) and recipient(s);

(3) the nature of the deficiency, nonconformance, error, or deviation described; and

(4) what action, if any, was taken to remedy the deficiency, nonconformance, error, or deviation.

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RESPONSE TO INTERROGATORY NO. 9:

Applicant will produce for inspection relevant documents within the scope of the Order of the Board dated August 26, 1983, at its place of business in San Francisco, California, on September 15, 1983.

Respectfully submitted,

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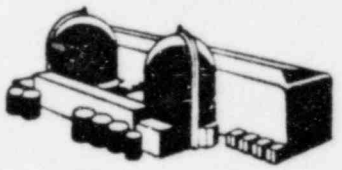
Attorneys for
Pacific Gas and Electric Company

By Philip A. Crane, Jr.
Philip A. Crane, Jr.

DATED: September 1, 1983.

ORIGINAL 030057

Diablo Canyon Project



PACIFIC GAS AND ELECTRIC COMPANY
BECHTEL POWER CORPORATION

August 30, 1983

DCVP-TES-1333

Dr. W. E. Cooper
TES Document Control
Project 5511
Teledyne Engineering Services
Waltham, MA 02254

SUBJECT: Diablo Canyon Project Phase I and Phase II Status, August 29, 1983

Dear Dr. Cooper:

Attached please find a copy of the subject document which updates the information sent to you August 29, 1983 (DCVP-TES-1332).

This provides a detailed current status of the DCP work and is intended to assist you in your preparation of a supplement to the IDVP Final Report.

Please advise if you have any questions or comments concerning this information.

Thank you.

Very truly yours,

GH MOORE
Project Engineer, Unit 1

By: RR Fray

PFMason:skf
No written reply requested.
Attachment: Diablo Canyon Project Phase I
and Phase II Status, August 29, 1983.

cc: RL Cloud (RLCA)

ATTACHMENT TO RESPONSE TO INTERROGATORY NO. 8

P.O. BOX 3965 • SAN FRANCISCO, CALIFORNIA 94119

4011a:SKF

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DIABLO CANYON PROJECT

PHASE I AND PHASE II STATUS

August 29, 1983 Update

SUMMARY

In the following we are providing a listing of the status of our Phase I and Phase II work. We have presented below the scope of the DCP CAP as defined in the Phase I Final Report and Phase II Final Report. This is an update of the August 29, 1983 transmittal (DCVP-TES-1332).

This summary is divided into 4 sections, providing a status of the work.

Section 1. Civil/Structural work

Section 2. Piping and Pipe Supports Design Review

Section 3. Equipment Seismic Design Review

Section 4. Phase II Status

For each section some of the information is presented in tables. The status of all information is in terms of the percent of tne work that is complete. Where no percentage is shown, no DCP activity has occurred. Complete back-up information is available in the Phase I Final Rejport and Phase II Final Report.

The status of the Civil/Structural work is presented in Table 1.1 which includes important information contained in the footnotes to this table. For details on this work, please see applicable sections of the Phase I Final Report.

Table 1.1

DIABLO CANYON ..OJECT

PHASE I CORRECTIVE ACTION PROGRAM STATUS
CIVIL STRUCTURAL

Area		Design Review			Design Revision or Reanalysis[1]				Modifications			
Section	Description	Criteria Reviewed	Method-ology Reviewed	Calc. or Analyses Reviewed	Criteria Clarified and Methodology Established: DCM	Methodology Established	Calc. Prep.	Calc. Check.	Calc. Appr.	DCMs Issued	Const. Compl.	As-Built Compl.	DCMs Compl.
2.1.1	Containment and Internals												
2.1.1.3.2.1	Horizontal model of containment for DE and DDE		100										
2.1.1.3.2.2	Horizontal model of containment internal structure for Hosgri		100										
2.1.1.3.2.3	Horizontal model for containment for Hosgri		100										

August 29, 1983
00400/0086P

Table 1.1

DIABLO CA. .A PROJECT

PHASE I CORRECTIVE ACTION PROGRAM STATUS
CIVIL STRUCTURAL

Area		Design Review			Design Revision or Reanalysis[1]					Modifications				Comments
Section	Description	Criteria Reviewed	Method-ology Reviewed	Calc. or Analyses Reviewed	Criteria Clarified and Methodology Established: DCM	Methodology Established	Calc. Prep.	Calc. Check.	Calc. Appr.	DCNs Issued	Const. Compl.	As-Built Compl.	DCNs Compl.	
2.1.1.3.2.4	Vertical model for containment exterior for Hosgri		100											
2.1.1.3.2.5	Vertical model of containment internal structures and annulus for Hosgri		100											
2.1.1.4	Design review of structures													
2.1.1.4.1	Containment													
2.1.1.4.1.1	Seismic analysis review	100	100	100										
2.1.1.4.1.2	Review of design						100	100	100					
2.1.1.4.2	Internal structure													
2.1.1.4.2.1	Review of seismic analysis	100	100	100										
2.1.1.4.2.2	Review of design						100	90	75					

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Table 1.1

DIABLO CANYON PROJECT

PHASE I CORRECTIVE ACTION PROGRAM STATUS
CIVIL STRUCTURAL

Area		Design Review			Design Revision or Reanalysis[1]				Modifications			
Section	Description	Criteria Reviewed	Method-ology Reviewed	Calc. or Analyses Reviewed	Criteria Clarified and Methodology Established: DCM	Criteria Clarified and Methodology Established: Methodology Established	Calc. Prep.	Calc. Check.	Calc. Appr.	DCNs Issued	Const. Compl.	As-Built Compl.	DCNs Compl.
2.1.1.4.3	Annulus												
2.1.1.4.3.1	Analysis summary						100	100	100				
2.1.1.4.3.2	Review of Design						100	100	90				
	Modification of Annulus[3]									100	99	95	0
2.1.1.5	Polar crane												
2.1.1.5.2	Modifications of Polar Crane						100	100	100	100	100	90	0
--	Review of dome service crane seis. analysis						100	100	100	100			
--	Modifications of dome service crane									100	0	0	0
2.1.1.6	Pipe rupture restraints[2]						95	95	65	90	50	10	10
2.1.2	Auxiliary building												
2.1.2.2	Criteria[4]					100							
2.1.2.3	Methodology						100						
2.1.2.3.2.1	Hosgri eval.						100	100	100				
2.1.2.3.2.2	Models DE/DDE anal. models					100	100	100	100				
2.1.2.3.3	Analytical methods					100	100	100	100				

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Table 1.1

DIABLO CANYON PROJECT

PHASE I CORRECTIVE ACTION PROGRAM STATUS
CIVIL STRUCTURAL

Area		Design Review			Design Revision or Reanalysis[1]					Modifications			
Section	Description	Criteria Reviewed	Method-ology Reviewed	Calc. or Analyses Reviewed	Criteria Clarified and Methodology Established: DCM	Methodology Established	Calc. Prep.	Calc. Check,	Calc. Appr.	DCNs Issued	Const. Compl.	As-Built Compl.	DCNs Compl.
2.1.2.3.4	Description of analytical output					100	100	100	100				
2.1.2.3.5	Local vert. slab flex.					100	100	100	100				
2.1.2.3.5.1	Model method and analysis output						100	100	100				
2.1.2.4	Structure design review												
2.1.2.4.1	Introduction				100	100							
2.1.2.4.2	Slabs[5]				100	100	100	100	50				
2.1.2.4.3	Walls				100	100	95	95	30				
2.1.2.4.4	Load dis-sipation to foundation				100		100	100	100				
2.1.2.4.5	Concrete columns				100		100	100	100				
2.1.2.5	Analysis and qualification of structure						95	95	50				
2.1.3	Fuel handling building				100								
2.1.3.3	Methodology					100							
2.1.3.3.2	Model description					100	100	100	100				
2.1.3.3.3	Model material properties					100	100	100	100				

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Table 1.1

DIABLO CANYON PROJECT

PHASE I CORRECTIVE ACTION PROGRAM STATUS
CIVIL STRUCTURAL

Area		Design Review			Design Revision or Reanalysis[1]					Modifications			
Section	Description	Criteria Reviewed	Method-ology Reviewed	Calc. or Analyses Reviewed	Criteria Clarified and Methodology Established: DCM	Criteria Clarified and Methodology Established: Methodology Established	Calc. Prep.	Calc. Check.	Calc. Appr.	DCNs Issued	Const. Compl.	As-Built Compl.	DCNs Compl.
2.1.3.3.4	Description of analyses					100	100	100	90				
2.1.3.4	Design review												
2.1.3.4.1	Criteria eval.						100	100	80				
2.1.3.4.1.1	Visual inspect. and simplified analysis						100	100					
2.1.3.4.1.2	Detailed seismic analysis						100	100	80				
2.1.3.4.2	Modifications[6]						100	100	0	100	100	100	0
2.1.3.5	Analyses and modifications of modified Structure						95	95	50				
2.1.3.6	Fuel handling building crane				100	100	95	95	70				
--	Platforms				100	100	40	30	20	20	0	0	0
2.1.4	Turbine building[7]												
2.1.4.2	Criteria				100								
2.1.4.3	Methodology					100							
2.1.4.3.1	Structures					100							
2.1.4.3.2	Models					100							

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Table 1.1

DIABLO CANYON PROJECT

PHASE I CORRECTIVE ACTION PROGRAM STATUS
CIVIL STRUCTURAL

Area		Design Review			Design Revision or Reanalysis[1]					Modifications			
Section	Description	Criteria Reviewed	Method-ology Reviewed	Calc. or Analyses Reviewed	Criteria Clarified and Methodology Established DCM	Methodology Established	Calc. Prep.	Calc. Check.	Calc. Appr.	DCNs Issued	Const. Compl.	As-Built Compl.	DCNs Compl.
2.1.4.3.2.1	Horizontal					100							
2.1.4.3.2.2	Vertical					100							
2.1.4.3.2.3	Pedestal model					100							
2.1.4.3.3	Analyses description					100							
2.1.4.3.3.1	Review of analyses					100							
2.1.4.4	Design review												
2.1.4.4.1	Eval. to criteria						100	100	55				
2.1.4.4.2	Modifications						100	100	100	100	95	25	0
2.1.4.5	Analysis and qualification of structure						100	100	85				
2.1.5	Intake structure												
2.1.5.1	Scope				100								
2.1.5.2	Criteria												
2.1.5.2.1	Loading combinations					100							
2.1.5.3	Methodology					100							
2.1.5.3.1	Description					100							
2.1.5.3.2	Seismic math. model					100							

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Table 1.1

DIABLO CANYON PROJECT

PHASE I CORRECTIVE ACTION PROGRAM STATUS
CIVIL STRUCTURAL

Area Section	Area Description	Design Review: Criteria Reviewed	Design Review: Method-ology Reviewed	Design Review: Calc. or Analyses Reviewed	Design Revision or Reanalysis[1]: Criteria Clarified and Methodology Established: DCM	Design Revision or Reanalysis[1]: Criteria Clarified and Methodology Established: Methodology Established	Design Revision or Reanalysis[1]: Calc. Prep.	Design Revision or Reanalysis[1]: Calc. Check.	Design Revision or Reanalysis[1]: Calc. Appr.	Modifications: DCNs Issued	Modifications: Const. Compl.	Modifications: As-Built Compl.	Modifications: DCNs Compl.
2.1.5.3.3	Wave force model					100							
2.1.5.3.4	Seismic model properties					100							
2.1.5.6	Analysis of structure subjected to wave force[8]						100	100	100	100	100	100	0
2.1.5.7	Design review and qualifi-cation for structure												
2.1.5.7.1	Review procedure					100							
2.1.5.7.2	Review results						100	100	100				
2.1.5.7.3	Response spectra						100	100	100				
2.1.5.8	Intake structure crane												
2.1.5 .8.2	Safety analysis						100	100	100				
2.1.5.8.3	Criteria				100								
2.1.5.8.5	Seismic model							100	100				
2.1.5.8.6	Description of analysis							100	100				
2.1.5.8.7	Results							100	100				

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Table 1.1

DIABLO CANYON PROJECT

PHASE I CORRECTIVE ACTION PROGRAM STATUS
CIVIL STRUCTURAL

Area		Design Review			Design Revision or Reanalysis[1]				Modifications			
Section	Description	Criteria Reviewed	Method-ology Reviewed	Calc. or Analyses Reviewed	Criteria Clarified and Methodology Established DCM	Methodology Established	Calc. Prep.	Calc. Check.	Calc. Appr.	DCMs Issued	Const. Compl.	As-Built Compl.	DCMs Compl.
2.1.6	Outdoor storage tanks												
2.1.6.2	Criteria				100								
2.1.6.3	Methodology												
2.1.6.3.1	Description					100							
2.1.6.3.2	Seismic meth. model					100							
2.1.6.3.3	Seismic model properties					100							
2.1.6.3.4	Analytical methods					100							
2.1.6.4	Design review and qualification of tanks												
2.1.6.4.1	Review of analysis						100	100	100				
2.1.6.4.2	Review of results						100	100	100				
2.4	Electrical conduit and raceway supports												
2.4.2	Criteria												
2.4.2.1	Response acceleration of support systems				100								

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Table 1.1

DIABLO CANYON PROJECT

PHASE I CORRECTIVE ACTION PROGRAM STATUS
CIVIL STRUCTURAL

Area		Design Review			Design Revision or Reanalysis[1]					Modifications			
Section	Description	Criteria Reviewed	Method-ology Reviewed	Calc. or Analyses Reviewed	Criteria Clarified and Methodology Established: DCM	Methodology Established	Calc. Prep.	Calc. Check.	Calc. Appr.	DCNs Issued	Const. Compl.	As-Built Compl.	DCNs Compl.
2.4.2.2	Loading combination				100								
2.4.2.3	Acceptance criteria				100								
2.4.3	Seismic resistance analysis												
2.4.3.1	Methodology												
2.4.3.1.1	Description of supports					100							
2.4.3.1.2	Transverse seismic analysis					100							
2.4.3.1.3	Longitudinal seismic analysis					100							
2.4.4	Verification of support locations[9]												
2.4.5	Design review												
2.4.5.1	Evaluation to criteria						100	100	90				
2.4.5.2	Description of modifications									99	95	0	0
2.5	HVAC ducts and supports												
2.5.2	Criteria												
2.5.2.1	Response acceleration of ductwork systems				100								

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Table 1.1

DIABLO CANYON PROJECT

PHASE I CORRECTIVE ACTION PROGRAM STATUS
CIVIL STRUCTURAL

Area Section	Area Description	Design Review: Criteria Reviewed	Design Review: Method-ology Reviewed	Design Review: Calc. or Analyses Reviewed	Design Revision or Reanalysis[1]: Criteria Clarified and Methodology Established: DCM	Design Revision or Reanalysis[1]: Criteria Clarified and Methodology Established: Methodology Established	Design Revision or Reanalysis[1]: Calc. Prep.	Design Revision or Reanalysis[1]: Calc. Check.	Design Revision or Reanalysis[1]: Calc. Appr.	Modifications: DCNs Issued	Modifications: Const. Compl.	Modifications: As-Built Compl.	Modifications: DCNs Compl.
2.5.2.2	Loading combinations(10)				100								
2.5.2.3	Acceptance criteria				100								
2.5.3	Methodology												
2.5.3.1	Description of ducts and supports					100							
2.5.3.2	Generic qualification					100							
2.5.3.3	Specific qualification					100							
2.5.4	Design review												
2.5.4.1	Evaluation to criteria(11)						100	100	75				
2.5.4.2	Description of modifications(11)									100	95	30	0

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Notes:

1. s includes work required to make calculations consistent with as lt as a result of other changes or to correct errors.
2. Calculations evaluating the effect of pipe hanger loads on restraints are in progress.
3. Final piping and other loads are being reevaluated.
4. Design allowables and procedures for non-seismic loads are being evaluated.
5. Horizontal diaphragm calculations are being reviewed. The vertical slab calculations are approved.
6. Unit 1 is 100% complete in construction, and Unit 2 construction is about 80% complete. As-built of Unit 1 is 95% complete.
7. Scope is established. Open items consist of (1) review of requirements associated with high energy line break, and (2) evaluation of structural steel beams is in progress.
8. As-builts for vent nut modifications have been received and are being reviewed. As-builts for fillets have not been received.
9. Location summary for each support is complete for Unit 1. Additions due to new installations are being received on an ongoing basis.
10. Review of requirements associated with high energy line break phenomenon is in progress.
11. Additional support design associated with HVAC system changes is in progress.

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SECTION 2. PIPING AND PIPE SUPPORTS DESIGN REVIEW

2.1 Large Bore Piping

General - The Final Report Scope, Criteria and Methodology sections are complete and no changes are anticipated. Analyses and qualification of installations assigned to Westinghouse Corporation have been completed. All current criteria and design input data have been transmitted to Westinghouse. They have reviewed changes to certain input data and anticipate no further modifications to be required. This estimate includes iterations due to construction interface and as-built review. Table 2.1 tabulates the status of this information.

All large bore piping has been reviewed and qualified. However, certain calculations exist with inputs identified as preliminary or results which require review and acceptance. The notes to the table describe items which require closure of documentation and an assessment of each item's significance. These items should not be totaled as an indication of analyses with open items as many analyses contain more than a single item.

A small number of iterations of pipe analyses may also result from problems encountered during support design review and redesign associated with recently issued analyses and construction difficulties encountered during support or pipe modification.

Thirty-eight minor pipe modifications have been issued to date and construction has completed thirty-five.

Table 2.1

DIABLO CANYON PROJECT

PHASE I CORRECTIVE ACTION PROGRAM STATUS

LARGE BORE PIPING

Area		Design Review			Design Revision or Reanalysis						Modifications				Notes
Section	Description	Criteria Review	Method-ology Review	Calc. or Analyses Review	Criteria Clarified and Methodology Established						DCNs Issued	Const. Compl.	As-Built Compl.	DCNs Compl.	
					DCM Prep.	DCM Appr.	Method-ology Estab.	Calc. Prep.	Calc. Check.	Calc. Appr.					
2.2.1	Large Bore Piping														
	o Pipe Stresses	100	100	100	100	100	100	100	100	100	100	92	85	0	2, 5, 6
	o Valve Qualification	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	7
	o Nozzle and Flued Head Loads	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	1, 4
	o Local Stress	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	3

Notes:

1. Nozzle Loads - Fifty-six analyses contain nozzle loads which require documentation of acceptance to current loads. Some additional analysis may result from this item. No piping modifications are expected. Any design changes would be issued as part of large bore support modifications.

2. Spectra - All analyses contain the proper current spectra with the exception of two. Spectra for these problems have been revised and the analysis are being rerun.

3. Local Stress Evaluation - Approximately fifteen local stress evaluations are anticipated to close this item. Most evaluations are iterations to existing calculation caused by load changes and a few will be caused by new support design. Few if any design changes will result from this activity. These design changes would be issued as a part of large bore pipe stress modifications.

4. Flued Head Loads - Approximately 26 analyses contain containment penetration flued heads which remain to be qualified for revised analysis loads. No modifications are expected.

5. Two analyses are impacted by piping reroutes which are caused by SIP or construction interferences. Few pipe support modifications are expected.

6. A final walkdown is being performed to inspect pipe clearances and verify general piping configuration. Few modifications are anticipated.

7. One analysis contains a valve for which a support reaction remains to be qualified. No piping modification is expected.

2.2 Small Bore Piping

All small bore piping associated with both the Generic and Sample Programs has been reviewed and qualified with a few exceptions (Table 2.2) . In addition, certain calculations exist with inputs identified as preliminary or results which require review and acceptance by others. The notes to the table describe a listing of items which require closure of documentation or completion of a calculation activity. The significance of each item is addressed.

Some computer analyses may require revision due to possible future changes in input data such as spectra or header movements.

A small number of iterations of pipe analyses may also result from problems encountered during support design review and redesign associated with recently issued analyses and construction difficulties encountered during support or pipe modification.

Ten pipe modifications have been issued and construction is complete.

Table 2.2

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PHASE I CORRECTIVE ACTION PROGRAM STATUS

SMALL BORE PIPING

Area		Design Review			Design Revision or Reanalysis						Modifications				Notes
					Criteria Clarified and Methodology Established										
Section	Description	Criteria Review	Method-ology Review	Calc. or Analyses Review	DCM Prep.	DCM Appr.	Method-ology Estab.	Calc. Prep.	Calc. Check.	Calc. Appr.	DCNs Issued	Const. Compl. %	As-Built Compl. %	As-Built Accepted %	
2.2.2	Small Bore Piping														
	Generic Review														
	o Computer Seismically Analyzed Piping	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	1
	o Valve Qualification	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	
	o SAM/TAM	100	100	100	100	100	100	100	100	100	100	100	100	100	
	o Code Boundaries	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	
	o Hot Piping	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	
	Sample Review														
	o As-Built Accuracy	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	
	o Revised Spectra	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	
	o Concentrated Masses	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	
	o Insulation Weight	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	
	o Overspans	100	100	100	100	100	100	100	100	100	100	100	100	100	
	o Anchor and Equipment Loads	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	
	o Equipment and Building SAM/TAM	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	

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Table 2.2

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PHASE I CORRECTIVE ACTION PROGRAM STATUS

SMALL BORE PIPING

Area		Design Review			Design Revision or Reanalysis						Modifications				Notes
					Criteria Clarified and Methodology Established										
Section	Description	Criteria Review	Methodology Review	Calc. or Analyses Review	DCM Prep.	DCM Appr.	Methodology Estab.	Calc. Prep.	Calc. Check.	Calc. Appr.	DCNs Issued	Const. Compl. %	As-Built Compl. %	As-Built Accepted %	
	o Thermal Analyses	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	
	o Valve Bypass	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	
	o Vents and Drains	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	

Notes: 1. Nozzle loads - Seventeen nozzle loads require close out of documentation to show acceptance of those loads contained in the analyses.

2.3 Large Bore Supports

All large bore piping supports have been reviewed and qualified. However, iterations of piping analyses due to input data revision are causing support requalification and redesign (Table 2.3). Presently 500 supports out of a total of 4300 require requalification due to piping analysis revision. The bulk of these supports are associated with decreased loads and movements and require only documentation changes. In addition the activities and items described in the notes must be completed to ensure no further calculation or design revision. For each item an assessment of significance is established.

658 supports are in the construction process. 2386 are installed and are accepted through QC inspection and as-built preparation.

Table 2.3

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PHASE I CORRECTIVE ACTION PROGRAM STATUS

LARGE BORE SUPPORTS

Area		Design Review			Design Revision or Reanalysis						Modifications				Notes
					Criteria Clarified and Methodology Established										
Section	Description	Criteria Review	Methodology Review	Calc. or Analyses Review	DCM Prep.	DCM Appr.	Methodology Estab.	Calc. Prep.	Calc. Check.	Calc. Appr.	DCNs Issued	Const. Compl. %	As-Built Compl. %	As-Built Accepted %	
2.2.3	Large Bore Supports														
	o Stress	100	100	100	100	100	100	100	100	100	99	86	72	34	1,2,3,4,5,6,7,8
	o Frequency	100	100	100	100	100	100	100	100	100	99	86	72	34	1,2,3,4,5,6,7,8
	o Base Plates	100	100	100	100	100	100	100	100	100	99	86	72	34	1,2,3,4,5,6,7,8
	o Modifications Due to Piping Reanalysis										99	86	72	34	1,2,3,4,5,6,7,8

Notes:

1. As-Builts - Reconciliation of as-builts to date has resulted in a redesign rate of 3%. Approximately 2000 as-built reconciliations are outstanding which is projected to cause 60 iterations to design. Approximately 1000 of the 2000 as-built reconciliations to go are required for fuel load.

2. Construction Difficulties - Presently, approximately 10% of the modified pipe supports require a design iteration to allow construction completion. Based on 658 supports requiring construction completion, 65 support design changes are anticipated.

3. Civil Verification - Presently, approximately 1/2% of the support designs issued with increased loads require redesign or additional structural steel design to obtain civil approval of the loading on the structure. Approximately 20 additional modifications are anticipated to result from this activity.

4. Small Bore Support Loads - Approximately 30 supports require confirmation of the attached small bore support load. No modifications are anticipated.

5. Equipment Restraint - Confirmation of the acceptance of support attachments to the two RHR pumps is outstanding. No modification is anticipated.

6. Spectra Change Impact on S.I.P. - Changes to spectra have caused many Design Class II supports, which were modified for System Interaction with Design Class I installations, to be reviewed. This work is essentially complete but 12 more interaction problems require resolution.

7. STRUDL - One version of the STRUDL program used for support qualification has been found to contain a few errors. The errors have been corrected and program reverification completed. Reviews performed to date indicate that support qualification conclusions are unaffected. More reviews and recalculation are required to close this issue, but no design changes are anticipated.

8. Engineering Judgement - 308 supports require review for piping analysis qualified by engineering judgement. 145 of these have been qualified. No modifications are anticiated.

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2.4 Small Bore Pipe Supports

All small bore supports associated with both the Generic and Sample programs have been reviewed and qualified (Table 2.4). However, iterations of piping analyses due to input revisions and changes to spectra and temperatures and operating modes are causing support review and redesign. Presently, approximately 49 supports out of 2500 require requalification due to these changes. Very few modifications are expected to result from this effort. In addition, support qualification/design iterations will occur as described in the notes to the table. The significance of each item is addressed.

One hundred fifty supports are in the construction process. 1500 are installed.

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PHASE I CORRECTIVE ACTION PROGRAM STATUS

SMALL BORE PIPE SUPPORTS

Area Section	Description	Design Review: Criteria Review	Design Review: Methodology Review	Design Review: Calc. or Analyses Review	Design Revision or Reanalysis: Criteria Clarified and Methodology Established: DCM Prep.	DCM Appr.	Methodology Estab.	Calc. Prep.	Calc. Check.	Calc. Appr.	Modifications: Design Changes Issued	Const. Compl. %	As-Built Compl. %	As-Built Accepted %	Notes
2.2.2	Small Bore Supports														
	Generic Review														
	o Standard Supports	100	100	100	100	100	100	100	100	100	100	90	79	52	
	o SAM/TAM	100	100	100	100	100	100	100	100	100	100	90	79	52	1,2
	o Code Boundaries	100	100	100	100	100	100	100	100	100	100	90	79	52	1,2
	o Lugs	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	
	o Large Bore Piping Review	100	100	100	100	100	100	100	100	100	100	90	79	52	1,2,3
	Sample Review														
	o As-Built Accuracy	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	
	o Revised Spectra	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	
	o Concentrated Masses	100	100	100	100	100	100	100	100	100	100	90	79	52	1,2,4
	o Insulation Weight	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	
	o Overspans	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	
	o Equipment and Building SAM/TAM	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	1,2,5
	o Thermal Loads	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	
	o Vents and Drains	100	100	100	100	100	100	100	100	100	100	90	79	52	1,2,4
	o Anchor and Equipment Loads	100	100	100	100	100	100	100	100	100	N/A	N/A	N/A	N/A	

Notes:

1. As-Builts - Reconciliation of as-builts to date has resulted in a redesign rate of 2%. Approximately 500 as-built reconciliations are outstanding which is projected to cause 10 iterations to design.
2. Construction Difficulties - Presently, approximately 2-1/2% of the modified pipe supports require a design iteration to allow construction completion. Based on 150 supports outstanding in construction, 4 support design changes are anticipated.
3. Approximately 17 pipe supports require review for revised Large Bore analysis.
4. For these issues expanded investigation was required.

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SECTION 3. EQUIPMENT SEISMIC DESIGN REVIEW

The status of the equipment seismic design work is presented in the following. This includes Mechanical Equipment, Electrical Equipment and Instruments, and Heating, Ventilating, and Air Conditioning (HVAC) Equipment.

3.1 Mechanical Equipment

The scope, criteria, and methodology phases of the program are 100% complete. For 100% of the mechanical equipment, calculations which determine if the equipment is seismically qualified for a given set of controlled seismic input have been completed (See Table 3-1).

3.2 Instrumentation and Controls

The I&C work consists of selected analysis, design, and construction activities. The status for all I and C equipment is presented in Table 3-1.

Analysis work is complete when the equipment qualification levels have been compared to the appropriate required response spectra and have been found acceptable. Some final documentation may be outstanding.

Design work is complete when the DCN has been issued by engineering for modifications to bring equipment up to the qualified configuration.

Construction work is complete when all equipment modifications have been completed by General Construction. Some final documentation may be outstanding.

For Instrument tubing supports the analyses are complete for the latest spectra, although, not all calculations are signed off.

3.3 Electrical Equipment

The Electrical work consists of selected analysis, design, and construction activities. The status of Electrical equipment is presented in Table 3-1, Section 2.3.2.

For the analysis work, completion means: the equipment qualification levels have been compared to the appropriate required response spectra and have been found acceptable. Some final documentation may be outstanding.

Design work is complete when the DCN has been issued by engineering for modifications to bring equipment up to the qualified configuration.

Construction work is complete when all equipment modifications have been completed by General Construction. Some final documentation may be outstanding.

3.4 HVAC Equipment

The review of seismic qualification of Class I HVAC equipment has been completed as of August 16, 1983. This is based upon the application of seismic spectra issued for project use. Table 3.1 tabulates the percent completeness of major steps of the related work.

The seismic qualification of HVAC equipment is an ongoing process in which the analyses will be updated as new input are generated in accordance with PEI-13 and DCM CH-52.

Table 3.1

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PHASE I CORRECTIVE ACTION PROGRAM STATUS
EQUIPMENT SEISMIC DESIGN

Area		Design Review			Design Revision or Reanalysis						Modifications				Notes
					Criteria Clarified and Methodology Established										
Section	Description	Criteria Reviewed	Methodology Reviewed	Calc. or Analyses Reviewed	DCM Prep.	DCM Appr.	Methodology Estab.	Calc. Prep.	Calc. Check.	Calc. Appr.	DCNs Issued (%)	Const. Compl.	As-Built Compl.	DCNs Compl.	
2.3.1	Mechanical Equipment(1)	(See attachment: Table 2.3.1-1)													
2.3.1.2	Criteria(2)				100	100									
2.3.1.3	Methodology(3)						100								
2.3.2	Instrumentation														
	o Hot shutdown panel	100	100	100				100	100	100					
	o Instruments (panels PIA & PIB)	100	100	100				100	100	100					
	o Local instrument panels	100	100	100				100	100	100	100	75	0	0	Note 5
	o Limit switches	100	100	100				100	100	100					
	o Pressure and pressure change transmitters	100	100	100				100	100	100					
	o Solenoid valves	100	100	100				100	100	100					
	o PAM Panels and Instruments	100	100	100				100	100	100					
	o Containment Hz monitors	100	100	100				100	100	100					
	o Containment radiation high range detectors	100	100	100				100	100	100	100	75	0	0	Note 5
	o Control room air supply chlorine detector	100	100	100				100	100	100					
	o Plant vent radiation monitor	100	100	100				100	100	100	100	100	100	100	Note 6

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Table 3.1

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PHASE I CORRECTIVE ACTION PROGRAM STATUS
EQUIPMENT SEISMIC DESIGN

Area Section	Description	Design Review			Design Revision or Reanalysis						Modifications				Notes
		Criteria Reviewed	Method-ology Reviewed	Calc. or Analyses Reviewed	Criteria Clarified and Methodology Established						DCMs Issued (%)	Const. Compl.	As-Built Compl.	DCMs Compl.	
					DCM Prep.	DCM Appr.	Method-ology Estab.	Calc. Prep.	Calc. Check.	Calc. Appr.					
	o Control room press. radiation monitor(4)	100	100	100				100	100	100	100	0	0	0	
	o Control room press. Chlorine monitor(4)	100	100	100				100	100	100	100	0	0	0	
	o Control room air supply rad. monitor	100	100	100				100	100	100					
	o Pressurizer SRV Pos. Indicator	100	100	100				100	100	100					
	o Sub-cooled margin monitor	100	100	100				100	100	100					
	o Process solenoid valves	100	100	100				100	100	100					
2.3.2	Electrical Equipment(1)	100	100	100	100	100	100	100	100	100	100	80	60	60	
2.3.3	HVAC Equip-ment	100	100	100(7)	100	100	100	97	97	97	100	40	0	0	

Notes:

1. Scope of this work is defined and complete.
2. Complete defined as the issue of a controlled document which defines appropriate criteria which includes load combinations, seismic input, damping values and allowable stresses.
3. Complete is defined as the issue of a formal document which describes an appropriate methodology to be employed.
4. Devices will be relocated due to high RRS at Elev. 190'. Devices have been tested to test machine limits.
5. Design modification is the result of new annulus spectra.
6. Design modification is the result of equipment upgrade not design verification.
7. Duct-monitor HVAC equipment analyzed is 95% complete.

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TABLE 2.3.1.1-1
MECHANICAL EQUIPMENT SEISMIC
QUALIFICATION RESULTS

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Equipment	Location: Building/ Elevation	Required Qualification "g" Level H_{N-S}	H_{E-W}	V	Qualification Method	Qualifying Spectra HE, DDE, DE	Damping Value Used	Physical Modifications Required? Yes/No	Notes References
Feedwater System									
AFW Pump and Motor	Aux/100	0.30	0.35	0.24	A	DE	R	No	A
		0.60	0.70	0.48		DDE	R		
		0.85	0.96	0.56		HE	R		
AFW Pump (Turbine-driven)	Aux/100	0.28	0.46	0.31	A	DE	R	No	A
		0.56	0.92	0.62		DDE	R		
		0.96	0.79	0.58		HE	R		
AFW Pump Turbine	Aux/100	0.28	0.46	0.31	A	DE	R	No	A
		0.56	0.92	0.62		DDE	R		
		0.96	0.79	0.58		HE	R		
CVC System									
Boric Acid Tank	Aux/115	0.69	0.83	0.13	A	DE	2%	No	A
		1.38	1.65	0.26		DDE	2%		
		2.69	2.60	0.96		HE	4%		

Notes:

KEY: A - Qualified to latest spectra & nozzle load
B - Currently high nozzle load. Anticipate will be resolved by further analysis.
C - Design change in progress.
D - Currently high nozzle loads. Anticipated that support modifications will be required.
E - New nozzle loads being evaluated.

Qualification Method

A - Analysis
T - Test

Damping Valve

R - Rigid

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Equipment	Location: Building/ Elevation	Required Qualification "g" Level H_{N-S}	H_{E-W}	V	Qualification Method	Qualifying Spectra HE, DDE, DE	Damping Value Used	Physical Modifications Required? Yes/No	Notes References
Safety Injection System									
SI Pump Lube Oil Filter	Aux/85	1.0	1.0	0.65	A	DE	R	No	A
		1.0	1.0	0.65		DDE	R		
		1.0	1.0	0.65		HE	R		
Component Cooling System									
CCW Pump	Aux/73	0.2	0.2	0.13	A	DE	R	Yes	C
		0.4	0.4	0.27		DDE	R		
		0.63	0.63	0.5		HE	R		
CCW Pump Motor	Aux/73	0.2	0.2	0.13	A	DE	R	Yes	C
		0.4	0.4	0.27		DDE	R		
		0.63	0.63	0.5		HE	R		
Containment Fan Cooler Box	Cont/140	0.8	0.8	0.54	A	DE	R	No	E
		1.25	1.25	0.84		DDE	R		
		1.7	1.7	1.97		HE	R		
Gaseous Radwaste System									
Waste Gas Compressor	Aux/60	0.2	0.2	0.13	A	DE	R	No	A
Waste Gas Moisture Separator	Aux/60	0.2	0.2	0.13	A	DE	R	No	A
Waste Gas Decay Tank	Aux/60	0.2	0.2	0.13	A	DE	R	No	A

Equipment	Location: Building/ Elevation	Required Qualification "g" Level H_{N-S}	H_{E-W}	V	Qualification Method	Qualifying Spectra HE, DDE, DE	Damping Value Used	Physical Modifications Required? Yes/No	Notes References
Diesel Generator System									
Diesel Generator	Turb/85	0.41	0.41	0.27	A	DE	2%	Yes	D
		0.81	0.81	0.54		DDE	2%		
		1.10	1.10	0.92		HE	4%		
Diesel Transfer Pump and Motor	MSS/77	0.2	0.2	0.13	A	DE	R	No	A
		0.4	0.4	0.27		DDE	R		
		0.54	0.54	0.50		HE	R		
Diesel Generator Lube Oil Filter	Turb/85	1.25	1.25	0.83	A	DE	1%	No	E
		2.50	2.50	1.67		DDE	1%		
		1.90	1.90	1.50		HE	4%		
Diesel Transfer Filter	MSS/77	0.2	0.2	0.13	A	DE	R	No	B
		0.4	0.4	0.27		DDE	R		
		0.54	0.54	0.50		HE	R		
Diesel Transfer Strainer	MSS/77	0.2	0.2	0.13	A	DE	R	No	E
		0.4	0.4	0.27		DDE	R		
		0.54	0.54	0.50		HE	R		
Priming Tank	Turb/85	0.20	0.20	0.13	A	DE	R	No	A
		0.40	0.40	0.27		DDE	R		
		0.54	0.54	0.50		HE	R		
Starting Air Receiver	Turb/85	0.20	0.20	0.13	A	DE	2%	No	A
		0.40	0.40	0.27		DDE	2%		
		0.85	0.85	0.50		HE	4%		
Ventilation System									
Containment H_2 Purge Supply Filters	Aux/100	0.34	0.30	0.13	A	DE	R	No	E
		0.68	0.60	0.27		DDE	R		
		0.86	0.91	0.60		HE	R		
Containment H_2 Purge Exhaust Filters	Aux/115	0.37	0.5	0.13	A	DE	R	No	E
		0.737	1.0	0.27		DDE	R		
		0.96	1.4	0.60		HE			
Containment H_2 Supply and Exhaust Blowers and Motors	Aux/115	1.92	1.6	0.74	T	DE	R	No	A
		3.81	3.2	1.47		DDE	R		
		2.94	3.01	1.50		HE	R		

Equipment	Location: Building/ Elevation	Required Qualification "g" Level H_{N-S}	H_{E-W}	V	Qualification Method	Qualifying Spectra HE, DDE, DE	Damping Value Used	Physical Modifications Required? Yes/No	Notes References
CCW Heat Exchanger	Turb/85	0.48	0.20	0.134	A	DE	2%	Yes	C
		0.96	0.40	0.27		DDE	2%		
		0.98	0.61	0.50		HE	4%		
CCW Surge Tank	Aux/163	0.90	0.58	0.17	A	DE	R	No	A
		1.79	1.16	0.33		DDE	R		
		2.26	2.27	1.2		HE	R		
CCW Pump Lube Oil Cooler	Aux/73	0.2	0.2	0.13	A	DE	R	No	A
		0.4	0.4	0.27		DDE	R		
		0.63	0.63	0.50		HE	R		
Makeup Water System									
Makeup Water Transfer Pump and Motor	Aux/100	0.31	0.30	0.13	A	DE	R	No	A
		0.61	0.60	0.27		DDE	R		
		0.85	0.75	0.60		HE	R		
Saltwater System									
ASW Pump and Motor	Intake/-2	0.39	0.35	0.26	A	DE	R	No	A
		0.78	0.70	0.52		DDE	R		
		1.030	1.013	0.55		HE	4%		
Fire Protection System									
Fire Pump	Aux/115	0.39	0.35	0.26	A	DE	R	No	A
		0.78	0.70	0.52		DDE	R		
		1.03	1.013	0.55		HE	R		
Fire Pump Motor	Aux/115	0.39	0.35	0.26	A	DE	R	No	A
		0.78	0.70	0.52		DDE	R		
		1.030	1.013	0.55		HE	R		
Portable Fire Pump (diesel)	MSS/85	0.2	0.2	0.13	T	DE	R	No	A
		0.4	0.4	0.27		DDE	R		
		0.75	0.75	0.50		HE	R		

SECTION 4. PHASE II STATUS

The status of the Mechanical, Electrical, and Instrumentation and Controls work is presented in this section. For details on this work please see applicable sections of the Phase II Final Report.

4.1 Mechanical

4.1.1 Results of IDVP Review. The DCP has supplied virtually all of the information including RFI responses and completion sheets that are required to close all Mechanical Phase II EOIs and additional verification. Thus, this work is about 95% complete.

4.1.2 Selection of System Design Conditions
(EOI Nos. 8009, 8010, and 8062)

DCP work in this area is 100% complete. Appropriate pressures for the AFW system have been confirmed, all necessary modifications to components have been identified, and all required components have been replaced in the field.

DCP work to support additional verification is approximately 95% complete. The DCP has (1) determined the set of pipes and components that should be reviewed, (2) determined acceptability of each component, and (3) made physical modifications as needed.

Reference: DCP Phase II Final Report, June 1983, Section 3.3.4.

4.1.3 High Energy Line Break Outside Containment (EOI 8001)

DCP work in this area is 100% complete. This has included recalculation of pressures and temperatures using a verified computer code applicable to the particular conditions for the areas identified in the EOI.

DCP work to support additional verification is approximately 90% complete. This includes the recalculation of pressures, the identification of required modifications, and initiation of Design Change Requests. Temperature effects will be considered as part of the environmental qualification program.

Reference: DCP Phase II Final Report, Section 3.3.5.

4.1.4 Jet Impingement Analysis Inside Containment

DCP work in this area is approximately 90% complete. This includes the identification of all high energy pipe, identification of postulated breaks, identification of targets and determination if they are needed for the particular break, calculation of pressure on the targets, determination if the needed targets can withstand the associated pressures, and issuance of modifications as needed.

Reference: DCP Phase II Final Report, Section 3.3.6.

4.2 Electrical

DCP Electrical Activities relating to Phase II Verification are complete. Responses have been provided to all RFI's and EOI's. All physical modifications associated with EOIs, additional verification, and open items are complete.

4.2.1 EOI Status. A total of twenty-six electrical EOIs were identified and four of these required modifications. None of these EOIs had any real safety significance.

4.2.2 Open Item Status. A total of two Open Items were identified. Both of these required physical modifications although neither had any real safety significance.

4.2.3 Additional Verification Two areas of additional verification were identified. One of these resulted in physical modifications. No real safety significance was associated with this additional verification.

Reference: DCP Phase II Final Report, Sections 3.3.3, 3.3.7, and 3.3.8.

4.3 Instrumentation and Controls

4.3.1 EOI Status. For EOI 8032 all design and construction work is complete. All other EOIs pertaining to Instrumentation and Control are complete with no construction required.

4.3.2 Open Item Status. Two open items have been identified. Both require physical modifications. The designs for both are complete. Construction completion is forecast for October 28, 1983.

030057

4.3.3 Design Activities Resulting From Corrective Action. No additional designs have resulted from DCP corrective action work.

Reference: DCP Phase II Final Report, Section 3.3.11.

4.4 HVAC

4.4.1 EOI Status. DCP activities pertaining to EOI 8035, Smoke Detectors in CRVPS Intake Ducts are complete. The smoke detectors have been installed.

4.4.2 Open Item Status. Open Item 36, HVAC Heat Loads in 480 VAC and 120 VDC Areas, has been addressed. Design is complete. New fans have been procured with increased air flow capacity so that the maximum temperatures in these rooms will not exceed the ratings of the electrical equipment served. Construction is 95% complete with September 15, 1983 as the scheduled date for construction completion.

Reference: DCP Phase II Final Report, Section 3.3.10.

ORIGINAL

SECOND SET OF INTERROGATORIES
PROPOUNDED TO PACIFIC GAS AND ELECTRIC COMPANY
BY JOINT INTERVENORS

I have assisted in preparing the answers to Interrogatories 1, 2, 3, 4, 5, 6, 7, 8, and 9. Said answers are true and correct to the best of my knowledge and belief.

Dan G. Lubbock

Subscribed and sworn to
before me this 31st day
of August, 1983.

C. T. NEAL MADISON
NOTARY PUBLIC – CALIFORNIA
CITY AND COUNTY OF
SAN FRANCISCO
My Commission Expires Dec. 27, 1985

C. T. Neal Madison

C. T. Neal Madison, Notary Public
in and for the City and County
of San Francisco, State of
California

My Commission expires December 27, 1985

ORIGINAL

SECOND SET OF INTERROGATORIES
PROPOUNDED TO PACIFIC GAS AND ELECTRIC COMPANY
BY JOINT INTERVENORS

I have assisted in preparing the answer to Interrogatory No. 8. Said answer is true and correct to the best of my knowledge and belief.

Gary H. Moore

Gary H. Moore

Subscribed and sworn to
before me this 1st day
of September, 1983.

C. T. NEAL MADISON
NOTARY PUBLIC — CALIFORNIA
CITY AND COUNTY OF
SAN FRANCISCO
My Commission Expires Dec. 27, 1985

C. T. Neal Madison

C. T. Neal Madison, Notary Public
in and for the City and County
of San Francisco, State of
California

My Commission expires December 27, 1985

ORIGINAL

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
PACIFIC GAS AND ELECTRIC COMPANY	)	Docket No. 50-275
	)	Docket No. 50-323
Diablo Canyon Nuclear Power Plant, Units 1 and 2	)	
	)	

CERTIFICATE OF SERVICE

The foregoing document(s) of Pacific Gas and Electric Company has (have) been served today on the following by deposit in the United States mail, properly stamped and addressed:

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Chairman
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US Nuclear Regulatory Commission
Washington DC 20555

Judge Glenn O. Bright
Atomic Safety and Licensing Board
US Nuclear Regulatory Commission
Washington DC 20555

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Date: September 1, 1983

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